Traumatic Brain Injury and Depression

Appendixes

APPENDIX A. Exact Search Strings

Pubmed search strategies (last updated June 15, 2009)

Search #	Terms	Retrieval
#1	(Brain Concussion[mh] OR brain injuries[mh:noexp] OR Brain Hemorrhage, Traumatic[mh] OR Epilepsy, Post-Traumatic[mh] OR Head Injuries, Closed[mh] OR Head Injuries, Penetrating[mh] OR Intracranial Hemorrhage, Traumatic[mh] OR Craniocerebral Trauma[mh] OR TBI[tiab] OR head injuries[tiab] OR head injury[tiab] OR traumatic brain injury[tiab] OR traumatic brain injuries[tiab] OR neurotrauma[tiab] OR diffuse axonal injury[mh] OR diffuse axonal injury[tiab] OR brain trauma[tiab] OR head trauma[tiab])	107,266
#2	Depressive Disorder[mh] OR Depression[mh] OR depressive[tiab] OR depression[tiab] OR depressed[tiab] OR sadness[tiab] OR sad[tiab] OR hopelessness[tiab] OR suicidal[tiab] OR suicide[tiab] OR Mental Disorders[mh:noexp] OR mood[tiab]	385,950
#3	#1 AND #2 AND eng[la] AND humans[mh]	2,307
#4	#3 AND case reports[pt]	496
#5	#3 AND letter[pt]	36
#6	#3 AND comment[pt]	22
#7	#3 AND editorial[pt]	13
#8	#3 AND practice guideline[pt]	2
#9	#3 AND news[pt]	4
#10	#3 AND review[pt]	364
#11*	#3 NOT (#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10)	1,441*

* Numbers do not total due to exclusions in more than one category (15 items were indexed as both letter and case report, 2 as comment and case report, 33 as review and case report, 4 as editorial and comment, 12 as letter and comment, 1 as review and comment, and 2 as editorial and review).

PsycINFO search results

Search #	Terms	Retrieval*
#1	DE=("head injuries" or "brain concussion" or "traumatic brain injury") or KW=("head injury" or "head injuries" or "traumatic brain injury" or "traumatic brain injuries" OR "craniocerebral trauma" or neurotrauma or "brain trauma" OR "head trauma" OR TBI)	9,168
#2	DE=("depression emotion" or "major depression" or "hopelessness" or "sadness" or "suicidal ideation" or "suicide") or KW=(depressive or sad or hopeless or sadness)	104,020
#3	#1 AND #2 AND LA=(English) AND PO=(Human)	308
#4	#3 AND PT=(letter)	6
#5	#3 AND PT=(comment/reply)	6
#6	#3 AND PT=(editorial)	2
#10	#3 NOT (#4 OR #5 OR #6)	294

***** Denotes number of citation retrieved from peer-reviewed journals

EMBASE search results

Search #	Terms	Retrieval
#1	head injury/ or brain concussion/ or brain contusion/ or diffuse axonal injury/ or postconcussion syndrome/ or traumatic brain injury/ or ("craniocerebral trauma" or "brain trauma" or "head trauma" or TBI or "traumatic brain injury" or "traumatic head injury" or "traumatic brain injuries" or "traumatic head injuries").ab. or ("craniocerebral trauma" or "brain trauma" or "head trauma" or TBI or "traumatic brain injury" or "traumatic head injury" or "traumatic brain injuries" or "traumatic head injuries").ti.	11,317
#2	mental disease/ or mood disorder/ or depression/ or major depression/ or suicidal ideation/ or hopelessness/ or (depressive or sad or sadness or hopeless).ti. or (depressive or sad or sadness or hopeless).ab.	97,634
#3	1 and 2 and english.lg. and human/	452
#4	3 and conference paper.pt.	12
#5	3 and editorial.pt.	14
#6	3 and letter.pt.	13
#7	3 and note.pt.	16
#8	3 and review.pt.	190
#9	3 and short survey.pt.	12
#10	3 not (4 or 5 or 6 or 7 or 8 or 9)	195

CINAHL search results

Search #	Terms	Retrieval
S1	("traumatic brain injury") or (MH "Brain Injuries+") OR "neurotrauma" OR "brain injuries" OR "TBI" OR "concussion" OR "head injuries" OR "head injury" OR "head trauma" OR "brain trauma"	13,293
S2	((MH "Depression+") OR "depressive disorder" OR "sadness" OR "depressed" OR (MH "Suicide") or (MH "Suicide, Attempted") or (MH "Suicidal Ideation") OR "suicide" OR "hopelessness" or (MH "Hopelessness") OR "mood")	42,454
S3	S1 AND S2 AND LA English	450
S4	S3 AND Exclude MEDLINE Records	141
S5	S4 and PT doctoral dissertation	17
S6	S4 and PT commentary	3
S7	S4 and PT letter	2
S8	S4 and PT systematic review	1
S9	S4 and PT review	10
S5	S4 not (S5 OR S6 OR S7 OR S8 OR S9)	108

PILOTS search results

Search #	Terms	Retrieval
#1	(DE="head injuries") or ("brain concussion" OR concussion OR "traumatic brain injury" OR "TBI" OR neurotrauma OR "traumatic brain injuries" OR "head trauma" OR "craniocerebral trauma" OR "brain injury" OR "brain injuries")	619
#2	(DE="depressive disorders") or (depression OR depressed OR depressive OR suicidal OR suicide OR sadness OR hopelessness)	8,593
#3	#1 AND #2 AND LA=(English)	143
#4	#3, limited to peer-reviewed journals	103

* Overlap with PubMed: 310 citations; 8 new citations retrieved for inclusion.
† Numbers do not total due to exclusions in more than one category: 1 item was indexed as both a case report and review; 1 item was indexed as both a case report and a note; and 1 item was indexed as both a review and a systematic review.

Search Strategies

Search strategies for relevant white papers and reports

Resource	Date Searched	# of results	Search Strategy
Google search for .gov sites	2/2/2010	16,300 (examined the first15 pages of the search)	allintext: (depression OR depressive OR mood) AND ("acquired brain injury" OR "traumatic brain injury" OR TBI OR "head injury" OR neurotrauma OR "head trauma" OR "brain trauma") site:.gov excluded: press release, news, blog posts, PowerPoint, consumer health information
Google search for .mil sites	2/ 2/2010	1,1910 (examined the first15 pages of the search)	allintext: (depression OR depressive OR mood) AND ("acquired brain injury" OR "traumatic brain injury" OR TBI OR "head injury" OR neurotrauma OR "head trauma" OR "brain trauma") site:.mil excluded: press release, news, blog posts, PowerPoint, consumer health information
Google search for .edu sites	2/2/2010	18,100 (examined the first15 pages of the search)	allintext: (depression OR depressive OR mood) AND ("acquired brain injury" OR "traumatic brain injury" OR TBI OR "head injury" OR neurotrauma OR "head trauma" OR "brain trauma") site:.edu excluded: press release, news, blog posts, PowerPoint, consumer health information
Google search for .org sites	2/2/2010	119,000 (examined the first15 pages of the search)	allintext: (depression OR depressive OR mood) AND ("acquired brain injury" OR "traumatic brain injury" OR TBI OR "head injury" OR neurotrauma OR "head trauma" OR "brain trauma") site:.org excluded: press release, news, blog posts, PowerPoint, consumer health information

Search strategies for relevant clinical trials and government funding

Resource	Date Searched	# of results	Search Strategy
Clinicaltrials.gov	2/2/2010	53	("traumatic brain injury" OR "traumatic head injury" OR "head injury" OR TBI OR "craniocerebral trauma" OR "brain trauma" OR neurotrauma OR "head trauma") AND (depressed OR depression OR depressive OR "Depressive Disorder" OR "mood disorder")
NIH RePORTER	2/2/2010	47	“traumatic brain injury” depression Limited: current projects
		13	“traumatic brain injury” mood Limited: current projects
		--	Other term combinations did not retrieve any unique results (tested terms include TBI, brain trauma, head trauma)
National Rehabilitation Information Center (NARIC)	2/2/2010	18	Search #1: “Brain injury” depression Limited to Ongoing projects Inclusion of mood, depressed, or depressive did not retrieve anymore relevant articles
International Clinical Registries (WHO)	2/2/2010	236	Traumatic AND brain AND injury Limited to results to registries other than Clinicaltrials.gov Inclusion of mood, depression, depressed, or depressive did not retrieve any unique articles
Grants.gov	2/2/2010	48	TBI depression
	2/2/2010	26	TBI psycholog* Inclusion of “traumatic brain injury”, mood, depressed, or depressive did not retrieve any unique articles

Search strategies for relevant conference proceedings

Resource	Date Searched	# of results	Search Strategy
BIOSIS	2/2/2010	117	TS=(depression OR depressive OR mood) AND TS=("acquired brain injury" OR "traumatic brain injury" OR TBI OR "head injury" OR neurotrauma OR "head trauma" OR "brain trauma"), Limits: Language=(English), Document Type=(Meeting OR Meeting Paper OR Technical Report OR Thesis Dissertation)
PsycInfo	2/2/2010	59	(DE=("head injuries" or "brain concussion" or "traumatic brain injury") or KW=("head injury" or "head injuries" or "traumatic brain injury" or "traumatic brain injuries" OR "craniocerebral trauma" or neurotrauma or "brain trauma" OR "head trauma" OR TBI)) and (DE=("depression emotion" or "major depression" or "hopelessness" or "sadness" or "suicidal ideation" or "suicide") or KW=(depressive or sad or hopeless or sadness)) AND (PT=(dissertation) or PT=(conference proceedings) or PT=(dissertation abstract))

Resources searched that retrieved redundant or did not retrieve relevant information

Resource	Date Searched
• DeployMed Research Link (DoD funded research) • Defense centers of excellence • Australian/New Zealand clinical Trials Registry • PsiTri (Mental Health Registry) • Current Controlled Trials (UK) • PapersFirst • Sociological Abstracts	February 2, 2010

APPENDIX B. Sample Data Abstraction Forms

Traumatic Brain Injury and Depression Systematic Evidence Review

Abstract/Title Review Form

First Author, Year: _____

Reference #_____ Abstractor Initials: ___ ___ ___

Primary Inclusion/Exclusion Criteria			
1. Does study include traumatic brain injury as an exposure and depression as an outcome?	Yes	No	Cannot Determine
2. Original research (exclude editorials, commentaries, letters, reviews, etc)	Yes	No	Cannot Determine
3. Adult study population (≥ 18 years old)	Yes	No	Cannot Determine
4. Study published in English	Yes	No	Cannot Determine
5. Eligible study size Record N if < 50 relevant subjects enrolled:_____	Yes	No	Cannot Determine

Traumatic Brain Injury and Depression Systematic Evidence Review

Full-text Review Form

First Author, Year: _____

Reference #_____ Abstractor Initials: ___ ___ ___

Primary Inclusion/Exclusion Criteria		
1. Does study answer one or more of the following questions? (place an X next to the question(s) the study applies to)	Yes	No
___KQ1. What is the prevalence of depression after traumatic brain injury and does the area of the brain injured, the severity of the injury, the mechanism or context of injury, or time to recognition of the traumatic brain injury or other patient factors influence the probability of developing incident clinical depression? ___KQ2. When should patients who suffer traumatic brain injury be screened for depression, with what tools and in what setting? ___KQ3. Among individuals with TBI and depression, what is the prevalence of concomitant psychiatric/behavioral conditions, including anxiety disorders, PTSD, substance abuse and major psychiatric disorders? ___KQ4. What are the outcomes (short and long term, including harm) of treatment for depression amongst traumatic brain injury patients utilizing: a) psychotropic medications, b) individual/group psychotherapy, c) neuropsychological rehabilitation, d) community-based rehabilitation, e) CAM, f) neuromodulation therapies and g) other? ___KQ5. Where head-to-head comparisons are available, which treatment modalities are equivalent or superior with respect to benefits, short- and long-term risks, quality of life, or costs of care? ___KQ6. Are the short- and long-term outcomes of treatment for depression after TBI modified by individual characteristics, such as age, pre-existing mental health status or medical conditions, functional status, and social support?		
2. Original research (exclude editorials, commentaries, letters to editor, reviews, etc)	Yes	No
3. Study published in English	Yes	No
4. Adult (≥ 16 years old) study population If No, record % adult _____	Yes	No
5. Eligible study size (N ≥ 50) Record N if < 50 relevant subjects enrolled:_____	Yes	No

EXCLUDE IF AN ITEM IN A GRAY BOX IS SELECTED

If EXCLUDED, retain for:

_____BACKGROUND/DISCUSSION

_____REVIEW OF REFERENCES

_____Other_____

COMMENTS:

Evidence Table (REF ID#)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities	Quality Rating
Author: Author et al., YYYY **Country, Setting:** Country, setting **Enrollment Period:** **Design:** **Time from injury:** **Length of follow up:** **Dep. Scale/Tool:**	**Inclusion criteria:** • Inclusion #1 • Inclusion #2 • Inclusion #3 **Exclusion criteria:** • Exclusion #1 • Exclusion #2 • Exclusion #3 **TBI Def:**	**Group(s):** **N screened:** **N eligible:** **N included:** **N at conclusion:** **Depression:** Prior to injury: At time of injury: **Other preexisting psychiatric conditions:** **N with prior TBI (%):** **Age, yrs ± SD: G1:** XX ± ## **Age ≥16, N (%): G1:** XX (##) **Global injury severity (ISS, RTS, etc.):** **Severity of TBI (GCS):** **Mechanism/type of injury:** **Area of brain injured:** **Concomitant injuries:**	**Depression:** (Starting with most severe) **Other co-morbidities:** PTSD: Other anxiety disorder: Irritability: Aggression: Suicidality: Substance use: Other psychiatric diagnoses (schizophrenia, psychosis, OCD, etc): **Health related QoL or functional status:**	**Depression:** **Taking depression medications (%):** **Other co-morbidities:** PTSD: Other anxiety disorder: Irritability: Aggression: Suicidality: Substance use: Other psychiatric diagnoses: **Health related QoL or functional status:**	

Traumatic Brain Injury and Depression Systematic Evidence Review
Criteria for KQ1 Includes

First Author, Year: _____

Reference #_____ Reviewer:_____

1. Operational definition of traumatic brain injury:

☐ GCS Scores
☐ Centers for Disease Control and Prevention
☐ World Health Organization
☐ American Congress of Rehabilitation Medicine
☐ National Brain Injury Foundation
☐ National Athletic Trainers' Association

Other professional organization definition:_____

☐ Self report
☐ Ad hoc definition:

☐ Not defined

2. Operational definition of depression:

☐ SCID
☐ HAM-D
☐ BDI
☐ HADS
☐ CES-D
☐ NFI
☐ SCL-90
☐ Clinical interview as part of study protocol

☐ Other validated instrument:_____

☐ Self report
☐ Ad hoc definition:
☐ Chart Review

☐ Not defined

3. Proportion of study population with TBI for whom depression measure is obtained:

N with dep. measure = _____

Total N with TBI = _____

Percent evaluated = _____

COMMENTS:

Traumatic Brain Injury and Depression Systematic Evidence Review
Criteria for KQ2 Includes

First Author, Year: _____

Reference #_____ Reviewer:_____

4. Operational definition of traumatic brain injury:	
☐ GCS Scores	☐ American Congress of Rehabilitation Medicine
☐ Centers for Disease Control and Prevention	☐ National Brain Injury Foundation
☐ World Health Organization	☐ National Athletic Trainers' Association
Other professional organization definition:_____	
☐ Self report	
☐ Ad hoc definition:	
☐ Not defined	

5. Does the publication include:
☐ Comparison of a tool with a gold standard (HAM-D to SCID, etc.) presenting diagnostic test characteristics (sensitivity, specificity, positive predictive value, negative predictive value, likelihood ratios)?
☐ Test-retest reliability? (Administered and repeated)
☐ Inter-rater reliability? (Comparison of two administrations by different people, or in different modes (written vs phone, etc.)

COMMENTS:

Traumatic Brain Injury and Depression Systematic Evidence Review
Criteria for KQ3 Includes

First Author, Year: _____

Reference #_____ Reviewer:_____

1. Operational definition of traumatic brain injury:

☐ GCS Scores
☐ Centers for Disease Control and Prevention
☐ World Health Organization
☐ American Congress of Rehabilitation Medicine
☐ National Brain Injury Foundation
☐ National Athletic Trainers' Association

Other professional organization definition:_____

☐ Self report
☐ Ad hoc definition:

☐ Not defined

2. Operational definition of depression:

☐ SCID
☐ HAM-D
☐ BDI
☐ HADS
☐ CES-D
☐ NFI
☐ SCL-90
☐ Clinical interview as part of study protocol

☐ Other validated instrument:_____

☐ Self report
☐ Ad hoc definition:
☐ Chart Review

☐ Not defined

3. Proportion of study population with TBI for whom depression measure is obtained:

N with dep. measure = _____

Total N with TBI = _____

Percent evaluated = _____

4. Are concomitant mental health conditions reported by depression status?

☐ Yes ☐ No

COMMENTS:

Appendix C. Evidence Tables

Evidence Table 1. KQ1 Prevalence of Depression After TBI
Evidence Table 2. KQ2 Screening for Depression After TBI
Evidence Table 3. KQ3 Prevalence of Concomitant Psychiatric Conditions
Evidence Table 4. KQ4 Outcomes of Treatment for Depression After TBI
Evidence Table 5. Prevalence of Depression by Time of Assessment in Studies with Poorly Defined TBI
Evidence Table 6. Quality of Individual Nontreatment Studies
Evidence Table 7. Quality of Individual Treatment Studies
Evidence Table 8. Operational Definitions of TBI
Evidence Table 9. Depression and Quality of Life Assessment Tool

Evidence Table 1. KQ 1 Prevalence of Depression After TBI

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Al-Adawi et al., 2007 **Country, Setting:** Oman, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, months± SD:** 18.17 ± 12.17 **Length of follow up:** NA **Dep. Scale/Tool:** HADS, CIDI	**Inclusion criteria:** • A score of 51 or higher on the 17-item Awareness Questionnaire **Exclusion criteria:** • Pre-injury psychiatric or neurological history other than TBI • Non-Omani • Sensory or cognitive impairments that would preclude completion of the protracted assessment **TBI Def:** An injury to brain tissues caused by an external mechanical force as evidenced by LOC, post-traumatic cognitive and behavioral changes or objective neurological finding Mild TBI: GCS score of 13 to 15 Moderate TBI: GCS score of 9 to 12 Severe TBI: GCS score of 3 to 8	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 68 **N at conclusion:** NA **Depression:** Prior to injury: None (see exclusion criteria) At time of injury: None (see exclusion criteria) **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI:** NR **Age, yrs ± SD:*** 31.13 ± 7.56 **Age ≥16, n (%):** 68 (100) **Global injury severity:** NR **Severity of TBI:** Mild or moderate: majority of patients (exact number NR) **Mechanism/type of injury:** NR **Area of brain injured, n (%):** Diffuse: 21 (32.6) Focal: 14 (20.6) Frontal: 25 (36.8) **Concomitant injuries:** NR	**Depression:** HADS: score ≥ 8 indicated propensity for depression/ anxiety CIDI: clinical depression/ anxiety determined by clinical interview **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, HADS, n (%):** 13 (19.1) Depression, CIDI, n (%): 39 (57.4) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Aloia et al., 1995 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** MMPI	**Inclusion criteria:** • Sample of private practice patients based on group criteria **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** HI and depression **G2:** HI and no depression **G3:** No HI and depression **G4:** No HI and no depression **N screened:** NR **N eligible:** NR **N included:** **G1:** 277 **G2:** 471 **G3:** 220 **G4:** 214 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean yrs:** **G1:** 35.2 **G2:** 31.5 **G3:** 38.5 **G4:** 38.3 **Age ≥16:** NR **Global injury severity:** NR Severity of TBI: NR **Mechanism/type of injury:** NR	**Depression:** MMPI: T score of 70 or higher on the depression (D) scale Discriminate Functional analysis (DFA) and cross validation used to determine if characteristics of depression were the same for HI and no HI groups **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, MMPI, n:** 497 (42.0) MMPI depression (D) scale score, mean: **G1:** 84.6 **G2:** 55.9 **G3:** 86.7 **G4:** 56.4 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Aloia et al., 1995		**Area of brain injured:** NR **Concomitant injuries:** NR		

Discriminate Functional analysis (DFA):

-Analysis for depression using entire HI population was successful (85.83%), cross validation with no HI group successful as well (85.64%, $X^2 = 0.00$, $P > 0.10$)

-Analysis for no HI group was successful (92.4%) and cross validation was equally successful (77.41%, $X^2 = 2.43$, $P > 0.10$)

-When MMPI variables removed, DFA not as successful in classifying HI patients as depressed or not depressed, cross validation only successful (48.26%, $X^2 = 13.16$, $P > 0.001$)

-May imply that neuropsychological variables associated with depression are not the same in HI vs. no HI patients

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ashman et al., 2004 See Hibbard et al., 2004 **Country, Setting:** US, tertiary care center **Enrollment Period:** March 1995 to December 2000 **Design:** Prospective cohort **Time from injury:** Initial assess-ment (T1) 3 months to 4 years post injury **Length of follow up (years):** Second (T2) and third (T3) assessments 12 and 24 months after initial assessment **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Self-identified TBI • 3 months to 4 years postinjury • Between age 18 and 87 • Residents of the United States living within the community • Capable of giving informed consent for participation and answering interviews independently **Exclusion criteria:** • The presence of an acquired brain injury (e.g., cerebrovascular accident, aneurysm) • A preexisting neurocognitive disorder • Any preexisting psychotic disorder (e.g., schizophrenia, psychoses NOS, depression with psychotic features) **TBI Def:** According to ACRM criteria	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 188 **N at conclusion:** 83 **Depression, %:** Prior to injury: 20 At time of injury: NR **Other preexisting psychiatric conditions, %:** PTSD: 10 Anxiety disorder: 16 Substance use: 32 Other psychiatric conditions: 5 **N with prior TBI:** NR **Age, yrs ± SD:** 40.4 ± 15.1 **Age ≥16, n (%):** 188 (100) **Global injury severity:** NR **Severity of TBI, %:** Moderate to severe: 62 Mild : 29 LOC of unknown duration: 9 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: SCID Other anxiety disorder: SCID: OCD, GAD, panic, phobias Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID: abuse and dependence Other psychiatric conditions: SCID: any axis I disorder other than above **Health related QoL or functional status:** NR	**Depression, %:** Initial assessment: 35 12 months: 24 24 months: 21 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: Initial assessment: 30 12 months: 18 24 months: 21 Other anxiety disorder: Initial assessment: 27 12 months: 19 24 months: 9 Irritability: NR Aggression: NR Suicidality: NR Substance use: Initial assessment: 14 12 months: 10 24 months: 17 Other psychiatric conditions: Initial assessment: 9 12 months: 5 24 months: 0 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bay and Donders, 2008 See Bay et al. 2002 & Bay et al. 2007 **Country, Setting:** US, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 15.06 ± 11.29 (1-36) **Length of follow up:** NA **Dep. Scale/Tool:** NFI-D	**Inclusion criteria:** • 1 to 36 mos postinjury • Must have been hospitalized (ED or in-patient for the injury) • Must be English speaking and competent to sign informed consent as determined by the admitting neuropsychologist **Exclusion criteria:** • History of neurological conditions known to affect cognition, such as Parkinson's or Alzheimer's disease • Severe TBI according to admitting ED (GCS ≥9) **TBI Def:** NR*	**Group(s):** **G1:** Borderline or clinically depressed patients with TBI **G2:** Not or minimally depressed patients with TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 49 **G2:** 35 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** "Prior psychiatric history": 26 (31.0) Prior history of substance abuse, n (%): 14 (16.7) **N with prior TBI:** NR **Age, yrs ± SD:** 38.02 ± 11.29 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS, n (%):** 13-15: 65 (77.4) 9-12: 19 (22.6) **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** NFI-D: 13-28: Minimally depressed 29-42: Borderline depressed 43-65: Clinically depressed **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** PSS IES-R MPQ-SF MFIS: 0: None 1: Mild 2: Moderate 3: Severe Reaction time: index of information processing speed	**Depression, n (%):** Total: 49 (58) NFI-D score, mean ± SD: **G1:** 39.59 ± 6.13 **G2:** 20.69 ± 4.36 Total: 31.71 (10.8) NFI-D score, median (range): Total: 32 (13-56) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** PSS score, mean ± SD: **G1:** 27.37 ± 5.50 **G2:** 19.66 ± 4.32 IES-R score, mean ± SD: **G1:** 22.74 ± 8.82 **G2:** 12.14 ± 8.51 MPQ-SF score, mean ± SD: **G1:** 1.53 ± 1.02 **G2:** 0.63 ± 0.88 MFIS score, mean ± SD: **G1:** 53.04 ± 16.54 **G2:** 28.34 ± 14.75

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bay and Donders, 2008		**Concomitant injuries:** NR		Reaction time, mean ± SD: **G1:** 0.82 ± 0.21 **G2:** 0.72 ± 0.14

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bay et al., 2002^ Bay et al., 2007 See Bay and Donders, 2008 **Country, Setting:** US, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 9.57 ± 6.31 **Length of follow up:** NA **Dep. Scale/Tool:** NFI-D, POMS-D, CES-D	**Inclusion criteria:** • 18 to 65 years old • Mild or moderate brain injury • Hospitalization for the injury • Evaluation by a neuropsychologist with expertise in assessment of brain injury • Within two years of the injury • English-speaking • Not psychotic at the time of neuropsychological evaluation • No preinjury neurological impairment • A relative or significant other (R/SO) who agreed to participate **Exclusion criteria:** • Severe TBI **TBI Def:** Mild TBI: According to ACRM criteria Moderate TBI: LOC exceeding 30 minutes but less than 2 weeks, GCS score of 9-12 or 13-15 with an abnormal CT scan^	**Group(s):** Patients with mild or moderate TBI **N screened:** NR **N eligible:** NR **N included:** 75 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Psychiatric disorders including depression: 15 (20) Suicidal thoughts in the year prior to injury: 6 (8) **N with prior TBI, n (%):** 12 (16) **Age, yrs ± SD:** 37.4 ± 12.10 **Age ≥16, n (%):** 75 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: 50 Moderate: 50 PTA duration, mean days ± SD: 7.65 ± 8.92 **Mechanism/type of injury, n (%):** Car Crash: 54 (71) Fall: 10 (13.3) Pedestrian/car accident: 9 (12) Sports Injury/ Violence: 3 (3.7)	**Depression:** NFI-D: 13-28: Minimally depressed 29-42: Borderline depressed 43-65: Clinically depressed POMS-D: NR CES-D: 16-20: Mild depression 21-26: Moderate 27-60: Severe **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, NFI-D, n (%):** Clinical: 11 (14.7) Borderline: 30 (40) Minimal: 34 (45.3) NFI-D score, mean ± SD (range): 30.69 ± 10.66 (13-54) POMS-D score, mean ± SD (range): 15.02 ± 14.07 (0-59) Depression, CES-D, n: Probable MDD: 22 (29.4) Moderate: 16 (21.3) Mild: 10 (13.3) Not in depression range: 27 (36)^ CES-D > 30.5: 12 (20)^ CES-D score, mean ± SD (range): 20.45 ± 13.24 (0-57) **Taking depression medications (%):** 40 **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bay et al., 2007		**Area of brain injured, n (%):** Abnormal head CT results: 26 (48)^ **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bombardier et al., 2006 **Country, Setting:** US, trauma center **Enrollment Period:** May 2001 to January 2003 **Design:** Prospective cohort **Time from injury:** Up to 6 months **Length of follow up:** 6 months **Dep. Scale/Tool:** PHQ-9	**Inclusion criteria:** • At least 18 yrs old • Residing in King, Pierce, Kitsap, or Snohomish counties (WA) • English speaking **Exclusion criteria:** • Uncomplicated MTBI • homelessness, incarceration, a history of schizophrenia, or participation in an investigational drug study **TBI Def:** Radiological evidence of acute brain abnormality or lowest GCS score less than or equal to 12 within the first 24 hours since admission. Complicated mild TBI: GCS > 12 and abnormal CT Uncomplicated MTBI: GCS 13-15 and no CT abnormality Moderate TBI: GCS 9-12 Severe TBI: GCS ≤ 8	**Group(s):** Patients with TBI **G1:** Patients with TBI and PTSD **G2:** Patients with TBI and no PTSD **N screened:** NR **N eligible:** 211 **N included:** 141 **N at conclusion:** **G1:** 14 **G2:** 110 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** History of anxiety or depression: 68 (54.8) **N with prior TBI:** NR **Age, yrs ± SD:** 43 ± 18.6 **Age ≥16, %:** 100 **Global injury severity:** NR **Severity of TBI, %:** Comp. Mild: 44 Moderate: 30 Severe: 27 **Mechanism/type of injury, %:** MVC: 49 Falls: 32 Assault: 7 Other: 12 **Area of brain injured:** NR	**Depression:** PHQ-9: NR **Other co-morbidities:** PTSD: PCL-C Criteria F Other anxiety disorder: PHQ Self-history Irritability: NR Aggression: NR Suicidality: NR Substance use: Positive for Toxicology screening test for amphetamines/ Cocaine Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognistat GHS of SF-36	**Depression, PHQ-9, n (%):** MDD: 27 (21.8)^ MDD, %: **G1:** 71.4 **G2:** 15.5 *P* < 0.001 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: 14 (11.3) PTSD + criteria F: 10 (8*) PTSD + all criteria (A2,B,C,D,F,PCL-C): 7/125 (5.6*) Other anxiety disorder: PHQ, %: **G1:** 21.4 **G2:** 4.5 *P* < 0.046 Other anxiety disorders, %: **G1:** 71.4 **G2:** 18.2 *P* < 0.001 Irritability: NR Aggression: NR Suicidality: NR Substance use: Positive toxicology test for amphetamine/ Cocaine, n (%): **G1:** 4 (3.2) **G2:** 8 (7.3) Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bombardier et al., 2006		**Concomitant injuries:** NR		**Health related QoL or functional status:** Difficult to function, OR (95% CI): **G1/G2:** 1.28 (1.02-1.61) Fair/Poor health, OR (95% CI): **G1/G2:** 1.34 (0.91-1.81)

^Statistic calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Brooks et al., 1987 **Country, Setting:** UK, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean yrs (range):** 3.4 (2-8) **Length of follow up:** NA **Dep. Scale/Tool:** Questionnaire by structured interview of patients and relatives	**Inclusion criteria:** • Coma duration of at least 6 hrs • Intracranial hematoma requiring surgery • PTA of at least two days **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Patients with severe closed- head injury **N screened:** NR **N eligible:** NR **N included:** 134 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, time of assessment, n (%):** 15-25: 34 (25.4) 26-35: 25 (18.7) 36-45: 23 (17.2) 46-55: 23 (17.2) 56-65: 21 (15.7) 65-70: 7 (5.2) Missing: 1 (0.7) **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, PTA, n (%):** 2-14 days: 34 (25.4) 15-28 days: 31 (23.1) 1-2 months: 32 (23.9) 3-6 months 23 (17.2) >6 months: 3 (2.2) Missing: 11 (8.2) **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** Internally developed structured questionnaires administered to patient and to close family member, querying depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: Internally developed structured questionnaire administered to patient and to close family member, querying tension/anxiety/ worry Irritability: See Aggression Aggression: Internally developed structured questionnaire administered to patient and to close family member, querying anger/ irritation/ impatience Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR	**Depression, %:** Patient report: 49 Relative report: 63 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Patient report: 35 Relative report: 65 Irritability: See Aggression Aggression: Patient report: 62 Relative report: 74 Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, reported by relative, %:** Worrying that patient could not be left in charge of the household: 47 Patient still needed "looking after": 36 Relative worried about patient going out alone: 24 Washing difficulty: 20 Problems with personal hygiene: 27 Burden category low, PTA, n: 0-7 days: 2 8-14 days: 3 15-28 days: 4 29-60 days: 2 >60 days: 3

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Brooks et al., 1987		**Concomitant injuries:** NR	**Health related QoL or functional status:** Internally developed structured questionnaires administered to patient and to close family member, querying difficulties in dependence and burden on the relative (not analyzed by depression status)	Burden category medium, PTA, n: 0-7 days: 9 8-14 days: 8 15-28 days: 9 29-60 days: 10 >60 days: 5 Burden category high, PTA, n: 0-7 days: 4 8-14 days: 5 15-28 days: 17 29-60 days: 16 >60 days: 16

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Brown et al., 2004 **Country, Setting:** US, trauma center **Enrollment Period:** August 1999 to March 2001 **Design:** Cross-sectional **Time from injury, wks ± SD:** 12 ± 2 **Length of follow up:** NA **Dep. Scale/Tool:** SCID, CES-D, VAS-D	**Inclusion criteria:** • Age 16 or older • Residence within Harris County, TX **Exclusion criteria:** • Penetrating missile injury of the brain • History of diagnosed schizophrenia • Mental deficiency • Hospitalization for prior TBI • History of treatment for recent substance abuse • Blood alcohol level > 200 mg/dL when examined in ER **TBI Def:** Mild TBI: A closed head injury producing a LOC ≤ 20 min, lowest postresuscitation GCS of 13 to 15, no extracranial injury that necessitated surgical repair under general anesthesia, and CT findings after 24 hours indicating normal intracranial findings or a brain lesion that did not require surgical evacuation Moderate TBI: Lowest post-resuscitation GCS of 9 to12 with or without evidence of lesion on CT	**Group(s):** **G1:** Patients with TBI **G2:** Patients with general trauma (GT) **Ga:** European American patients **Gb:** Hispanic American patients **Gc:** African American patients **N screened:** **G1:** 399 **G2:** 255 **N eligible:** **G1:** 399 **G2:** 255 **N included:** **G1:** 135 **G1a:** 28 **G1b:** 63 **G1c:** 44 **G2:** 83 **G2a:** 17 **G2b:** 46 **G2c:** 20 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 33.94 ± 14.52 **G2:** 34.85 ± 12.73 **Age ≥16, n (%):** 218 (100)	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** SF-36 (PCS/ MCS) CIQ SSQ	**Depression, SCID, %:** MDE: **G1:** 16 **G1a:** 11 **G2b:** 17 **G1c:** 18 CES-D score, mean ± SD: **G1:** 21.75 ± 14.76* **G1a:** 17.89 ± 15.98 **G1b:** 21.26 ± 14.28 **G1c:** 24.91 ± 13.93 **G2:** 18.79 ± 14.55* **G2a:** 17.53 ± 13.93 **G2b:** 18.89 ± 14.88 **G2c:** 19.65 ± 14.24 VAS-D score, mean ± SD: **G1:** 39.45 ± 34.84 **G1a:** 32.41 ± 35.74 **G1b:** 37.02 ± 32.79 **G1c:** 47.25 ± 36.48 **G2:** 26.66 ± 31.68 **G2a:** 21.18 ± 28.05 **G2b:** 30.09 ± 33.25 **G2c:** 23.45 ± 31.35 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Brown et al., 2004		**Global injury severity, ISS score, mean ± SD:** Total: 4.05 ± 5.38 **G1:** 4.28 ± 5.90 **G2:** 3.67 ± 4.40 **Severity of TBI, GCS score, mean ± SD:** **G1**: 14.47 ± 1.38 **G2:** 15.00 ± 0.00 **Mechanism/type of injury, n:** MVC: **G1:** 100 **G2:** 51 Assault: **G1:** 22 **G2:** 10 Fall: **G1:** 10 **G2:** 17 Other: **G1:** 3 **G2:** 5 **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** PCS score, mean ± SD: **G1:** 44.98 ± 9.79 **G1a:** 46.01 ± 10.35 **G1b:** 46.64 ± 8.69 **G1c:** 41.93 ± 10.41 **G2:** 42.21 ± 11.47 MCS score, mean ± SD: **G1:** 41.45 ± 13.29 **G2:** 44.74 ± 13.69 CIQ score, mean ± SD: **G1:** 15.93 ± 4.40* **G1a:** 16.36 ± 4.51 **G1b:** 16.52 ± 4.59 **G1c:** 14.82 ± 3.80 **G2:** 16.80 ± 4.32* **G2a:** 18.36 ± 5.08 **G2b:** 16.58 ± 3.96 **G2c:** 16.0 ± 4.07

*Statistic calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bryant et al., 2001 **Country, Setting:** Australia, rehabilitation center **Enrollment Period:** July 1994 to July 1997 **Design:** Cross-sectional **Time from injury, mos ± SD:** 6.27 ± 1.27 **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • Admission to major brain injury rehabilitation center after severe TBI **Exclusion criteria:** • Insufficient cognitive ability to understand or respond to the interview • Inability to speak English without an interpreter **TBI Def:** NR	**Group(s):** **G1:** Patients with TBI and PTSD **G2:** Patients with TBI and no PTSD **N screened:** 161 **N eligible:** 96 **N included:** **G1:** 26 **G2:** 70 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 34.26 ± 12.82 **Age ≥16, n (%):** 96 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, GCS score, mean ± SD:** Total: 8.00 ± 3.78 **G1:** 6.92 ± 3.52 **G2:** 8.43 ± 3.81 **Mechanism/type of injury, n:** MVC: 70 Assault: 12 Work: 14 **Area of brain injured:** NR	**Depression:** BDI: > 30: Severe 25-29: Moderate 19-24: Mild 11-18: Minimal < 10: None **Other co-morbidities:** PTSD: PTSD-I Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: OAS, GHQ **Health related QoL or functional status:** FAM CIQ SWLS	**Depression, %:** Severe: 8 Moderate:11 Mild: 0 Minimal: 27 BDI score, mean ± SD: **G1:** 23.04 ± 13.87 **G2:** 9.87 ± 9.77 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD, n (%): 26 (27) Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: OAS total score, mean ± SD: **G1:** 4.46 ± 3.82 **G2:** 2.53 ± 3.02 **G1/G2:** *P* = 0.01 GHQ score, mean ± SD: **G1:** 7.60 ± 3.41 **G2:** 3.48 ± 3.81 **Health related QoL or functional status:** FAM score, mean ± SD: **G1:** 198.77 ± 8.24 **G2:** 203.13 ± 6.76 **G1/G2:** *P* = 0.01

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bryant et al., 2001		**Concomitant injuries:** NR		CIQ score, mean ± SD: Productivity: **G1:** 1.85 ± 1.90 **G2:** 3.00 ± 1.36 **G1/G2:** *P* = 0.001 Home: **G1:** 3.42 ± 2.69 **G2:** 3.59 ± 2.28 **G1/G2:** *P* = NS Social: **G1:** 6.46 ± 2.12 **G2:** 7.33 ± 2.01 **G1/G2:** *P* = NS SWLS score, mean ± SD: **G1:** 12.88 ± 5.48 **G2:** 19.07 ± 8.92 **G1/G2:** *P* = 0.001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Chamelian et al., 2004 See Chamelian and Feinstein, 2006 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 60 yrs old • Non-penetrating mild or moderate TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS score of 13 to 15; LOC < 20 min; PTA < 24 hrs Moderate TBI: GCS score of 9 to 12; PTA > 24 hrs but less than 1 week	**Group(s):** **G1:** Participants with TBI and positive for the APOE-ε4 allele **G2:** Participants with TBI and negative for the APOE-ε4 allele **N screened:** NR **N eligible:** NR **N included:** **G1:** 19 **G2:** 71 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** **G1:** 4 (21.1) **G2:** 12 (17.0) **N with prior TBI (%):** **G1:** 6 (31.6) **G2:** 16 (22.5)* **Age, yrs ± SD:** **G1:** 31.2 ± 13.3 **G2:** 34.1 ± 12.3 **Age ≥16, n (%):** 90 (100) Global injury severity, AISS, mean **± SD:** **G1:** 12.6 ± 9.5 **G2:** 13.5 ± 10.3 **Severity of TBI GCS, %:** 13-15: **G1:** 88.2 **G2:** 91 9-12: **G1:** 11.8 **G2:** 9	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS RHFUQ RPQ GHQ Resumption of work or studies	**Depression, n (%):** **G1:** 11 (18.2) **G2:** 51 (11.8) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ anxiety score, mean ± SD: **G1:** 2.2 ± 2.6 **G2:** 3.0 ± 2.7 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS score, 6 months, mean ± SD: **G1:** 4.3 ± 0.5 **G2:** 4.3 ± 0.6 RHFUQ score, 6 months, mean ± SD: **G1:** 17.9 ± 14.0 **G2:** 18.7 ± 13.7 RPQ score, 6 months ± SD: **G1:** 19.6 ± 18.2 **G2:** 24.6 ± 18.1 GHQ total score, 6 months, mean ± SD: **G1:** 7 ± 9.0 **G2:** 9.6 ± 8.6 Resumption of work or studies, n (%): **G1:** 6*/13 (46.2) **G2:** 25*/41 (61)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Chamelian et al., 2004		LOC < 20 minutes, %: **G1:** 83.3 **G2:** 93.8 PTA, %: < 24 hours: **G1:** 47.4 **G2:** 59.2 1- 7 days: **G1:** 52.6 **G2:** 40.8 **Mechanism/type of injury, %:** MVA: **G1:** 73.7 **G2:** 63.4 **Area of brain injured, %:** CT scan abnormalities: **G1:** 61.1 **G2:** 36.5 **Concomitant injuries:** NR		

*Statistic calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Chamelian and Feinstein, 2006 See Chamelian et al., 2004 **Country, Setting:** Canada, tertiary care hospital **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 60 yrs old • Mild to moderate TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS score of 13 to 15, LOC < 20 minutes and PTA < 24 hours Moderate TBI: GCS score of 9 to 12, PTA > 24 hours but less than 1 week	**Group(s):** **G1:** Participants with subjective cognitive complaints **G2:** Participants without subjective cognitive complaints **N screened:** NR **N eligible:** NR **N included:** **G1:** 34 **G2:** 29 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** **G1:** 17 (20.6) **G2:** 3 (10.3) **N with prior TBI (%):** **G1**: 7 (20.6) **G2**: 5 (17.2) **Age, yrs ± SD:** **G1:** 34.9 ± 12.8 **G2:** 31.3 ± 10.2 **Age ≥16, n (%):** 63 (100) **Global injury severity:** NR **Severity of TBI, GCS score, mean ± SD:** **G1:** 14.6 ± 0.65 **G2:** 13.7 ± 1.6 PTA, n (%): < 24 hours: **G1:** 27 (79.4) **G2:** 22 (75.9)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: CAGE Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, n (%):** **G1:** 5 (18.5) **G2:** 0 **Taking depression medications, %:*** Psychotropics and/or analgesics: **G1:** 61.8 **G2:** 37.9 **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: Problem drinking: **G1:** 32.3 **G2:** 51.7 Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Chamelian and Feinstein, 2006		> 24 hrs to < 1 week: **G1:** 7 (20.6) **G2:** 7 (24.1) **Mechanism/type of injury:** MVA: **G1:** 76.5 **G2:** 55.2 **Area of brain injured:** NR **Concomitant injuries:** NR		

* Not solely antidepressants

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Chiu et al., 2006 **Country, Setting:** Taiwan, tertiary care hospitals **Enrollment Period:** January 2002 to June 2002 **Design:** Cross-sectional **Time from injury, yrs ± SD:** 1.0 ± 0.7 **Length of follow up:** NA **Dep. Scale/Tool:** CES-D	**Inclusion criteria:** • Admission to one of 22 hospitals with diagnosis of TBI based on the ICD criteria **Exclusion criteria:** • Patient transferred from other hospital **TBI Def:** Newly diagnosed TBI were identified by the presence among the discharge diagnoses of any of the following ICD-9 codes: 800-801.9, 803-804.9, and 850-854.9 Mild TBI: GCS score of 14 to 15 Moderate TBI: GCS score of 9 to 13 Severe TBI: GCS score of 3 to 8	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** 675 **N included:** 199 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 45.4 ± 20.3 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: 7.5 Moderate: 22.6 Mild: 66.9 AIS-H score, %: 1-2: 52 3-4: 35.7 5: 12.2 **Mechanism/type of injury, %:** MVC: 58.1 Falls: 26.3 Violence: 7.1 Others: 8.6 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** CES-D > 16 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: Severe, Moderate, Good Cognition TICS: < 38: Impaired Functional Independence: Barthel Index (BI) 0-60: Severe dependence: 61-90: Moderate dependence 91-100: Mild/no dependence	**Depression, %:** 23.9 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS, %: Severe: 5.4 Moderate: 9.7 Good: 84.9 TICS, improvement, %: 25.6 Functional independence, %: Moderate/severe independence: 40.6 Mild/no independence: 59.5

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Curran et al., 2000 See Parcell et al., 2006; Perlesz et al., 2000 **Country, Setting:** Australia, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 1 to 5 years **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • Received inpatient rehabilitation **Exclusion criteria:** See inclusion criteria **TBI Def:** Severe concussion: Recovery of consciousness delayed; PTA 1-7 days*	**Group(s):** **G1:** Patients with TBI **G2:** Patients with orthopedic injuries **Ga:** Male patients **Gb:** Female patients **N screened:** NR **N eligible:** NR **N included:** **G1:** 88 **G1a:** 61 **G1b:** 27 **G2:** 40 **G2a:** 22 **G2b:** 18 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, time of injury, yrs ± SD:** **G1:** 33.7 ± 15.6 **G2:** 44 ± 18 **Age ≥16, n (%):** **G1:** NR **G2:** 40 (100) **Global injury severity, days in inpatient and outpatient rehabilitation, mean ± SD:** **G1:** 199 ± 181 **G2:** 112 ± 112	**Depression:** BDI: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: STAI Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Coping Scale for Adults (CSA) Craig Handicap Assessment and Reporting Technique (CHART): 0: maximum degree of handicap 100: no handicap Rosenberg's Self-Esteem Scale: 0-2: High 3-4: Medium 5-6: Low	**Depression, %:** Extremely severe: **G1:** 14 **G2:** 5 Severe: **G1:** 18 **G2:** 18 Mild to moderate: **G1:** 25 **G2:** 33 **BDI score, mean ± SD:** **G1:** 14.35 ± 11.34 **G2:** 12.31 ± 9.05 **G1/G2:** *P* = 0.33 **G1a:** 13.95 ± 11.11 **G1b:** 15.26 ± 12.04 **G1a/G1b:** *P* = 0.62 **G2a:** 13.80 ± 9.51 **G2b:** 10.55 ± 9.46 **G2a/G2b:** *P* = 0.29 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: STAI-state score, mean ± SD: **G1:** 41.89 ± 16.20 **G2:** 39.76 ± 14.34 **G1a:** 41.26 ± 14.91 **G1b:** 43.38 ± 19.19 **G1a/G1b:** *P* = 0.58 **G2a:** 44.52 ± 13.52 **G2b:** 33.50 ± 13.31 **G2a/G2b:** *P* = 0.02 STAI-trait score, mean ± SD: **G1:** 44.45 ± 15.14 **G2:** 42.32 ± 15.04 **G1a:** 43.74 ± 14.60 **G1b:** 46.11 ± 16.56 **G1a/G1b:** *P* = 0.51 **G2a:** 46.47 ± 14.80 **G2b:** 36.87 ± 13.95 **G2a/G2b:** *P* = 0.06 Irritability: NR Aggression: NR Suicidality: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Curran et al., 2000		**Severity of TBI, PTA, %:** PTA: 1-7 days: 19 8-28 days: 28 > 28 days: 53 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CSA score, mean ± SD: Dealing with problems: **G1:** 424.94 ± 90.29 **G2:** 402.97 ± 111.09 **G1/G2:** *P* = 0.25 Nonproductive coping: **G1:** 367.45 ± 105.34 **G2:** 360.42 ± 124.66 **G1/G2:** *P* = 0.74 Optimism: **G1:** 231.86 ± 51.26 **G2:** 230.80 ± 53.64 **G1/G2:** *P* = 0.92 Sharing: **G1:** 132.44 ± 30.19 **G2:** 126.75 ± 39.38 **G1/G2:** *P* = 0.37 CHART score, mean ± SD: Physical independence: **G1:** 95.59 ± 12.43 **G2:** 91.85 ± 85.40 Mobility: **G1:** 92.51 ± 13.10 **G2:** 88.92 ± 15.87 Cognition: **G1:** 77.35 ± 23.82 **G2:** 86.90 ± 16.65 Occupation: **G1:** 74.46 ± 29.72 **G2:** 75.17 ± 33.85 Social integration: **G1:** 81.26 ± 23.88 **G2:** 84.05 ± 23.77

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Curran et al., 2000				Rosenberg's self-esteem scale, mean ± SD: **G1:** 2.39 ± 2.10 **G2:** 2.33 ± 1.98 Low self-esteem score, %: **G1:** 18 **G2:** 24

*Russell WRS. Post traumatic amnesia in closed head injury. *Arch Neurol.* 1961; 5:4–17

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Deb et al., 1999 Deb et al., 1999^ See Deb and Burns, 2007 **Country, Setting:** UK, tertiary care center **Enrollment Period:** July 1994 to June 1995 **Design:** Cross-sectional **Time from injury:** 1 year **Length of follow up:** NA **Dep. Scale/Tool:** SCAN, behavioral checklist	**Inclusion criteria:** • At least 17 yrs old • A period of unconsciousness • Evidence of fracture on skull X-rays • Contusion or hemorrhage in CT/magnetic resonance imaging scans • Focal neurological signs • A GCS score of less than 15 **Exclusion criteria:** See inclusion criteria **TBI Def:** Based on ICD-9 codes. Mild TBI: GCS of 13-15 Moderate TBI: GCS of 9-12 Severe TBI: GCS < 9	**Group(s):** Patients with HI **N screened:** 346 **N eligible:** 196 **N included:** 164 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n:^** History of psychiatric illness: 28 **N with prior TBI:^** 42 **Age, median yrs (range):** 43.5 (18-94) **Age ≥16, n (%):** 196 (100) **Global injury severity:** NR **Severity of TBI, n:** Mild: 134 Moderate/severe: 30 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCAN: NR Depressed mood: based on checklist of neurobehavioral symptoms, scored from 1 (most severe) to 6 (least severe); score of 1 to 4 indicates the presence of the symptom **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCAN Irritability: SCAN Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: SCAN **Health related QoL or functional status:** Not reported by depression status Edinburgh Rehab Status Scale (based upon GOS)	**Depression, n (%):** Severe/moderate: 15 (9) Moderate/mild: 17 (10.4) Depressive episode, n (%):^ 21 (12.8) Depressed mood, n (%): Mild TBI: 22 (16.3) Moderate/Severe TBI: 10 (33.3) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety Disorder: GAD:^ 3 (2.5) Irritability: Mild/Moderate: 35 (21.3) Severe/Moderate: 23 (14) Aggression: NR Suicidality: NR Substance use:^ Alcohol: 6 (4.9) Other psychiatric diagnoses: Panic disorder associated with depressive episode: 5 (NR) Psychiatric cases (CIS-R and PSQ): 28 (17) **Health related QoL or functional status, n (%):** ERSS: Severe Disability: 60 (36.6)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Deb and Burns, 2007 See Deb et al., 1999 & Deb et al., 1999 **Country, Setting:** UK, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 12 months **Length of follow up:** NA **Dep. Scale/Tool:** SCAN, behavioral checklist	**Inclusion criteria:** • A period of unconsciousness • Evidence of fracture on skull X-rays • Contusion or hemorrhage in CT or MRI brain scans • Focal neurological signs • A GCS score of less than 15 **Exclusion criteria:** See inclusion criteria **TBI Def:** According to ICD-9 codes	**Group(s):** **G1:**Patients with TBI aged 18 to 65 **G2:** Patients with TBI aged 65 and older **N screened:** NR **N eligible:** NR **N included:** **G1:** 120 **G1:** 45 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean:** **G1:** 35.5 **G2:** 79.2 **Age ≥16, n (%):** 165 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Minor: **G1:** 97 (81) **G2:** 38 (85) Moderate: **G1:** 16 (13) **G2:** 6 (13) Severe: **G1:** 7 (6) **G2:** 1 (2) **Mechanism/type of injury:** NR	**Depression:** Reported as part of SCAN results; patients with ICD-10 code for depressive disorder Checklist of neurobehavioral symptoms, scored from 1 (most severe) to 6 (least severe); score of 1 to 4 indicates the presence of the symptom **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: Checklist of neurobehavioral symptoms Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: CIS-R, SCAN Checklist of neurobehavioral symptoms (listed in next column) **Health related QoL or functional status:** GOS ERSS GHQ-28: score of 11 or more is significant	**Depression, SCAN, n (%):** **G1:** 19 (16)* **G2:** 5 (11)* Depressed mood, checklist of neurobehavioral symptoms, n (%): **G1:** 27 (23) **G2:** 5 (11) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: NR Irritability: **G1:** 44 (37) **G2:** 14 (31) Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses, n (%): Mood swings: **G1:** 36 (30) **G2:** 10 (22) Sleep problems: **G1:** 44 (37) **G2:** 18(18) Slowness in thinking: **G1:** 15 (12) **G2:** 15 (33) Safety hazard: **G1:** 7 (6) **G2:** 8 (18) Fatigue: **G1:** 33 (27) **G2:** 6 (13) Poor memory: **G1:** 34 (28) **G2:** 18 (40)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Deb and Burns, 2007		**Area of brain injured:** NR **Concomitant injuries:** NR		Difficulty in planning: **G1:** 12 (10) **G2:** 8 (18) Lack of initiative: **G1:** 16 (13) **G2:** 9(20) Impatience: **G1:** 37 (31) **G2:** 13 (29) Socially disinhibited behavior: **G1:** 3 (2) **G2:** 2 (4) Dependence: **G1:** 8 (7) **G2:** 17 (38) Socialization problem: **G1:** 31 (26) **G2:** 13 (29) Eating problem: **G1:** 8 (7) **G2:** 1 (2) Verbal outbursts: **G1:** 16 (13) **G2:** 9 (20) Lack of insight: **G1:** 5 (4) **G2:** 6 (13) **Health related QoL or functional status:** GOS, n (%): Mild: **G1:** 80 (67) **G2:** 25 (55) Moderate: **G1:** 30 (25) **G2:** 16 (36) Severe: **G1:** 10 (8) **G2:** 4 (9) ERSS, abnormal, n (%): **G1:** 31 (31) **G2:** 24 (53) **G1/G2:** $P < 0.01$

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Deb and Burns, 2007				GHQ-28, %: **G1:** 45 **G2:** 21 **G1/G2:** *P* < 0.01

* N calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Dunlop et al., 1991 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** At least 2 months **Dep. Scale/Tool:** Modified version of the NRS	**Inclusion criteria:** • Evidence of deterioration (G1) or improvement (G2) of emotional or cognitive function between the time interval from 2 to 6 months postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** **G1:** Patients with emotional or cognitive deterioration (an increase of 2 or more points in the total NRS score) **G2:** Patients with emotional improvement (a decrease of 2 or more points in the total NRS score) **N screened:** NR **N eligible:** 193 **N included:** **G1:** 34 **G2:** 34 **N at conclusion:** **G1:** 34 **G2:** 34 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** **G1:** 18 **G2:** 21 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 34.6 ± 10.9 **G2:** 34.6 ± 9.8 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS score, mean ± SD:** **G1:** 9.2 ± 4.0 **G2:** 9.2 ± 3.7	**Depression:** 10 item neurologic rating scale and 15 item neuropsychiatric rating scale, with scores ranging from 1-5: 5: Severe 1: No impairment **Other co-morbidities:** PTSD: NR Other anxiety disorder: Neuropsychiatric rating scale Irritability: NR Aggression: Neuropsychiatric rating scale Suicidality: NR Substance use: Positive Prior History of alcohol abuse Other psychiatric diagnoses: Past history **Health related QoL or functional status:** NR	**Depression, %:** Moderate to severe symptoms at 2-6 mos: **G1:** 57 **G2:** 44 Showing deterioration after 6 mos: **G1:** 28 **G2:** 0 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Anxiety: Moderate to severe symptoms at 2-6 mos: **G1:** 33 **G2:** 47 Showing deterioration after 6 mos: **G1:** 26 **G2:** 0 Irritability: NR Aggression: Agitation/hostility: Moderate to severe symptoms at 2-6 mos: **G1:** 3 **G2:** 44 Showing deterioration after 6 mos: **G1:** 41 **G2:** 6 Suicidality: NR Substance use: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Dunlop et al., 1991		**Mechanism of injury, %:** MVA: **G1:** 22 **G2:** 52 MCA: **G1:** 22 **G2:** 9 Fall: **G1:** 9 **G2:** 21 Assault: **G1:** 31 **G2:** 9 Other: **G1:** 12 **G2:** 9 Type of injury, %: Contusion/ concussion: **G1:** 97 **G2:** 94 Skull fracture: **G1:** 74 **G2:** 44 Epidural/subdural bleeding: **G1:** 44 **G2:** 29 Intracerebral bleeding: **G1:** 24 **G2:** 18 **Area of brain injured, CT scan, %:** Parenchymal lesion: **G1:** 56 **G2:** 55 Non-parenchymal abnormality: **G1:** 44 **G2:** 33 Left Parietal lesion: **G1:** 38 **G2:** 12 **Concomitant injuries:** NR		Other psychiatric diagnoses: Hallucinations/ delusions: Moderate to severe symptoms at 2-6 mos: **G1:** 0 **G2:** 7 Showing deterioration after 6 mos: **G1:** 3 **G2:** 0 **Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Evans et al., 2005 **Country, Setting:** US, rehabilitation center **Enrollment Period:** December 1998 to March 2002 **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** CES-D	**Inclusion criteria:** • Participation in the TBIMS research program funded by the National Institute for Disability and Rehabilitation Research • Inclusion criteria for the TBIMS program are medically documented TBI, admission to an affiliated trauma center within 24 hours of injury, admission to the system inpatient BI program within 72 hours of discharge from the trauma center, aged 16 years or older, and provision of informed consent by the participant or legal proxy as appropriate • Resolution of PTA prior to discharge from inpatient rehabilitation (to respond meaningfully to questionnaires) • Adequate language ability to respond to questionnaires **Exclusion criteria:** See inclusion criteria	**Group(s):** Participants with TBI **N screened:** NR **N eligible:** NR **N included:** 96 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, median (IQR):** 32 (22, 44) **Age ≥16, n (%):** 96 (100) **Global injury severity, DRS, admission, mean (IQR):** 11 (8,15) **Severity of TBI, n (%):** Severe: 55 (57) Moderate: 18 (19) Mild: 23 (24) **Mechanism/type of injury, %:** Whites (n=69): MVC: 79 Assault: 6.6 African-American (n=27): MVC: 58 Assault: 27 **Area of brain injured:** NR	**Depression:** CES-D: 16-20: Mild 21-26: Moderate ≥ 27: Severe **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Satisfaction With Life Scale (SWLS) ranges from 5 to 35 Disability Rating Scale (DRS) ranges from 0-30 Awareness Questionnaire (AQ) scale ranges from 17-85	**Depression, %:** Severe: 25 Moderate: 12 Mild: 17 CES-D score, median (IQR): 17 (9,27) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** AQ score, median (IQR): Clinician: Total: 32 (27,37) Cognitive: 12 (9,12) Behavioral: 11 (9,13) Motor: 9 (8,10) Patient: Total: 47 (40,53) Cognitive: 19 (16,22) Behavioral: 17 (15,20) Motor: 11 (9,12) Family: Total: 37 (31,44) Cognitive: 15 (12,17) Behavioral: 14 (11,16) Motor: 10 (8,10) SWLS score, median (IQR): 22 (15,29)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Evans et al., 2005	**TBI Def:** Mild: GCS score of 13 to 15 Moderate: GCS score of 9 to 12 Severe: GCS score of 3 to 8	**Concomitant injuries:** NR		SWLS, correlation coefficient: DRS, admission: 0.31 ($P < 0.01$) CES-D: 0.24 ($P < 0.05$) AQ, clinician: 0.34 ($P < 0.01$) AQ, patient: 0.39 ($P < 0.01$) AQ, family: 0.16 (P = NS)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Fann et al., 1995 **Country, Setting:** US, TBI rehabilitation center **Enrollment Period:** September 1992 to December 1993 **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 32.5 ± 35.1 (1-128) **Length of follow up:** NA **Dep. Scale/Tool:** DIS Version III-A	**Inclusion criteria:** • Mild or moderate/ severe TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Based on ACRM criteria for mild and moderate/ severe TBI Mild: 1) LOC <30 mins 2) PTA <24 hrs 3) Focal neurologic deficits when severity does not differ from the following – LOC<30 mins, GCS 13-15 after 30 mins, PTA <24 hrs Moderate/severe: 1) GCS <13 2) LOC >30 mins 3) PTA >24 hrs Head Injury Symptom Checklist includes subscale for patient self perceptions of injury	**Group(s):** **G1:** Current major depression **G2:** Current generalized anxiety disorder **G3:** Current non-depressed, non-anxious **N screened:** NR **N eligible:** 50 **N included:** **G1:** 13 **G2:** 12 **G3:** 29 **N at conclusion:** NA **Depression, n (%):** Major depression, prior to injury: 6 (12) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Psychiatric disorder: 25 (50) **N with prior TBI:** NR **Age, yrs ± SD:** **G1+G2:** 40.8 ± 13.5 **G3:** 35.9 ± 12.5 **Total:** 38.0 ± 13.0 **Age ≥16:** NR **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI (GCS), n (%):** Mild TBI: **G1+G2:** 15 (71.4) **G3:** 14 (48.3) Moderate/severe: **G1+G2:** 6 (28.6) **G3:** 15 (51.7)	**Depression:** DIS: DSM-III-R criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-III-R Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-III-R Other psychiatric diagnoses: DSM-III-R **Health related QoL or functional status:** Medical outcomes health survey: (scored 0-100) Physical functioning: degree to which health limits physical activities Role functioning (physical): degree to which physical health limits work/daily activities. Role functioning (emotional): extent to which mental health interferes with daily activities Social functioning Bodily pain: effect of pain on work	**Depression, n (%):** Major depression: Current: 13 (26) After BI, resolved: 14 (28) Before BI: 6 (12) Lifetime: 33 (66) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Current GAD: **G1:** 4/13 (30.8) **Total:** 12/50 (24.0) Current panic disorder: **G1:** 2/13 (15.4) **Total:** 2/50 (4.0) Current agoraphobia: **G1:** 0/13 **Total:** 1/50 (2.0) Irritability: NR Aggression: NR Suicidality: NR Current alcohol/ drug use: **G1:** NR **Total:** 4/50 (8.0) Current dysthymia: **G1:** 5/13 (38.5) **Total:** 7/50 (14.0) Current bipolar disorder: **G1:** 0/13 **Total:** 0 /50 **Health related QoL or functional status:** Role functioning (emotional): **G1+G2:** 19.3 ± 33.9 **G3:** 56.1 ± 42.9 **G1+G2/G3:** p=0.006

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Fann et al., 1995		**Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Mental health: **G1+G2:** 46.3 ± 18.2 **G3:** 66.5 ± 14.1 **G1+G2/G3:** p=0.0003 General health: **G1+G2:** 44.6 ± 20.0 **G3:** 59.4 ± 27.1 **G1+G2/G3:** p=0.03 Other differences not significant.

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Federoff et al., 1992^ Jorge, Robinson, and Arndt, 1993* Jorge, Robinson, Arndt, Starkstein et al., 1993† See Jorge, Robinson, Arndt, Forrester et al., 1993; Jorge, Robinson, Starkstein, and Arndt, 1994 ; Jorge, Robinson, Starkstein, and Arndt, 1994 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NA **Length of follow up:** 12 mos **Dep. Scale/Tool:** DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Shock trauma admissions with acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1^*:** Patients with major depression **G1†:** Patients with major or minor depression **G2:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** **G1^*:** 17 **G1†:** 19 **G2:** 47 **N at conclusion:** **G1^*:** 17 **G1†:** 19 **G2:** 47 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions:** Personal history of psychiatric disorder, %: **G1^:** 71 **G1*:** 24 **G1†:** 68 **G2†^:** 37 **G2*:** 13 Personal history of alcohol or drug abuse, n (%):* **G1:** 8 (47) **G2:** 11 (23) **N with prior TBI:** NR **Age, median yrs (IQR):†** **G1:** 25 (8) **G2:** 27 (13.5) Age, yrs ± SD: **G1^*:** 26.8 ± 5.8 **G2^:** 29.5 ± 10.7 **G2*:** 30.1 ± 10.8	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation at 1 month post-TBI with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAM-D); Present State Examination (PSE) 5 DSM-III-R symptoms significantly different between depressed and non depressed patients and used for discriminatory analysis: suicidal ideation, inappropriate guilt, anergia, psychomotor agitation, weight loss/poor appetite **Other co-morbidities:** PTSD: NR Other anxiety disorder: PSE, DSM-III-R Irritability: DSM-III-R Aggression: NR Suicidality: DSM-III-R Substance use: Patients queried regarding personal history of alcohol and other substance abuse Other psychiatric diagnoses: patients queried regarding personal history of psychiatric disorder	**Depression, %:** Initial evaluation: Mood:† 19 Major:^* 17 Minor:^* 2 3 months: Mood:† 16 Major:^* 12 Minor:^* 4 6 months: Mood:† 12 Major:^* 10 Minor:^* 1 12 months: Mood:† 11 Major:^* 8 Minor:^* 3 Depression, incidence, n (%): 3 months: Major: 4/38 (10) Minor: 3/38 (8) 6 months: Major: 4/27 (15) Minor: 0/27 (0) 12 months: Major: 3/25 (12) Minor: 1/25 (4) DSM-III-R symptoms, median (IQR):^* Initial evaluation: **G1:** 3 (3-3.25) **G2:** 0 (0-1) 3 months: **G1:** 4 (3-5) **G2:** 0 (0-1) 6 months: **G1:** 4 (3-4) **G2:** 0 (0-1) 12 months: **G1:** 4 (3.5-4) **G2:** 0 (0-0) HAM-D score, initial evaluation, median (IQR):† **G1:** 13 (5) **G2:** 7 (3) HAM-D score, mean ± SD:*^ Initial evaluation: **G1:** 13.8 ± 3.2 **G2:** 6.8 ± 2.6

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Federoff et al. 1992^ Jorge et al. 1993* Jorge et al. 1993†		**Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:^*** Mild: **G1:** 35 **G2:** 43 Moderate: **G1:** 24 **G2:** 26 Severe: **G1:** 41 **G2:** 32 GCS score, mean ± SD:^* **G1:** 9.2 ± 3.4 **G2:** 10.0 ± 3.4 Abnormal findings on CT, n:^* **G1:** 15 **G2:** 41 **Mechanism/type of injury:** NR **Area of brain injured:*** Diffuse injury: Total: 42 (64) **G1:** 10 (59) **G2:** 32 (67) Focal lesion on CT scan: Total: 24 (36) **Concomitant injuries:** NR	**Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC) Mini-Mental State Exam (MMSE)	3 months: **G1:** 12.9 ± 5.0 **G2:** 4.8 ± 3.4 6 months: **G1:** 12.3 ± 3.2 **G2:** 4.9 ± 2.7 12 months: **G1:** 12 ± 4.2 **G2:** 3.4 ± 2.4 PSE score, initial evaluation, median (IQR):† **G1:** 19 (7) **G2:** 7 (4) PSE score, mean ± SD:*^ Initial evaluation: **G1:** 19.6 ± 4.2 **G2:** 6.8 ± 3.6 3 months: **G1:** 24.2 ± 9.1 **G2:** 5.8 ± 4.1 6 months: **G1:** 22.6 ± 5.9 **G2:** 5.7 ± 5.1 12 months: **G1:** 19.5 ± 7.8 **G2:** 2.8 ± 2.6 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder:† Autonomic anxiety: Initial evaluation: 42 3 months: 31 6 months: 33 12 months: 9 Anxious foreboding: Initial evaluation: 21 3 months: 31 6 months: 25 12 months: 9 Irritability: Initial evaluation: 58 3 months: 69 6 months: 83 12 months: 60

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Federoff et al. 1992^				Aggression: NR
Jorge et al. 1993* Jorge et al. 1993†				Suicidality:† Initial evaluation: 16 3 months: 25 6 months: 21 12 months: 25 Substance use, %:^* Personal history of drug or alcohol abuse, %: Initial evaluation: **G1:** 47 **G2:** 24 3 months: **G1:** 42 **G2:** 26 6 months: **G1:** 36 **G2:** 28 12 months: **G1:** 38 **G2:** 19 **Health related QoL or functional status:** MMSE score, initial evaluation, median (IQR):† **G1:** 26.5 (3.1) **G2:** 27 (4) MMSE score, mean ± SD:*^ Initial evaluation: **G1:** 27.5 ± 2.3 **G2:** 26.5 ± 3.1 3 months: **G1:** 26.9 ± 2.5 **G2:** 27.6 ± 2.7 6 months: **G1:** 28.1 ± 1.6 **G2:** 27.3 ± 3.5 12 months: **G1:** 27.9 ± 1.6 **G2:** 26.1 ± 3.2 JHFI score, initial evaluation, median (IQR):† **G1:** 1 (3) **G2:** 1 (2)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Federoff et al. 1992^ Jorge et al. 1993* Jorge et al. 1993†				JHFI score, mean ± SD:*^ Initial evaluation: **G1:** 2.2 ± 3.3 **G2:** 1.4 ± 1.8 3 months: **G1:** 1.25 ± 1.4 **G2:** 0.88 ± 1.1 6 months: **G1:** 2.0 ± 2.4 **G2:** 0.5 ± 0.9 12 months: **G1:** 0.5 ± 1.1 **G2:** 0.4 ± 1.0 STC score, initial evaluation, median (IQR):† **G1:** 4 (1) **G2:** 3(2) STC score, mean ± SD:*^ Initial evaluation: **G1:** 4.2 ± 1.2 **G2:** 3.6 ± 1.5 3 months: **G1:** 4.6 ± 1.1 **G2:** 3.6 ± 1.7 6 months: **G1:** 5.2 ± 1.8 **G2:** 3.7 ± 1.5 12 months: **G1:** 4.3 ± 1.8 **G2:** 3.8 ± 1.9 SFE score, initial evaluation, median (IQR):† **G1:** 140 (136) **G2:** 90 (124) SFE score, mean ± SD:*^ Initial evaluation: **G1:** 0.19 ± 0.16 **G2:** 0.11 ± 0.10 3 months: **G1:** 0.201 ± 0.127 **G2:** 0.122 ± 0.088 6 months: **G1:** 0.290 ± 0.130 **G2:** 0.114 ± 0.087 12 months: **G1:** 0.217 ± 0.067 **G2:** 0.110 ± 0.097

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Felde et al., 2006 **Country, Setting:** US, psychiatric/ specialty center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** DSM III-R, BDI, HAM-D	**Inclusion criteria:** • Voluntary, sequential adult patients enrolled in a university substance abuse program **Exclusion criteria:** See inclusion criteria **TBI Def:** A trained research associate at the master's level made an assessment regarding the presence or absence of TBI with unconsciousness during adulthood, asking "As an adult, have you ever been unconscious as the result of a head injury?"	**Group(s):** **G1:** Patients with prior TBI **G2:** Patients without prior TBI **N screened:** 550 **N eligible:** 550 **N included:** **G1:** 218 **G2:** 332 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** **G1:** 218 **G2:** 0 **Age, yrs ± SD:** **G1:** 30.2 ± 8.7 **G2:** 31.8 ± 11.1 **Age ≥16, n (%):** 550 (100) **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** DSM III-R: NR BDI: NR HAM-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A Irritability: NR Aggression: NR Suicidality: BPRS Substance use: MN-SAPS (clinician-rated scale) MAST/AD (self-rated scale) Other psychiatric diagnoses: BPRS **Health related QoL or functional status:** NR	**Depression, n (%):** Depressive disorder: **G1:** 34 (16) **G2:** 55 (17) **G1/G2:** *P* = 0.854 BDI score, mean ± SD: **G1:** 19.9 ± 11.8 **G2:** 18.1 ± 12.2 **G1/G2:** *P* = 0.106 HAM-D score, mean ± SD: **G1:** 18.3 ± 11.2 **G2:** 15.8 ± 10.8 **G1/G2:** *P* = 0.009 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder, n (%): **G1:** 12 (6) **G2:** 20 (6) **G1/G2:** *P* = 0.954 HAM-A score, mean ± SD: **G1:** 14.6 ± 9.2 **G2:** 12.9 ± 8.8 **G1/G2:** *P* = 0.032 Irritability: NR Aggression: NR Suicidality: Suicide Attempt Ever: **G1:** 101 (48) **G2:** 120 (37) **G1/G2:** *P* = 0.019 Substance abuse diagnosis, n (%): **G1:** 217 (100) **G2:** 331 (100) Substance abuse severity rating scale, MAST/AD, mean ± SD: **G1:** 30.1 ± 12.6 **G2:** 25.6 ± 13.1 **G1/G2:** *P* < 0.001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Felde et al., 2006				Substance abuse severity rating scale, MN-SAPS, mean ± SD: **G1:** 31.4 ± 11.4 **G2:** 27.7 ± 11.7 **G1/G2:** *P* < 0.001 Other psychiatric diagnoses, n (%): Organic mental syndrome: **G1:** 10 (5) **G2:** 6 (2) **G1/G2:** *P* = 0.101 Bipolar disorder: **G1:** 10 (5) **G2:** 15 (5) **G1/G2:** *P* = NS Psychotic disorder: **G1:** 10 (5) **G2:** 18 (5) **G1/G2:** *P* = NS Antisocial personality disorder: **G1:** 24 (13) **G2:** 17 (6) **G1/G2:** *P* = 0.017 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Franulic et al., 2004 **Country, Setting:** Chile, trauma center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 2-10 years **Length of follow up:** NA **Dep. Scale/Tool:** HAM-D	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Concomitant pathologies (paraplegia after spinal cord injury, amputations, etc.) • Living outside the hospital catchment area **TBI Def:** NR^	**Group(s):** **G1:** TBI patients 2 years postinjury **G2:** TBI patients 5 years postinjury **G3:** TBI patients 10 years postinjury **N screened:** NR **N eligible:** NR **N included:** **G1:** 71 **G2:** 73 **G3:** 58 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean*:** **G1:** 37.9 **G2:** 41.8 **G3:** 37.2 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Mild TBI: **G1:** 71.4 **G2:** 59.1 **G3:** NR	**Depression:** HAM-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Employed vs. unemployed NRS-R	**Depression, HAM-D score, mean ± SD†:** **G1:** 12.0 ± 6.1 **G2:** 14.0 ± 7.5 **G3:** 14.6 ± 8.9 Depressive symptoms, %: **G1:** 42.3 **G2:** NR **G3:** 59.3 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A score, mean ± SD†: **G1:** 19.7 ± 8.5 **G2:** 20.5 ± 9.2 **G3:** 18.1 ± 9.7 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Employed, %: **G1:** 53.5 **G2:** 55.6 **G3:** 69 NRS-R score, mean ± SD: **G1:** 47.0 ± 9.1 **G2:** 25.3 ± 9.1 **G3:** 49.2 ± 11.6

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Franulic et al., 2004		GCS score, mean ± SD: **G1:** 12.5 ± 3 (n=56) **G2:** 12 ± 4 (n=49) **G3:** NR (n=15) **Mechanism/type of injury, n (%):** MVA: **G1:** 45 (63.4) **G2:** 47 (64.4) **G3:** 41 (70.7) Workplace: **G1:** 26 (36.6) **G2:** 26 (35.6) **G3:** 17 (29.3) **Area of brain injured, %:** Frontal: 30 Multiple involvement: 70 **Concomitant injuries:** NR		

^ GCS scores recorded for a subset of participants
* Statistic calculated by reviewer
† The (increasing) relationship between GCS score and the HAM-A and HAM-D scales was statistically significant in the 2-year post-TBI group (G1) when comparing according to severity (*P* =0.013 for HAM-A and *P* = 0.017 for HAM-D).

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Frenisy et al., 2006 **Country, Setting:** France, tertiary care center **Enrollment Period:** 1998 to 2000 **Design:** Cross-sectional **Time from injury, yrs ± SD:** **G1:** 1.02 ± 0.39 **G2:** 0.93 ± 0.41 **Length of follow up:** NA **Dep. Scale/Tool:** NRS-R, SCL 90-R	**Inclusion criteria:** • Admitted patients were selected in alphabetical order • G1: Aged 18 to 40 years and a severe, isolated BI with a rated GCS score ≤ 8 and/or have undergone brain surgery within the first 6 hours without any serious associated lesions, or minor lesions associated without long-term extra cranial consequences • G2: Aged between 18 and 50 years and had to exhibit a multiple trauma with no associated severe or moderate BI **Exclusion criteria:** • Patients with severe or incapacitating pathologies with psychiatric antecedents • Patients whose injuries were self-inflicted • Patients who exhibited medullar lesions **TBI Def:** NR*	**Group(s):** **G1:** Patients with severe brain injuries **G2:** Patients with multiple trauma **N screened:** **G1:** 486 **G2:** 111 **N eligible:** **G1:** 486 **G2:** 111 **N included:** **G1:** 25 **G2:** 25 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 26.07 ± 9.58 **G2:** 33.78 ± 10.42 **Age ≥16, n (%):** 50 (100) **Global injury severity, ISS score, mean ± SD:** **G1:** 25.36 ± 10.80 **G2:** 22.04 ± 10.06 **Severity of TBI, GCS score, mean ± SD:** **G1:** 6.64 ± 1.22 **G2:**14.16 ± 2.17 **Mechanism/type of injury, %:** MVA: **G1:** 56 **G2:** 64	**Depression:** NRS-R: NR SCL 90-R: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NRS-R SCL 90-R Spielberger's State-Trait Anxiety Scale Irritability: NRS-R Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NRS-R SCL 90-R **Health related QoL or functional status:** NR	**Depression, NRS-R, n (%):** **G1:** 19 (76) **G2:** 19 (76) SCL 90-R, depression score, mean ± SD: **G1:** 9.72 ± 9.05 **G2:** 9.42 ± 7.83 **Taking depression medications, n (%):** **G1:** 2 (8) **G2:** 0 **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety NRS-R, n (%): **G1:** 17 (68) **G2:** 21 (84) SCL 90-R, anxiety score, mean ± SD: **G1:** 5.16 ± 7.44 **G2:** 4.67 ± 4.59 Spielberger's State score, mean ± SD: **G1:** 39.4 ± 16.8 **G2:** 37.67 ± 13.2 Spielberger's Trait score, mean ± SD: **G1:**44.9 ± 15.4 **G2:**41.79 ± 12.3 Irritability, n (%): **G1:** 20 (80) **G2:** 13 (52) Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NRS-R, n (%): Mood Swings: **G1:** 8 (32) **G2:** 10 (40)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Frenisy et al., 2006		**Area of brain injured:** NR **Concomitant injuries:** NR		Hyperactivity-agitation: **G1:** 1 (4) **G2:** 0 Excitation: **G1: 4 (**16) **G2:** 0 Hostility: **G1:** 1 (4) **G2:** 1 (4) Suspicion: **G1:** 9 (36) **G2:** 12 (48) Withdrawal: **G1:** 14 (56) **G2:** 7 (28) SCL90-R, hostility score, mean ± SD: **G1:** 5.12 ± 6.04 **G2:** 2.83 ± 2.73 SCL90-R, phobias score, mean ± SD: **G1:** 2.12 ± 3.14 **G2:** 2.00 ± 2.45 SCL90-R, paranoid traits score, mean ± SD: **G1:** 4.96 ± 5.09 **G2:** 3.67 ± 3.41 SCL90-R, psychotic traits score, mean ± SD: **G1:** 4.40 ± 5.25 **G2:** 2.83 ± 3.64 **Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gagnon et al., 2006 **Country, Setting:** Canada, rehabilitation center **Enrollment Period:** 1986 to 2000 **Design:** Cross-sectional **Time from injury, yrs ± SD:** **G1:** 3.3 ± 3.15 **G2:** NA **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • TBI occurring at or above the age of 16 • Younger than 60 yrs old at time of study • Moderate or severe TBI diagnosis • TBI occurred at least 1 year prior to the study in order to ensure that post-TBI behavioral changes were stable • Subjects had to show sufficient motor, language, perceptual and memory skills to allow for valid testing • Subjects had to be living in the community (none were hospitalized) **Exclusion criteria:** • Pre-TBI neurological or psychiatric history of an axis II personality disorder in the medical records • A severe mental or intellectual incapacity preventing a full consent as revealed by the presence of a psychosis, mental retardation or protective supervision mentioned in the medical record **TBI Def:** NR*	**Group(s):** **G1:** Participants with TBI **G2:** Participants matched by gender, age, and education **N screened:** 169 **N eligible:** 83 **N included:** **G1:** 30 **G2:** 30 **N at conclusion:** NA **Depression:** Prior to injury: **G1:** 4 (13) **G2:** NR At time of injury: NR **Other preexisting psychiatric conditions:** **G1:** 3 (10) **G2:** 4 (13) **N with prior TBI:** **G1:** 0 **G2:** 0 **Age, yrs ± SD:** **G1:** 36.3 ± 13.1 **G2:** 36.3 ± 13.3 **Age ≥16, n (%):** 60 (100) **Global injury severity:** NR **Severity of TBI, n (%)** Severe: **G1:** 17 (56.7) Moderate: **G1:** 14 (43.3)	**Depression:** BDI: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Diagnostic Interview for Borderlines (DIB) Irritability: NR Aggression: NR Suicidality: NR Substance use: DIB Other psychiatric diagnoses: NR **Health related QoL or functional status:** Interpersonal features: DIB	**Depression, n (%):** Severe: **G1:** 1 (3) Moderate-severe: **G1:** 4 (13) Mild-moderate: **G1:** 2 (7) Minimal: **G1:** 6 (20) BDI score, mean ± SD: **G1:** 10.47 ± 8.01 **G2:** 2.67 ± 4.01 **G1/G2:** *P* < 0.001 DIB-R, chronic major depression, n (%): **G1:** 15 (50) **G2:** 1 (3.3) **G1/G2:** *P* < 0.0001 DIBR/BDI, correlation coefficient: DT: **G1:** 0.60 (*P* = 0.001) **G2:** 0.54 (*P* = 0.01) DA: **G1:** 0.45 (*P* = 0.01) **G2:** 0.07(*P* = NS) DC: **G1:** 0.18 (*P* = NS) **G2:** 0.15 (*P* = NS) DI: **G1:** 0.39 (*P* = 0.05) **G2:** 0.73 (*P* = 0.001) DR: **G1:** 0.47 (*P* = 0.01) **G2:** 0.43 (*P* = 0.05) **Taking depression medications during testing, n (%):** Anti-convulsive or anti-depressive: 19 (63.3) **Other co-morbidities, n (%):** PTSD: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gagnon et al. 2006		GCS score, mean (range): **G1:** 8.15 3-13) **G2:** 15 (15) **Mechanism/type of injury, n (%):** MVA: 14 (47) Falls: 9 (30) Pedestrian or bicycle: 4 (13) Assault: 3 (10) **Area of brain injured, n (%):** 2 or more areas injured: 23 (77) Frontal lobe involvement: 20 (67) 1 area of brain injured: 7 (23) Temporal lobe damage: 4 (13) Right cerebrovascular accident: 1 (3.3) **Concomitant injuries:** NR		Other anxiety disorder: Chronic Anxiety: DIB-R: **G1:**12 (40) **G2:** 5 (16.7) **G1/G2:** *P* < 0.084 Irritability: NR Aggression: NR Suicidality: NR Substance abuse: **G1:** 2 (6.7) **G2:** 5 (16.7) **G1/G2:** *P* = NS Other psychiatric diagnoses: NR **Health related QoL or functional status, Interpersonal features, n (%):** Intolerance of aloneness: **G1:** 6 (20) **G2:** 6 (20) **G1/G2:** *P* = NS Abandonment, engulfment, annihilation concerns: **G1:** 7 (23.3) **G2:** 3 (10) **G1/G2:** *P* = NS Counterdependency -serious conflict over help/care: **G1:** 6 (20) **G2:** 7 (23.2) **G1/G2:** *P* = NS Stormy relationships: **G1:** 4 (13.3) **G2:** 3 (10) **G1/G2:** *P* = NS Dependency-masochism: **G1:** 4 (13.3) **G2:** 1 (3.3) **G1/G2:** *P* = NS

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gagnon et al. 2006				Devaluation-manipulation-sadism: **G1:** 2 (6.7) **G2:** 1 (3.3) **G1/G2:** *P* = NS Demandingness/ entitlement: **G1:** 4 (13.3) **G2:** 0 **G1/G2:** *P* = NS Treatment regressions: **G1:** 1 (3.3) **G2:** 0 **G1/G2:** *P* = NS Countertransference problems: **G1:** 3 (10) **G2:** 0 **G1/G2:** *P* = NS

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gass et al., 1991 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 1.1 ± 1.3 **Length of follow up:** NA **Dep. Scale/Tool:** MMPI	**Inclusion criteria:** • No history of substance abuse or emotional disturbance • Within 5 years of injury **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Males with closed head trauma **N screened:** NR **N eligible:** NR **N included:** 58 **N at conclusion:** NA **Depression:** Prior to injury: None (see inclusion criteria) At time of injury: None (see inclusion criteria) **Other preexisting psychiatric conditions:** None (see inclusion criteria) **N with prior TBI:** NR **Age, yrs ± SD:** 34.9 ± 13.7 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, LOC, %:** > 1 week: 17 1-7 days: 11 < 24 hrs: 72 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression**: MMPI: depression (D) scale > 69 Harris-Lingoes subjective depression (D1) subscale > 69 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: MMPI subscale **Health related QoL or functional status:** NR	**Depression, MMPI, %:** Original profile: 53 Adjusted profile: 36 Depression, Harris-Lingoes (D1) subscale, %: 22 MMPI depression (D) score, mean ± SD: Original profile: 70.8 ± 14.5 Adjusted profile: 63.8 ± 13.5 Harris-Lingoes subjective depression (D1) score, mean ± SD: 59.1 ± 13.0 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Schizophrenia, MMPI, %: Original profile: 43 Adjusted profile: 12 MMPI schizophrenia score, mean ± SD: Original profile: 68.3 ± 15.0 Adjusted profile: 57.8 ± 10.3 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ghaffar et al., 2006 **Country, Setting:** Canada, tertiary care centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** GHQ, RPCQ	**Inclusion criteria:** • 16 to 60 yrs of age **Exclusion criteria:** • Major medical illness such as cardiac or cerebrovascular disease **TBI Def:** According to ACRM criteria	**Group(s):** **G1:** Patients with mTBI randomly assigned for assessment and treatment 1 week post-injury **G2:** Patients with TBI not offered follow up and treatment **Ga:** Depressed patients (GHQ ≥ 1) **Gb:** Nondepressed patients (GHQ = 0) **N screened:** NR **N eligible:** NR **N included:** **G1:** 86 **G2:** 84 **Ga:** 35 **Gb:** 87 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** Psychiatric illness: 22.9 **N with prior TBI, n (%):** 52/170 (30.6) **Age, yrs ± SD:** **G1:** 30.7 ± 10.9 (n=97) **G2:** 33.3± 12.4 (n=94) **Age ≥16, n (%):** 191 (100)	**Depression:** GHQ: depression subscale ≥ 1 RPCQ: depression questions **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognitive testing (Stroop Color-Word test, Symbol-Digit Modalities test, The Paced Visual Serial Addition Task, Simple Reaction time, Choice Reaction time, Hopkins Verbal-Learning test, The Vocabulary subset and Letter-Number Sequencing, The Matrix-Reasoning subset of the WAIS-III) RFQ GHQ: social dysfunction subscale and somatic concern subscale	**Depression, GHQ, n (%):** 35/122 (28.7) GHQ total score*, mean ± SD: **G1:** 6.6 ± 7.6 **G2:** 6.8 ± 7.9 RPCQ total score*, mean ± SD: **G1:** 17 ± 18 **G2:** 16.3 ± 15.9 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** RFQ total score, mean ± SD: **G1:** 10.9 ± 11.5 **G2:** 10.6 ± 12.0 Stroop Symbol-Digit Modalities, seconds ± SD: **Ga:** 12.4 ± 3.5 **Gb:** 10.5 ± 1.8 **Ga/Gb:** *P* = 0.01 Stroop Color-Word Test, seconds ± SD: **Ga:** 14.7 ± 3.6 **Gb:** 11.9 ± 1.9 **Ga/Gb:** *P* = 0.0001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Ghaffar et al., 2006		**Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI (GCS):** Mild: 191 (100) **GCS score, mean ± SD:** **G1:** 14.9 ± 0.4 **G2:** 14.8 ± 0.4 PTA: < 1 hour: **G1:** 79 **G2:** 83 1- 24 hours: **G1:** 18 **G2:** 11 LOC: Altered level: **G1:** 48 **G2:** 50 <30 minutes **G1:** 28 **G2:** 28 Duration unclear: **G1:** 21 **G2:** 16 **Mechanism/type of injury:** MVA: **G1:** 50 **G2:** 47 **Area of brain injured:** NR **Concomitant injuries:** **G1:** 41 **G2:** 43		Simple Reaction Time, ms seconds ± SD: **Ga:** 334.7 ± 101.9 **Gb:** 455.3 ± 202.5 **Ga/Gb:** *P* = 0.0001 Choice reaction time, ms ± SD: **Ga:** 386.5 ± 106.9 **Gb:** 519.0 ± 211.8 **Ga/Gb:** *P* = 0 .0001

*There were no differences in the depressive subscales of the RPCQ or the GHQ between groups G1 and G2 at 6 months.

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gomez-Hernandez et al., 1997 **Country, Setting:** Spain, tertiary care center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury to first assesment, median days (IQR):** 31 (32) **Length of follow up:** 12 months **Dep. Scale/Tool:** DSM-IV	**Inclusion criteria:** • Older than 18 years • Predominant injury involving head trauma • Closed head injury **Exclusion criteria:** • Penetrating head injuries • Associated spinal cord injury • Multiple non-CNS involvement which would have influenced the course of their recovery (e.g., multiple fractures) or would have led to significant secondary brain damage as a result of severe hypotension or hypoxia (e.g., intra-abdominal hemorrhages, collapsed lungs, etc) • A decreased level of consciousness, disorientation or deliriousness, or had aphasic disorders that would interfere with the psychiatric interview **TBI Def:** NR*	**Group(s):** **G1:** Depressed patients with TBI **G2:** Non-depressed patients with TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 23 **G2:** 42 **N at conclusion:** **G1:** 10 **G2:** 27 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** History of alcohol or drug abuse: 30 (46.1) History of psychiatric disorder without alcohol or drug abuse: 9 (13.8) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 27.30 ± 8.4 **G2:** 29.26 ± 10.30 **Age ≥16, n (%):** 65 (100) **Global injury severity:** NR **Severity of TBI, GCS score, %:** 13 to 15: 29.2 9 to 12: 32.3 3 to 8: 38.4 **Mechanism/type of injury:** NR	**Depression:** DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Social Functioning Exam (SFE): A semi-structured clinical interview that assesses the patient's satisfaction with his or her social functioning. It consists of 28-items that are rated at 0=normal functioning, 1=moderate impairment, 2=severe impairment.	**Depression, initial evaluation, n (%):** Major depression: 19/65 (29) Minor depression: 4/65 (6) Depression, 3 months, n (%): Major depression: 10/48 (21) Minor depression: 8/48 (15) Depression, 6 months, n (%): Major depression: 12/42 (28) Minor depression: 4/42 (9) Depression, 9 months, n (%): Major depression: 5/43 (12) Minor depression: 9/43 (21) Depression, 1 year, n (%): Major depression: 8/37 (22) Minor depression: 2/37 (5) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Substance use: NR Irritability: NR Aggression: NR Suicidality: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gomez-Hernandez et al., 1997		**Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** SFE, initial evaluation, mean z-score ± SD: **G1:** 0.334 ± 1.214 **G2:** -0.183 ± 0.819 *P* = 0.0452 SFE, 3 months, mean z-score ± SD: **G1:** 0.254 ± 1.153 **G2:** -0.152 ± 0.880 *P* = 0.1742 SFE, 6 months, mean z-score ± SD: **G1:** 0.795 ± 1.028 **G2:** -0.489 ± 0.592 *P* < 0.0001 SFE, 9 months, mean z-score ± SD: **G1:** 0.691 ± 1.096 **G2:** -0.333 ± 0.766 *P* = 0.0010 SFE, 1 year, mean z-score ± SD: **G1:** 0.529 ± 1.248 **G2:** -0.196 ± 0.835 *P* = 0.0485

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gordon, Brown et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** 1993 to 1997 **Design:** Cross-sectional **Time from injury, yrs ± SD:** **G1:** 14.7 ± 9.3 **G2:** 7.9 ± 7.9 **G3:** 14.2 ± 11.8 **G4:** NA **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • 18 to 65 yrs old • Reside in a noninstitutional community setting • At least 1 year postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** Hidden TBI: A blow to the head that, at a minimum, resulted in a dazed and confused state, but is not used as an explanatory principle in an individual's life (i.e. the individual does not identify themselves as a person with TBI)	**Group(s):** **G1:** Participants with hidden TBI **G2:** Participants with mild TBI **G3:** Participants with head trauma **G4:** Participants with no disability **N screened:** **G1:** 143 **G2-G4:** 430 **N eligible:** **G1:** 21 **G2-G4:** 430 **N included:** **G1:** 21 **G2:** 21 **G3:** 21 **G4:** 21 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 37.6 ± 11.8 **G2:** 38.3 ± 11.2 **G3:** 37.4 ± 12.1 **G4:** 37.9 ± 12.1 **Age ≥16, n (%):** 451 (100) **Global injury severity:** NR	**Depression:** BDI > 15 **Other co-morbidities:** PTSD: NR Other anxiety disorder: Subjective self reported feeling of anxiousness Irritability: Subjective self reported feeling of irritability Aggression: NR Suicidality: NR Substance use: Bigelow Quality of Life Questionnaire: negative consumption of alcohol and drugs Reported use of Alcoholics Anonymous or other 12-step program Other psychiatric diagnoses: NR **Health related QoL or functional status:** Bigelow quality of life questionnaire Community Integration Questionnaire (CIQ) Craig Handicap Assessment Capacity Technique (CHART)	**Depression, %:** G1: 23.8 G2: 28.6 G3: 4.8 G4: 0 BDI score, mean ± SD: **G1:** 10.2 ± 6.1 **G2:** 11.5 ± 10.1 **G3:** 3.4 ± 5.1 **G4:** 2.19 ± 2.82 **G2/G4:** $P < 0.003$ **Taking depression medications:** NR **Other co-morbidities:** NR PTSD: NR Other anxiety disorder: **G1:** 57.1 **G2:** NR **G3:** NR **G4:** 0 Irritability: **G1:** 57.1 **G2:** NR **G3:** NR **G4:** 0 Aggression: NR Suicidality: NR Substance use: Bigelow quality of life questionnaire, mean score ± SD: Negative consumption alcohol: **G1:** 53.1 ± 3.8 **G2:** 55.0 ± 0 **G3:** 54.4 ± 1.8 **G4:** 55.0 ± 0 Negative consumption drugs: **G1:** 74.5 ± 14.2 **G2:** 78.9 ± 9.8 **G3:** 79.1 ± 7.3 **G4:** 81.4 ± 3.5

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998		**Severity of TBI, LOC, %:** Dazed and Confused: **G1:** 66.7 **G2:** 47.8 **G3:** 71.4 LOC < 20 minutes: **G1:** 23.8 **G2:** 42.9 **G3:** 19.0 LOC < 1 day: **G1:** 9.5 **G2:** 9.5 **G3:** 9.5 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Reported use of Alcoholics Anonymous or other 12-step program, %: **G1:** 9.5 **G2:** 9.5 **G3:** 9.5 **G4:** 0 Other psychiatric diagnoses: NR **Health related QoL or functional status:** Bigelow quality of life questionnaire, mean score ± SD: Psychological distress: **G1:** 43.5 ± 10.4 **G2:** 47.0 ± 13.4 **G3:** 56.7 ± 9.0 **G4:** 57.2 ± 8.4 **G2/G4:** *P* < 0.02 Psychological well-being: **G1:** 41.2 ± 9.3 **G2:** 43.2 ± 12.1 **G3:** 48.6 ± 8.6 **G4:** 53.0 ± 9.0 **G2/G4:** *P* < 0.01 Total needs satisfied: **G1:** 44.9 ± 11.3 **G2:** 42.9 ± 12.6 **G3:** 52.2 ± 9.1 **G4:** 53.7 ± 7.9 **G2/G4:** *P* < 0.01 Independence: **G1:** 40.6 ± 9.6 **G2:** 40.7 ± 13.6 **G3:** 47.4 ± 11.4 **G4:** 52.7 ± 7.3 **G2/G4:** *P* < 0.01 Employability: **G1:** 53.0 ± 12.0 **G2:** 44.4 ± 13.8 **G3:** 58.0 ± 8.0 **G4:** 57.6 ± 10.4 **G2/G4:** *P* < 0.0001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998				CIQ score, mean ± SD: Total: **G1:** 19.1 ± 3.6 **G2:** 16.7 ± 5.1 **G3:** 19.7 ± 3.2 **G4:** 19.1 ± 4.1 Social Integration: **G1:** 7.4 ± 1.7 **G2:** 7.1 ± 1.8 **G3:** 7.7 ± 1.6 **G4:** 7.2 ± 2.2 Home Integration: **G1:** 6.5 ± 3.4 **G2:** 5.7 ± 3.6 **G3:** 6.7 ± 2.7 **G4:** 6.6 ± 3.3 Productive Activity: **G1:** 5.2 ± 0.5 **G2:** 3.9 ± 1.6 **G3:** 5.2 ± 0.8 **G4:** 5.3 ± 1.2 **G2/G4:** *P* < 0.001 CHART score, mean ± SD: Social integration: **G1:** 63.0 ± 24.2 **G2:** 55.7 ± 23.3 **G3:** 70.5 ± 15.9 **G4:** 73.9 ± 18.4 **G2/G4:** *P* < 0.01 Physical independence: **G1:** 98.9 ± 5.2 **G2:** 97.1 ± 7.4 **G3:** 100.0 ± 0 **G4:** 99.7 ± 1.3 **G2/G4:** *P* = NS Occupation: **G1:** 61.1 ± 32.4 **G2:** 36.3 ± 28.3 **G3:** 42.3 ± 22.5 **G4:** 48.3 ± 35.6 **G2/G4:** *P* = NS Mobility: **G1:** 85.3 ± 8.8 **G2:** 78.8 ± 12.4 **G3:** 84.4 ± 8.2 **G4:** 85.8 ± 8.7 **G2/G4:** *P* < 0.05

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gordon, Sliwinski et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** 1993 to 1997 **Design:** Cross-sectional **Time from injury (yrs):** **G1:** 11.2 **G2:** 9.1 **G3:** NA **G4:** NA **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • 18 to 65 yrs old • Reside in non-institutional community setting • At least 1 year postinjury • Exercise (jogging, swimming, biking) for at least 30 mins three times a week for at least the preceding 6 months **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** TBI exercise group **G2:** TBI non-exercise group **G3:** Non-TBI exercise group **G4:** Non-TBI non-exercise group **N screened:** **G1+G2:** 430 **G3+G4:** 287 **N eligible:** **G1:** 64 **G2:** 176 **G3:** 66 **G4:** 73 **N included:** **G1:** 64 **G2:** 176 **G3:** 66 **G4:** 73 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 37.8 ± 10.3 **G2:** 37.1 ± 10.0 **G3:** 38.3 ± 12.7 **G4:** 39.0 ± 11.3 **Age ≥16, n (%):** 379 (100) **Global injury severity:** NR	**Depression:** BDI > 15 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** TIRR SF-36	**Depression, %:** **G1:** 12.5 **G2:** 33.7 **G3:** 6.1 **G4:** 6.8 **G1+G2/G3+G4:** *P* < 0.0001 **G1+G3/G2+G4:** *P* < 0.01 BDI score, mean ± SD: Total: **G1:** 7.83 ± 7.122 **G2:** 13.91 ± 10.56 **G3:** 4.05 ± 5.34 **G4:** 5.37 ± 5.58 Somatic items: **G1:** 2.87 ± 2.72 **G2:** 4.99 ± 3.88 **G3:** 1.31 ± 2.15 **G4:** 1.97 ± 2.08 Non-somatic items: **G1:** 5.35 ± 5.25 **G2:** 8.84 ± 7.21 **G3:** 2.70 ± 4.17 **G4:** 3.41 ± 4.31 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** TIRR, mean ± SD: **G1:** 15.7 ± 12.1 **G2:** 24 ± 17.5 **G3:** 3.6 ± 6.3 **G4:** 3.4 ± 7.0 **G1+G2/G3+G4:** *P* < 0.0001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998		**Severity of TBI, LOC, %:** < 20 minutes: **G1:** 14.1 **G2:** 30.9 > 20 min, < 1 day: **G1:** 9.4 **G2:** 13.1 > 1 day: **G1:** 76.6 **G2:** 55.9 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		SF-36, mean ± SD: Physical function: **G1:** 52.40 ± 16.44 **G2:** 44.11 ± 19.49 **G3:** 65.56 ± 4.02 **G4:** 62.99 ± 8.81 Physical role: **G1:** 30.66 ± 19.41 **G2:** 22.56 ± 21.10 **G3:** 46.21 ± 11.39 **G4:** 46.61 ± 11.57 Bodily pain: **G1:** 55.27 ± 25.41 **G2:** 50.58 ± 24.37 **G3:** 72.29 ± 11.62 **G4:** 68.73 ± 17.58 General Health: **G1:** 57.60 ± 19.08 **G2:** 45.88 ± 20.69 **G3:** 68.51 ± 12.52 **G4:** 60.76 ± 15.54 Vitality: **G1:** 47.98 ± 19.23 **G2:** 36.53 ± 19.82 **G3:** 57.93 ± 14.89 **G4:** 54.45 ± 15.49 Emotional role: **G1:** 37.76 ± 17.88 **G2:** 27.84 ± 21.44 **G3:** 47.22 ± 9.05 **G4:** 47.74 ± 7.86 Mental health: **G1:** 61.13 ± 14.96 **G2:** 51.21 ± 19.59 **G3:** 67.93 ± 11.90 **G4:** 64.90 ± 16.45 Social Function: **G1:** 60.47 ± 21.19 **G2:** 47.07 ± 28.35 **G3:** 76.52 ± 7.54 **G4:** 74.66 ± 15.58 CIQ, mean ± SD: Total: **G1:** 16.54 ± 3.77 **G2:** 15.38 ± 5.01 **G3:** 19.59 ± 3.51 **G4:** 18.52 ± 3.77 Social integration: **G1:** 6.79 ± 1.84 **G2:** 6.50 ± 2.0 **G3:** 7.75 ± 1.37 **G4:** 7.23 ± 1.97

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998				Home integration: **G1:** 5.30 ± 3.26 **G2:** 5.22 ± 1.75 **G3:** 6.63 ± 2.97 **G4:** 6.07 ± 3.00 Productive activity: **G1:** 4.37 ± 1.18 **G2:** 3.66 ± 1.75 **G3:** 5.20 ± 1.03 **G4:** 5.19 ± 1.09 CHART, mean ± SD: Social integration: **G1:** 58.53 ± 23.88 **G2:** 53.72 ± 23.76 **G3:** 74.47 ± 15.67 **G4:** 69.04 ± 19.51 Physical independence: **G1:** 96.48 ± 11.80 **G2:** 93.19 ± 19.60 **G3:** 100.0 ± 0 **G4:** 99.81 ± 1.16 Occupation: **G1:** 40.11 ± 27.75 **G2:** 35.01 ± 30.37 **G3:** 48.94 ± 28.81 **G4:** 48.93 ± 33.92 Mobility: **G1:** 81.32 ± 9.94 **G2:** 74.65 ± 14.10 **G3:** 80.05 ± 7.33 **G4:** 85.26 ± 7.94

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hawley and Joseph, 2008 **Setting:** UK, rehabilitation centers **Enrollment Period:** 1991 to 1997 **Design:** Prospective cohort **Time from injury, months ± SD:** **G1:** 4.65 ± 4.63 **G2:** 13.67 ± 17.92 **G3:** 19.83 ± 26.22 **Length of follow up:** 10 years **Dep. Scale/Tool:** HADS, structured questionnaire	**Inclusion criteria:** • 16 to 65 yrs old • Traumatic brain injury **Exclusion criteria:** • Non-traumatic brain injury, including subarachnoid hemorrhage **TBI Def:** Mild BI: LOC for 15 minutes or less and/or a GCS of 13 to15 Moderate BI: LOC for more than 15 minutes but less than 6 hours or a PTA of less than 24 hours and/or GCS of 9 to 12 Severe BI: LOC for 6 hours or more or a PTA of 24 hours or more and/or GCS of 6 to 8 Very severe BI: LOC for 48 hours or more or a PTA of 7 days or more and/or GCS of 3 to 5	**Group(s):** **G1:** Patients with mild TBI **G2:** Patients with moderate TBI **G3:** Patients with severe TBI **N screened:** NR **N eligible:** 563 **N included:** **G1:** 38 **G2:** 24 **G3:** 103 **N at conclusion:** **G1:** 38 **G2:** 24 **G3:** 103 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, 10 year follow up, yrs ± SD (range):** 45.5 ± 13.57 (26-79) **Age ≥16, n (%):** 165 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: 23 Moderate: 14.5 Severe: 62.4	**Depression:** HADS: 11-21: cases 8-10: borderline 0-7: non-cases 10 year questionnaire: Frequent Occasional None **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOSE FIM + FAM COS CiOP	**Depression, HADS, 6 months, n (%):** Cases: **G1:** 3/8 (37.5) **G2:** 3/12 (25) **G3:** 10/58 (17.2) Borderline: **G1:** 0/8 (37.5) **G2:** 0/12 (25) **G3:** 17/58 (29.3) Depression, 10 years, n (%): Frequent: **G1:** 6/38 (15.8) **G2:** 10/24 (41.7) **G3:** 22/103 (21.4) Occasional: **G1:** 20/38 (52.6) **G2:** 9/24 (37.5) **G3:** 44/103 (42.7) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Anxiety, HADS, 6 months: Cases: **G1:** 2/8 (25) **G2:** 4/12 (33.3) **G3:** 19/58 (32.8) Borderline: **G1:** 2/8 (25) **G2:** 1/12 (8.3) **G3:** 10/58 (17.2) Anxiety, HADS, 10 years: Frequent: **G1:** 8/38 (21.1) **G2:** 6/24 (25) **G3:** 21/99 (21.2) Occasional: **G1:** 17/38 (44.7) **G2:** 12/24 (50) **G3:** 38/99 (38.4) Irritability: NR Aggression: NR Suicidality: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hawley and Joseph, 2008		**Mechanism/type, n (%):** RTA: 96 (58.5) Fall: 3 (20.1) Assault :14 (8.5) Sporting: 7 (4.2) Industrial/occupa-tional: 4 (2.4) Other: 11 (6.7) **Area of brain injured:** NR (CT, MRI done) **Concomitant injuries, 10 years, n (%):** Other injuries: 100 (60.6)		Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, n (%):** GOSE, 6 months: Severe disability: **G1:** 5/38 (13.2) **G2:** 8/24 (33.3) **G3:** 63/103 (61.2) Moderate disability: **G1:** 23/38 (60.5) **G2:** 14/24 (58.3) **G3:** 39/103 (37.9) Good recovery: **G1:** 10/38 (26.3) **G2:** 2/24 (8.3) **G3:** 1/103 (1) GOSE, 10 years: Severe disability: **G1:** 5/38 (13.2) **G2:** 5/24 (20.8) **G3:** 33/103 (32) Moderate disability: **G1:** 17/38 (44.7) **G2:** 11/24 (45.8) **G3:** 44/103 (42.7) Good recovery: **G1:** 16/38 (42.1) **G2:** 8/24 (33.3) **G3:** 26/103 (25.2) FIM score, 6 months, mean ± SD: **G1:** 6.17 ± 1.7 **G2:** 6.24 ± 0.7 **G3:** 5.32 ± 1.62 FAM score, 6 months, mean ± SD: **G1:** 6.83 ± 0.58 **G2:** 6.90 ± 0.30 **G3:** 6.20 ± 1.44 COS score, 6 months, mean ± SD: **G1:** 3.09 ± 1.79 **G2:** 2.75 ± 1.43 **G3:** 3.36 ± 1.29

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hawley and Joseph, 2008				GOSE score, 10 years, mean ± SD: **G1:** 6.16 ± 1.24 **G2:** 5.88 ± 1.33 **G3:** 5.29 ± 1.28 General health, 10 years, mean ± SD: **G1:** 6.7 ± 2.18 **G2:** 6.48 ± 2.31 **G3:** 6.84 ± 1.95 CiOP score, mean ± SD: 4.02 ±1.0 CiOP score ≥ 4, %: Total: 52

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hibbard et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, years:** 7.6 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 65 yrs old • At least 1 year post-TBI • Resident of New York state and living within the community **Exclusion criteria:** • Non-traumatic brain injuries (brain tumors, stroke, etc.) **TBI Def:** NR	**Group(s):** Patients with TBI **G1:** Patients with pre-TBI Axis I diagnosis **G2:** Patients with no pre-TBI Axis I diagnosis **N screened:** 431 **N eligible:** 100 **N included:** **G1:** 51 **G2:** 49 **N at conclusion:** NA **Depression:** Prior to injury, n (%): 17 (17) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Dysthymia: 1 (1) PTSD: 6 (6) OCD: 1 (1) Panic disorder: 4 (4) Phobias: 4 (4) Substance use disorder: 40 (40) One Axis 1 disorder: 34 (34) Two or more Axis 1 disorders: 17 (17) **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs:** 39.8 ± 10.2 **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: SCID Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, post-TBI, n (%):** MDD: 61 (61) MDD with psychotic features: 14 (14) Dysthymia: 3 (3) Depression, onset post-TBI, n (% resolved): MDD: **G1:** 16 (69) **G2:** 32 (59) Dysthymia: **G1:** 1 (0) **G2:** 1 (0) **Taking depression medications (%):** NR **Other co-morbidities, onset post-TBI, n (% resolved):** PTSD: **G1:** 8 (38) **G2:** 9 (44) Other anxiety disorder: MDD and anxiety: **G1:** 7 (43) **G2:** 18 (39) Panic disorder: **G1:** 4 (75) **G2:** 7 (57) GAD: **G1:** 4 (0) **G2:** 4 (0) Phobias: **G1:** 4 (25) **G2:** 3 (33) Irritability: NR Aggression: NR Suicidality: NR Substance use: **G1:** 3 (66) **G2:** 9 (56) Substance use and MDD and/or anxiety disorder: **G1:** 2 (0) **G2:** 6 (83)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hibbard et al., 1998		**Severity of TBI, %:** Dazed/confused <20 minutes: 30 >20 min but <1 day: 9 >1 day to <1 week: 20 1-4 weeks: 17 > 1 month: 24 **Mechanism/type of injury, %:** MVA: 62 Assault: 8 Pedestrian accident: 8 Fall: 6 Sports related: 6 Hit by falling/flying object: 5 Gunshot wound: 2 Other: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		Other psychiatric diagnoses: Bipolar: **G1:** 2 (50) **G2:** 0 (0) OCD: **G1:** 7 (29) **G2:** 7 (43) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hibbard et al., 2004 See Ashman et al., 2004 **Country, Setting:** US, tertiary care center **Enrollment Period:** March 1995 to December 2000 **Design:** Prospective cohort **Time from injury, yrs ± SD:** **G1:** 2.51 ± 1.3 **G2:** 2.63 ± 1.3 **G3:** 2.52 ± 1.2 **G4:** 2.16 ± 0.5 **Length of follow up:** 1 year **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • Between the ages of 18 and 87 • Self-identified TBI • Between 3 months and 4 years postinjury • Residents of the United States living within the community • Capable of giving informed consent for participation and answering interviews independently **Exclusion criteria:** • The presence of an acquired brain injury (e.g., cerebrovascular accident, aneurysm) • A preexisting neurocognitive disorder • Any preexisting psychotic disorder (e.g., schizophrenia, psychoses not otherwise specified, depression with psychotic features) **TBI Def:** According to ACRM criteria^	**Group(s):** **G1:** Patients experiencing no depression after TBI **G2:** Patients with resolved depression after TBI **G3:** Patients with late-onset depression after TBI **G4:** Patients with chronic depression after TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 91 **G2:** 52* **G3:** 19 **G4:** 27 **N at conclusion:** **G1:** 91 **G2:** 52* **G3:** 19 **G4:** 27 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** Mood disorders: 24 Substance abuse: 22 Anxiety: 9 Eating disorders: 1 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 43.8 ± 16.7 **G2:** 43.1 ± 14.7 **G3:** 38.5 ± 17.9 **G4:** 44.8 ± 10.0 **Age ≥16, %:** 100	**Depression:** SCID: No depression: Did not meet DSM-IV criteria for major mood disorder at either T1 (time 1=initial screening) or T2 (time 2= 1 year following initial screening). Resolved depression: Diagnosed with major depression at T1 resolved by T2. Late-onset-depression: Not depressed at T1 but met the criteria for DSM-IV diagnoses of major depression at T2. Chronic depression: Met the DSM-IV criteria for major depression at both T1 and T2. BDI: used to measure depression severity at T1 and T2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-IV Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-IV Other psychiatric diagnoses: DSM-IV	**Depression, n:** Chronic depression: 27 Late onset depression: 19 Resolved depression: 52* No depression: 91 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder, %: Initial screening: 19 1 year follow-up: 16 Irritability: NR Aggression: NR Suicidality: NR Substance use, %: Initial screening: 4 1 year follow-up: 6 Other psychiatric diagnoses: Co-occurring psychiatric disorder, initial screening, n (%): **G1:** 47 (52) **G2:** 23 (44) **G3:** 14 (74) **G4:** 7 (26) Co-occurring psychiatric disorder, 1 year follow-up, n (%): **G1:** 48 (53) **G2:** 38 (73) **G3:** 16 (84) **G4:** 25 (93) **Health related QoL or functional status:** No prevalence or incidence reported. Only comparisons made between depression groups

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hibbard et al., 2004		**Global injury severity:** NR **Severity of TBI, LOC, n (%):** Dazed and/or confused: 19 (10) < 20 mins: 34 (18) 21- 60 min: 19 (10) > 1 to < 24 hrs: NR > 1 day to 1 week: 24 (13) 1-4 weeks: 43 (23) > 4 weeks: 32 (17) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Health related QoL or functional status:** Living Life After TBI (LLATBI): Unmet Important Needs (UIN) scale Impact of TBI on Roles and Responsibilities Scale (Impact Scale) Life-3 scale	

*Reported as n=55 and n=52 in publication
^Taken from Ashman et al., 2004

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hoge et al., 2008 **Country, Setting:** US, other **Enrollment Period:** 2006 **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** PHQ-9	**Inclusion criteria:** • Soldiers from two U.S. Army combat infantry brigades returned from a yearlong deployment in Iraq were administered the questionnaire **Exclusion criteria:** • Incompletion of questionnaire • Report of head injury without LOC or altered mental status **TBI Def:** Mild TBI*: Concussion characterized by brief LOC or altered mental status. A soldier was considered to have had a mild traumatic brain injury if any of three questions – regarding "losing consciousness (knocked out)," "being dazed, confused, or 'seeing stars,'" or "not remembering the injury" – elicited a positive response*	**Group(s):** **G1:** TBI with LOC **G2:** TBI with altered mental status (AMS) **G3:** Other injury **G4:** No injury **N screened:** 4,618 **N eligible:** 2,525 **N included:** **G1:** 124 **G2:** 260 **G3:** 435 **G4:** 1,706 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** NR **Age ≥16, n (%):** 2,525 (100) **Global injury severity:** NR **Severity of TBI (GCS), n (%):** Mild with self-reported LOC: 124* (4.9) Mild with AMS (including self-report of being dazed, confused, seeing stars) and no LOC: 260 (10.3)	**Depression:** PHQ: subjects had to meet DSM-IV criteria and report impairment in work, home, or interpersonal functioning at the "very difficult" level **Other co-morbidities:** PTSD: Subjects had to meet DSM-IV criteria (one intrusion symptom, three avoidance symptoms, and two hyperarousal symptoms) and had to have substantial distress, as measured by a total score of at least 50. Other anxiety disorder: NR Irritability: PHQ-9 Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Measures of Physical Health: Measured by the Patient Health Questionnaire 15-item somatic symptom severity scale (PHQ-15)	**Depression:** Major depression, n (%): **G1:** 27 (22.9) **G2:** 21 (8.4) **G3:** 28 (6.6) **G4:** 55 (3.3) **Taking depression medication:** NR **Other co-morbidities:** PTSD, n (%): **G1:** 54 (43.9) **G2:** 71 (27.3) PTSD Checklist score, mean ± SD: **G1:** 46.8 ±19.0 **G2:** 39.8 ±16.3 Other anxiety disorder: NR Substance use: NR Irritability: **G1:** 67 (56.8) **G2:** 118 (47.6) Aggression: NR Suicidality: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Patient Health Questionnaire score ≥15, n (%): **G1:** 30 (24.8) **G2:** 41 (16.1) Post-concussive memory problems, n (%): **G1:** 29/118 (24.6) **G2:** 41/253 (16.2) **G3:** 58/422 (13.7) **G4:** 124/1,680 (7.4)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hoge et al., 2008		**Mechanism/type of injury, n (%):** Blast/explosion: **G1:** 98 (79.0) **G2:** 189 (72.7) Bullet: **G1:** 6 (4.8) **G2:** 2 (0.8) Fragment/shrapnel: **G1:** 31 (25.0) **G2:** 48 (18.5) Fall : **G1:** 38 (30.6) **G2:** 73 (28.1) MVA: **G1:** 38 (30.6) **G2:** 47 (18.1) Other: **G1:** 16 (12.9) **G2:** 23 (8.8) **Area of brain injured:** NR **Concomitant injuries, n (%):** Other injury: Total: 435 (17.2)	Post-concussive symptoms concerning memory, balance, concentration, ringing in ears, and irritability were assessed by five additional questions that were not part of the PHQ-15.	Post-concussive balance problems, n (%): **G1:** 10/120 (8.3) **G2:** 17/254 (6.7) **G3:** 12/424 (2.8) **G4:** 26/1,677 (1.6) Post-concussive ringing in the ears, n (%): **G1:** 28/119 (23.5) **G2:** 45/251 (17.9) **G3:** 59/422 (14.0) **G4:** 99/1,675 (5.9) Post-concussive concentration problems, n (%): **G1:** 37/118 (31.4) **G2:** 65/250 (26.0) **G3:** 76/420 (18.1) **G4:** 170/1,667 (10.2) Post-concussive irritability, n (%): **G1:** 67/118 (56.8) **G2:** 118/248 (47.6) **G3:** 154/419 (36.8) **G4:** 409/1,659 (24.7)

*Adapted from the definitions of the Centers for Disease Control and Prevention and the World Health Organization by the Defense and Veterans Brain Injury Center working group for military-wide use

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Holsinger et al., 2002 **Country, Setting:** US, other **Enrollment Period:** 1996 to 1997 **Design:** Cross-sectional **Time from injury:** Approximately 50 years **Length of follow up:** NA **Dep. Scale/Tool:** DSM-IV	**Inclusion criteria:** • World War II US Navy or Marine Corps male veterans who were on active duty during 1944-1945 and hospitalized during their military service with a diagnosis of head injury, pneumonia, or laceration, puncture, or incision wounds • Head trauma that was documented in the military medical records, occurred during military service, and produced LOC, PTA, or nondepressed skull fracture **Exclusion criteria:** • Head trauma that penetrated the duramater or resulted in significant cognitive impairment or neurological sequelae (likely to cause substantial limitation in ADLs) more than 3 months after trauma • Dementia • Head injury prior to enlistment	**Group(s):** **G1:** Veterans with recorded HI **G2:** Veterans with no recorded HI **N screened:** 5,444 **N eligible:** **G1:** 578 **G2:** 1,198 **N included:** **G1:** 528 **G2:** 1,198 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 73.2 ± 3.4 **G2:** 72.5 ± 3.8 **Age ≥16, n (%):** 1,718 (100) **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury, %:** MVC: 26 Blast concussion: 17 Fights with peers: 7 Falls: 19 Sports injuries: 12 Miscellaneous other war time happenings: 19	**Depression:** Major depression: 5 symptoms which included depressed mood or loss of interest/ pleasure Minor depression: 2 symptoms, at least one of which had to be depressed mood or loss of interest/ pleasure Lifetime depression: 2 wks of any of the following: Depressed, sad, or blue mood Loss of interest/ pleasure Irritability **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: CAGE interview questionnaire ≥ 2 positive responses, indicative of possible alcohol abuse Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, lifetime, %:** Major depression: **G1:** 18.5 **G2:** 13.4 Minor depression: **G1:** 7.1 **G2:** 5.3 Depression, life-time, HI severity, OR vs. no HI: Severe: 1.99 Moderate:1.40 Mild: 1.49 Major depression, current, %: **G1:** 11.2 **G2:** 8.5 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use, n: **G1:** 409 **G2:** NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Holsinger et al., 2002	**TBI Def:** Mild injury: LOC or PTA < 30 minutes with no skull fracture Moderate injury: LOC or PTA > 30 minutes but less than 24 hours and/or a skull fracture Severe injury: LOC or PTA for 24 hours or longer	**Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hoofien et al., 2001 **Country, Setting:** Israel, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 14.1 ± 5.5 **Length of follow up:** NA **Dep. Scale/Tool:** SCL-90-R	**Inclusion criteria:** • Medically documented TBI occurring at least 5 yrs prior to the study **Exclusion criteria:** • Severe psychiatric problems • Substance abuse **TBI Def:** NR	**Group(s):** Patients with severe TBI **N screened:** 321 **N eligible:** 198 **N included:** 76 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 24.9 ± 7.6 **Age ≥16, n (%):** 76 (100) **Global injury severity:** NR **Severity of TBI, duration of coma, n (%):** No coma: 5 (6.6) < 24 hrs: 9 (11.8) 1-7 days: 13 (17.1) 8-30 days: 26 (34.2) ≥ 30 days: 21 (27.6) **Mechanism/type of injury, n (%):** MVC: 48 (64) Combat: 19 (25) Work accident: 9 (11) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCL-90-R > 95th percentile of normative data **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90-R > 95th percentile Irritability: NR Aggression: SCL-90-R > 95th percentile Suicidality: NR Substance use: NR Other psychiatric diagnoses: SCL-90-R > 95th percentile **Health related QoL or functional status:** GSI Acceptance of Disability Questionnaire Extended ADL: social activities, home activities, and independence in mobility subscales	**Depression, %:** 45.3 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety, %: 43.8 Irritability: NR Aggression: Elevated SCL-90-R hostility score, %: 51.6 Suicidality: NR Substance use: NR Other psychiatric diagnoses, %: Psychoticism: 35.6 Obsessive-compulsive: 29.7 Phobic-ideation: 27.7 Paranoid ideation: 7.9 Interpersonal: 6.5 **Health related QoL or functional status:** GSI score, mean ± SD: 5.5 ± 0.71 Correlation between acceptance of disability and GSI and SCL-90-R subscales: GSI score: -0.65 Somatization: -0.65 Obsessive-compulsive: -0.59 Interpersonal sensitivity: -0.51 Depression: -0.70 Anxiety: -0.53 Anger-hostility: -0.47 Phobic ideation: -0.48 Paranoid ideation: -0.52 Psychoticism: -0.55

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hoofien et al. 2001				Correlation between behavior evaluation checklist (n=34 family members) and GSI and SCL-90-R subscales: GSI score: 0.49 Somatization: 0.42 Obsessive-compulsive: 0.40 Interpersonal sensitivity: 0.34 Depression: 0.45 Anxiety: 0.51 Anger-hostility: 0.51 Phobic ideation: 0.43 Paranoid ideation: 0.40 Psychoticism: 0.46 IQ score, mean ± SD: Verbal: 94.42 ± 14.02 Performance: 86.05 ± 12.17 Full-Scale: 90.10 ± 12.61 WMS-R logical memory score, mean ± SD: Immediate: 21.62 ± 8.33 Delayed trial: 6:17 ± 8.21 WMS-R visual reproduction score, mean ± SD: Immediate: 30.74 ± 7.13 Delayed trial: 24.09 ± 10.03 Rey AVLT total learning score mean± SD: 39.05 ± 9.07

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hoofien et al. 2001				Extended ADL subscale score, mean ± SD: Social activities: 2.17 ± 0.93 Home activities: 3.02 ± 1.07 Independence in mobility: 2.98 ± 0.77

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Huang et al., 2005 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 1 year **Length of follow up:** NA **Dep. Scale/Tool:** SCID, ZDS	**Inclusion criteria:** • TBI patients with closed head injuries **Exclusion criteria:** • Open head injuries • Penetrating head injuries (e.g., stab wounds and missile wounds) • Non-traumatic brain injuries (e.g., stroke, malignancy and anoxic brain injuries) • Past or present disabling injuries in addition to brain trauma (e.g., patients with spinal cord and brain injuries) • Pre-existing or current DSM-IV Axis I and II psychiatric disorders as determined by a psychiatrist at the institution **TBI Def:** Mild: GCS score of 13 to 15 Moderate: GCS score of 9 to 12 Severe: GCS score of 3 to 8	**Group(s):** **G1:** Patients with mild TBI **G2:** Patients with moderate TBI **G3:** Patients with severe TBI **N screened:** 70 **N eligible:** 61 **N included:** **G1:** 22 **G2:** 20 **G3:** 17 **N at conclusion:** NA **Depression:** Prior to injury: None (see exclusion criteria) At time of injury: None (see exclusion criteria) **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 45.5 ± 8.2 **G2:** 45.9 ± 7.7 **G3:** 41.7 ± 6.7 **Age ≥16, n (%):** 59 (100) **Global injury severity:** NR **Severity of TBI, n:** Severe: 17 Moderate: 20 Mild: 22	**Depression:** SCID: DSM-IV criteria ZDS cutoff: 55 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, SCID, n (%):** **G1:** 0 **G2:** 1 (5) **G3:** 7 (41) MDD, ZDS, n (%): **G1:** 0 **G2:** 0 **G3:** 10 (59) ZDS score, mean ± SD: **G1:** 24.9 ± 2.1 **G2:** 42.8 ± 3.5 **G3:** 54.7 ± 4.8 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Huang et al., 2005		**Mechanism/type of injury:** Closed head injury **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Arndt, Forrester et al., 1993 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NA **Length of follow up:** 12 months **Dep. Scale/Tool:**, DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Shock trauma admissions with acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1:** Patients with acute-onset major depression **G2:** Patients with delayed-onset major depression **G3:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** **G1:** 17 **G2:** 11 **G3:** 32 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** History of psychiatric disorder: **G1:** 12 (70.6) **G2:** 9 (81.8) **G3:** 6 (19.3) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 26.8 ± 5.8 **G2:** 28.9 ± 6.4 **G3:** 29.5 ± 11.7 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAM-D); Present State Examination (PSE) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC)	**Depression, n (%):** Initial evaluation: MDD: 17/66 (25.8) Minor depression: 2/66 (3.0) Delayed onset: MDD: 11/66 (16.7) Minor depression: 4/66 (6.1) HAM-D score, mean ± SD: **G1:** 13.8 ± 3.2 **G2:** 11.0 ± 1.3 **G3:** 5.5 ± 2.4 **Taking depression medications, n:** ≥ 2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** JHFI score, mean ± SD: **G1:** 2.2 ± 3.3 **G2:** 0.4 ± 0.8 **G3:** 1.0 ± 0.9 **G1/G2:** $P < 0.05$ STC score, mean ± SD: **G1:** 4.2 ± 1.2 **G2:** 4.3 ± 1.6 **G3:** 3.6 ± 1.1 **G1/G3:** $P < 0.05$ **G2/G3:** $P < 0.05$

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 1993		**Severity of TBI, %:** Severe: **G1:** 26 **G2:** 13 **G3:** 20 Moderate: **G1:** 32 **G2:** 53 **G3:** 34 Mild: **G1:** 42 **G2:** 43 **G3:** 46 GCS score, mean ± SD: **G1:** 9.0 ± 3.3 **G2:** 8.3 ± 3.0 **G3:** 10.6 ± 3.3 **Mechanism/type of injury:** NR **Area of brain injured, %:** Diffuse: 47 Mass lesions: 36 **Concomitant injuries:** NR		SFE score, mean ± SD: **G1:** 0.190 ± 0.160 **G2:** 0.248 ± 0.120 **G3:** 0.091 ± 0.060 **G1/G3:** $P < 0.05$ **G2/G1:** $P < 0.05$ **G2/G3:** $P < 0.05$

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Starkstein, and Arndt, 1994 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days, median (IQR):** 31 (32) **Length of follow up:** 12 months **Dep. Scale/Tool:** DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1:** Patients with major depression **G2:** Patients with major depression and anxiety **G3:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** **G1:** 10 **G2:** 7 **G3:** 47 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** Psychiatric disorder: **G1:** 2 (20) **G2:** 2 (29) **G3:** 11 (24) Personal history of alcohol abuse, %: **G1:** 40 **G2:** 14 **G3:** 17 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 29.4 ± 6.2 **G2:** 25 ± 5.0 **G3:** 30.1 ± 10.8 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAMD-D); Present State Examination (PSE) **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-III R criteria for Anxiety & depression PSE for mood & anxiety disorders Irritability: NR Aggression: NR Suicidality: NR Substance use: Other psychiatric diagnoses: **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI)	**Depression, n (%):** MDD: 17/66 (25.8) HAM-D score, mean ± SD: **G1:** 12.6 ± 2.9 **G2:** 15.4 ± 2.9 **G3:** 6.7 ± 2.6 **Taking depression medications, n:** Benzodiazepines: **G1+G2:** 16 Antidepressants: **G1+G2:** 0 **Other co-morbidities:** PTSD: NR Other anxiety disorder: PSE score, mean ± SD: **G1:** 18.1 ± 3.7 **G2:** 21.8 ±4.2 **G3:** 7.2 ± 4.6 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, JHFI score, mean ± SD:** **G1:** 2.1 ± 2.0 **G2:** 0.86 ± 1.1 **G3:** 1.5 ± 2.8

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 1994		**Severity of TBI, %:** Severe: **G1:** 33 **G2:** 33 **G3:** 13 Moderate: **G1:** 56 **G2:** 50 **G3:** 64 Mild: **G1:** 11 **G2:** 17 **G3:** 23 GCS score, median (IQR): **G1:** 8.3 (3) **G2:** 10.5 (7) **G3:** 9 (6.75) **Mechanism/type of injury:** NR **Area of brain injured, CT scan, %:*** Focal injuries: **G1:** 30 **G2:** 57 **Concomitant injuries:** NR		

* Anxious depressions were associated with the presence of right hemisphere lesions (*P*=0.007), whereas depression alone was associated with left anterior lesion location (*P*= 0.003). In addition, the presence of frontal lesions (right, left, or bilateral) was associated with a decreased probability of developing anxious depressions (*P*= 0.02).

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Starkstein, and Arndt, 1994 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, n:** 3 months: 52 6 months: 43 12 months: 43 **Length of follow up:** 12 months **Dep. Scale/Tool:** Modified version of the PSE using DSM-III-R criteria	**Inclusion criteria:** • Acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** 52* **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions:** Unable to determine **N with prior TBI:** NR **Age, yrs ± SD:** NR **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: 17 Moderate: 68 Mild: 15 GCS score, median (IQR): 10 (6) **Mechanism/type of injury:** MVA: “Most” **Area of brain injured:** Reported but unable to determine from data presented **Concomitant injuries:** NR	**Depression:** DSM-III-R criteria **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC)	**Depression, n (%):** MDD: 13 (25) Minor depression: 1 (2) **Taking depression medications:** NR **Other co-morbidities, n:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Bipolar disorder: 1/52 Secondary mania (elevated mood): 5/52 **Health related QoL or functional status:** Poor psychosocial outcome, n: Long-lasting MDD: 4/6 No affective disorder: 3/19 *P* = 0.03 Poor ADL’s outcome, n: Long-lasting MDD: 2/4 No affective disorder: 0/10 *P* = 0.03

* Completed at least 3 of 4 follow-up evaluations

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge et al., 2004 See Tateno et al., 2003 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 12 months **Dep. Scale/Tool:** SCID	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Penetrating head injuries • Clinical or radiological findings suggesting spinal cord injury • Patients with severe comprehension deficits (i.e., those who were unable to complete part II of the Token Test) that precluded a thorough neuropsychiatric evaluation **TBI Def:** Mild TBI: GCS score between 13 and 15 Moderate TBI: GCS score between 9 and 12, or GCS score of 12 to 15 with intracranial surgical procedures or with focal lesions greater than 15 mL Severe TBI: GCS score between 3 and 8	**Group(s):** **G1:** Patients with TBI **G2:** Trauma patients without central nervous system damage **N screened:** NR **N eligible:** NR **N included:** **G1:** 91 **G2:** 27 **N at conclusion:** **G1:** 74 **G2:** 27 **Depression, n (%):** Prior to injury: **G1:** 18 (19.8) **G2:** 4 (14.8) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 36.4 ± 15.7 **G2:** 35.7 ± 14.1 **Age ≥16, n (%):** NR **Global injury severity, AIS score, mean:** 16.8 **Severity of TBI, %:** Mild: 44.3 Moderate: 32.5 Severe: 23.2 **Mechanism/type of injury, %:** MVA: 74.7 Fall: 17.6 Assault: 3.3 Other (sports): 4.4	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: see below Other anxiety disorder: SCID: PTSD, GAD, panic Irritability: NR Aggression: Overt Aggression Scale (OAS) Suicidality: NR Substance use: NR Other psychiatric diagnoses: **Health related QoL or functional status:** FIM RAVLT WCST Trail Making Test Stroop Color-Word Interference Test Multilingual Asphasia Examination	**Depression, n (%):** 30 (33) **Taking depression medications, n (%):** 8 (33) **Other co-morbidities, %:** PTSD: See below Other anxiety Disorder (includes PTSD): 43.2 Irritability: NR Aggression: 36.5 Suicidality: NR Substance use: Concurrent alcohol abuse, patients with TBI and major depression: 6.7 Concurrent other drug abuse, patients with TBI and major depression: 6.7 Other psychiatric diagnoses: NR **Health related QoL or functional status:** FIM score, mean: 62.7 RAVLT score, mean ± SD: 8.33 ± 2.77 WCST Perseverative score, mean ± SD: 13.92 ± 11.09 Categories achieved, mean ± SD: 2.25 ± 1.60 Trail Making Test score, mean ± SD: 37.08 ± 15.18

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 2004		**Area of brain injured, %:** Diffuse lesions: 72.1 Focal pattern of injury: 27.9 **Concomitant injuries:** NR		Stroop Color-Word Interference Test score, mean ± SD: 31.83 ± 10.30 Multilingual Asphasia Examination score, mean ± SD: 34.08 ± 12.06

*See Appendix X for standard definitions of depression tools

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kant et al., 1998 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** DSM-III-R, BDI	**Inclusion criteria:** • Closed head injury (CHI) **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS 13 to15 and/or LOC < 20 min Moderate TBI: GCS 9 to12 and/or LOC > 20 min but < 24 hrs Severe TBI: GCS < 8 and/or LOC > 24 hrs	**Group(s):** **G1:** CHI with apathy and no depression **G2:** CHI with depression and no apathy **G3:** CHI with apathy and depression **G4:** CHI with neither apathy nor depression **N screened:** NR **N eligible:** NR **N included:** **G1:** 9 **G2:** 9 **G3:** 50 **G4:**15 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** History of psychiatric treatment: 10 (12) **N with prior TBI (%):** 8 (9.6) **Age, yrs ± SD:** **G1:** 29.00 ± 11.88 **G2:** 41.77 ± 12.94 **G3:** 38.12 ± 11.46 **G4:** 42.13 ± 12.93 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** DSM-III-R criteria BDI > 11 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Apathy Evaluation Scale **Health related QoL or functional status:** NR	**Depression, n (%):** 59 (71.1) BDI score, mean ± SD: **G1:** 7.33 ± 2.5 **G2:** 18.00 ± 5.26 **G3:** 23.52 ± 8.58 **G4:** 6.2 ± 2.42 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Apathy, AES, n (%): 59 (71.1) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kant et al., 1998		**Severity of TBI, n (%):** Severe: **G1:** 3/9 (33.3) **G2:** 1/9 (11.1) **G3:** 1/50 (2.0) **G4:** 4/15 (26.7) Moderate: **G1:** 0/9 **G2:** 0/9 **G3:** 6/50 (12) **G4:** 2/15 (13.3) Mild: **G1:** 6/9 (66.7) **G2:** 8/9 (89.9) **G3:** 40/50 (80.0) **G4:** 8/15 (53.3) Unknown: **G1:** 0/9 **G2:** 0/9 **G3:** 3/50 (6.0) **G4:** 1 (6.7) Mechanism/type of injury: NR **Area of brain injured:** NR **Concomitant injuries, n (%):** History of multiple head injuries: 8/83 (9.6)		

*See Appendix X for standard depression definitions

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kashluba et al., 2006 **Country, Setting:** Canada, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury days ± SD:** **G1:** 12.09 ± 5.84 **Length of follow up:** 3 months **Dep. Scale/Tool:** ICD-10	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • History of inpatient treatment for any psychiatric disorder • Diagnosis of mental retardation • Inability to read fluently in English based on self-report • History of TBI more severe than MTBI at any point in their life • MTBI within 1 year prior to participation in the MTBI study • Any ongoing central nervous system disorder • Concurrent pregnancy **TBI Def:** According to ACRM criteria	**Group(s):** **G1:** Participants with TBI **G2:** Uninjured participants matched by age, sex, and years of education **N screened:** NR **N eligible:** NR **N included:** **G1:** 110 **G2:** 118 **N at conclusion:** **G1:** 110 **G2:** 118 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 33.06 ± 12.03 **G2:** 30.44 ± 11.68 **Age ≥16, n (%):** 228 (100) **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** Problem Checklist from the New York Head Injury Family Interview ICD-10 definition for PCS **Other co-morbidities:** PTSD: NR Other anxiety disorder: Problem Checklist from the New York Head Injury Family Interview ICD-10 definition for PCS Irritability: ICD-10 definition for PCS Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** PCS symptoms using ICD-10 definition for PCS: fatiguing quickly, dizziness/vertigo, poor concentration, being forgetful, headaches, sleep disturbances, irritability	**Depression, 1 month, %:** **G1:** 40 **G2:** 33 **G1/G2:** *P* = NS Depression, 3 months, %: **G1:** 39 **G2:** 37 **G1/G2:** *P* = NS **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Anxiety/tension,1 month: **G1:** 63 **G2:** 60 **G1/G2:** *P* = NS Anxiety/tension, 3 months: **G1:** 51 **G2:** 58 **G1/G2:** *P* = NS Irritability, 1 month: **G1:** 61 **G2:** 47 **G1/G2:** *P* < 0.05 Irritability, 3 months: **G1:** 56 **G2:** 47 **G1/G2:** *P* = NS Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kashluba et al. 2006				**Health related QoL or functional status, %:** Fatiguing quickly, 1 month: **G1:** 90 **G2:** 33 **G1/G2:** *P* < 0.05 Fatiguing quickly, 3 months: **G1:** 59 **G2:** 36 **G1/G2:** *P* < 0.05 Dizziness/vertigo, 1 month: **G1:** 59 **G2:** 22 **G1/G2:** *P* < 0.05 Dizziness/vertigo, 3 months: **G1:** 27 **G2:** 16 **G1/G2:** *P* < 0.05 Poor concentration, 1 month: **G1:** 63 **G2:** 35 **G1/G2:** *P* < 0.05 Poor concentration, 3 months: **G1:** 42 **G2:** 37 **G1/G2:** *P* = NS Being forgetful, 1 month: **G1:** 74 **G2:** 47 **G1/G2:** *P* < 0.05 Being forgetful, 3 months: **G1:** 48 **G2:** 50 **G1/G2:** *P* = NS Headaches, 1 month: **G1:** 76 **G2:** 58 **G1/G2:** *P* < 0.05

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kashluba et al. 2006				Headaches, 3 months: **G1:** 58 **G2:** 59 **G1/G2:** *P* = NS Sleep disturbances, 1 month: **G1:** 72 **G2:** 47 **G1/G2:** *P* < 0.05 Sleep disturbances, 3 months: **G1:** 50 **G2:** 40 **G1/G2:** *P* = NS

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Keiski et al., 2007 **Country, Setting:** Canada, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, months ± SD:** 17.8 ± 16.8 **Length of follow up:** NA **Dep. Scale/Tool:** PAI	**Inclusion criteria:** • 18 to 49 years of age • At least a mild TBI **Exclusion criteria:** • Injury received prior to age 15 years • Diagnosis of a condition unrelated to the brain injury (e.g., schizophrenia, developmental disability) that would grossly affect subject performance • Any deficits preventing a subject from completing a substantial portion of a comprehensive neuropsychological evaluation (e.g., aphasia, sensory impairment) **TBI Def:** Mild TBI: Head injury resulting in any period of loss of consciousness, any loss of memory (whether retrograde or anterograde), any alteration in mental state, or focal neurological deficits (based on ACRM criteria)	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 53* **N at conclusion:** NA **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 33.7 ± 10.1 **Age ≥16, n (%):** 53 (100)* **Global injury severity:** NR **Severity of TBI, n (%):** Moderate: 16 (30.1) Mild: 37 (69.8) **Mechanism/type of injury:** Most were MVA **Area of brain injured:** NR **Concomitant injuries:** NR **Baseline depression status:** NR	**Depression:** PAI > 70 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, n (%):** 24/43 (55.8) * **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

* Study does not account for difference between group size and total N included

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kennedy et al., 2005 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 76 ± 94 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • At least 18 yrs old • At least 3 months postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** Damage to brain tissue caused by an external mechanical force, as evidenced by LOC due to head trauma, PTA, skull fracture, or objective neurological findings Mild TBI: GCS score of 13 to 15 Moderate TBI: GCS score of 9 to 12 Severe TBI: GCS score of 3 to 8	**Group(s):** Participants with TBI **N screened:** NR **N eligible:** NR **N included:** 78 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD (range):** 38 ± 12.2 (18-69) **Age ≥16, n (%):** 78 (100) **Global injury severity:** NR **Severity of TBI, GCS score, %:*** Severe: 43 Moderate: 12 Mild: 45 GCS score, mean ± SD: 9.33 ± 4.8 **Mechanism/type of injury, %:** MVC: 77 Assault: 12 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria for MDD or depression due to general medical condition (GMC) **Other co-morbidities:** PTSD: Other anxiety disorder: Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, SCID-I, %:** Total depressive disorder: 50 MDD: 14 Current MDD with/ without a GMC at evaluation, %: 30 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

* GCS unavailable for 37% of participants

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kersel et al., 2001 See Marsh and Kersel, 2006 **Country, Setting:** New Zealand, tertiary care center **Enrollment Period:** April 1993 to August 1996 **Design:** Prospective cohort **Time from injury, days ± SD (range):** 201 ± 23 (153-277); 387 ± 33 (345-497) **Length of follow up:** 12 months **Dep. Scale/Tool:** BDI short form, HIBS	**Inclusion criteria:** • 16 to 60 yrs old • Consent obtained from next-of-kin to participate in the study • Severe TBI as indicated by a GCS score of < 9 obtained prior to intubation and within 24 hours of the injury • The patient was required to be ventilated on clinical grounds for > 24 hours, where the ventilation was, at least in part, required for the treatment of the TBI • English-speaking **Exclusion criteria:** • Previous psychiatric history • Prior significant TBI requiring hospitalization **TBI Def:** Severe TBI: GCS score of < 9	**Group(s):** Patients with TBI **N screened:** 123 **N eligible:** 123 **N included:** 123 **N at conclusion:** 58 **Depression:** Prior to injury: None, see inclusion criteria At time of injury: None, see inclusion criteria **Other preexisting psychiatric conditions:** None, see inclusion criteria **N with prior TBI:** NR **Age, yrs ± SD:** 28 ± 11 **Age ≥16, n (%):** 123 (100) **Global injury severity:** NR **Severity of TBI, %:** Severe: 100 **Mechanism/type of injury, n (%):** Road traffic crash: 49 (75) Fall: 7 (11) Assault: 5 (8) Other causes (including sports injuries): 4 (6) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** BDI short form: NR HIBS, patient version: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HIBS Irritability: HIBS Aggression: HIBS Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** HIBS describes other characteristics in addition to depression and anxiety Glasgow outcome scale (GOS): Severely disabled, moderately disabled & good recovery	**Depression (BDI), 6 mos, n (%):** Severe depression: 9 (16) Mild depression: 5 (9) Total clinically depressed: 14 (24) BDI score, 6 mos, mean ± SD: 3.54 ± 4.39 Depression (HIBS), 6 mos, n (%): 25 (42) Depression (BDI), 12 mos, n (%): Severe depression: 6 (10)* Mild depression: 8 (14)* Total clinically depressed: 14 (24) BDI score, 12 mos, mean ± SD: 3.61 ± 4.64. Depression (HIBS), 12 mos, n (%): 28 (47) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: 6 mos: 23 (39) 12 mos: 26 (44) Irritability: 6 mos: 29 (49) 12 mos: 26 (44) Aggression: 6 mos: 8 (14) 12 mos: 9 (15) Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kersel et al., 2001				**Health related QoL or functional status (HIBS), n (%):** Impatient: 6 mos: 30 (51) 12 mos: 38 (64) Argumentative: 6 mos: 26 (44) 12 mos: 21 (36) Anger: 6 mos: 25 (42) 12 mos: 26 (44) Lack of Interest: 6 mos: 24 (41) 12 mos: 19 (32) Loss of Motivation: 6 mos: 21 (36) 12 mos: 16 (27) Overly sensitive: 6 mos: 19 (32) 12 mos: 20 (34) Impulsive: 6 mos: 17 (29) 12 mos: 23 (39) Mood changes: 6 mos: 15 (25) 12 mos: 15 (25) Dependent: 6 mos: 15 (25) 12 mos: 13 (22) Poor insight: 6 mos: 13 (22) 12 mos: 13 (22) Childish: 6 mos: 13 (22) 12 mos: 13 (22) Poor decision making: 6 mos: 10 (17) 12 mos: 14 (24) Complaining: 6 mos: 10 (17) 12 mos: 13 (22) Social Behavior: 6 mos: 9 (15) 12 mos: 9 (15)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kersel et al., 2001				Irresponsible: 6 mos: 7 (12) 12 mos: 2 (3) Lack of initiative: 6 mos: 5 (8) 12 mos: 7 (12) Leisure Activities, n (%): Socially active: Pre-injury: 60 (95) 6 mos: 39 (62) 12 mos: 44 (70) GOS, 6 mos, n (%): Severely disabled: 20 (31) Moderately disabled: 19 (29) Good recovery: 26 (40) GOS, 12 mos, n (%): Severely disabled: 19 (29) Moderately disabled: 13 (20) Good recovery: 33 (51)

* 7 patients (3 mild and 4 severely depressed) experienced same level of depression at both 6 months and 1 year post injury.

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kinsella et al., 1988 **Country, Setting:** Australia, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury mos, n (%):** **G1:** <6: 12 (30.7) 7-12: 11 (28.2) 13-18: 8 (20.5) 19-24: 8 (20.5) **G2:** NA **Length of follow up:** NA **Dep. Scale/Tool:** Leeds Scales for Anxiety and Depression, VAS-D	**Inclusion criteria:** • 16 to 60 yrs old • Within 2 yrs of injury • "Close others" had frequent and personal contact with the head injured patients over a variety of situations during the last 2-3 months **Exclusion criteria:** • Premorbid history of serious brain impairment **TBI Def:** Severe CHI: Brain damage without skull penetration, and had been unconscious and incurred a PTA of greater than 24 hrs	**Group(s):** **G1:** Patients with CHI **G2:** "Close others" to CHI patients **N screened:** NR **N eligible:** NR **N included:** **G1:** 39 **G2:** 35 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean:** **G1:** 27.8 **G2:** NR **Age ≥16, n (%):** **G1:** 39 (100) **G2:** NR **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n (%):** Duration of LOC: <24 hours: 3 (7.7) 1-7 days: 9 (23.1) 1-4 weeks: 14 (35.9) >4 weeks: 10 (25.6) Unknown: 3 (7.7) Duration of PTA: 1-7 days: 1 (2.6) 1-4 weeks: 9 (23.1) >4 weeks: 29 (74.4) **Mechanism/type of injury:** The cause of injury for all but three subjects was due to motor vehicle accidents	**Depression:** Leeds Scale for Depression: 15-items that describe common symptoms of depression and cut-off points used were the recommended 6/7 Visual Analogue Scale for Depression: The distance (measured in mm), from the non-depressed ends of the scale to where the subjects mark the scale indicates the severity of depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: Leeds Scale for Anxiety, Visual Analogue Scale for Anxiety, Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: GHQ: **Health related QoL or functional status:** Physical disability: According to the classification system, physical independence is rated between zero and eight; a continuous scale measures between 'fully independent' and 'intensive dependence'	**Depression, n (%)*:** Leeds Scale for Depression: **G1:** 13 (33.3) VAS-D: **G1/G2:** ρ= 0.5090 **Taking depression medications:** NR **Other co-morbidities, n (%)*:** PTSD: NR Other anxiety disorder: Leeds: **G1:** 10 (25.6) VAS-A: **G1/G2:** ρ= 0.5265 Irritability :NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: GHQ minor non-psychotic psychiatric disorders: **G1:** 23 (59.0) **Health related QoL or functional status:** Physical Disability: A high score on the GHQ was best predicted by physical handicap (accounting for 12% of the variance)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kinsella et al., 1988		**Area of brain injured:** NR **Concomitant injuries:** NR		

* N calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Koponen et al., 2002* Koponen et al., 2004^ See Koponen et al., 2005; Koponen et al., 2006 **Country, Setting:** Finland, tertiary center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 31.4 ± 4.4 **Length of follow up:** NA **Dep. Scale/Tool:** SCAN	**Inclusion criteria:** • Head trauma severe enough to cause TBI and neurological symptoms (including headache and nausea) lasting at least 1 week • At least one of the following: LOC ≥ 1 minute, PTA ≥ t 30 minutes, neurological symptoms (excluding headache and nausea) during the first 3 days after the injury, or neuroradiological findings suggesting TBI (e.g., skull fracture, intracerebral hemorrhage) **Exclusion criteria:** • Neurological illness before the brain injury • Clinical symptoms of a nontraumatic neurological illness that developed after the TBI (excluding dementia) • Insufficient cooperation • Unavailability of medical records	**Group(s):** **G1:** Patients with TBI and positive for the APOE-ε4 allele **G2:** Patients with TBI and negative for the APOE-ε4 allele **N screened:** NR **N eligible:** 210 **N included:** Total*: 60 **G1^:** 19 **G2^:** 41 **N at conclusion:** Total*: 60 **G1^:** 19 **G2^:** 41 **Depression, n:** Prior to injury: 0 At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Schizoaffective disorder: 1 (1.7) Delusional disorder: 0 Psychotic disorder not otherwise specified: 0 Bipolar II disorder: 0 Panic disorder: 0 Specific phobia: 5 (8.3) Social phobia: 3 (5) Generalized anxiety disorder: 0 Dissociative amnesia: 0 Alcohol dependence: 3 (5) Alcohol abuse: 2 (3.3) Dementia not otherwise specified: 0	**Depression:** SCAN: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID: DSM-III-R criteria Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID: DSM-III-R criteria Other psychiatric conditions: SCID: DSM-III-R criteria* **Health related QoL or functional status:** NR	**Depression, n:** Total: 16 **G1:** 6 **G2:** 10 Depression, onset post-TBI, n (%): < 1 year: 6 (10) 1-10 years: 0 > 10 years: 10 (16.7) Depression, current, n (%): 6 (10) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety disorder, n:^ Total: 11 **G1:** 3 **G2:** 8 Generalized anxiety disorder, onset post-TBI, n (%):* < 1 year: 0 1-10 years: 1 (1.7) > 10 years: 0 Generalized anxiety disorder, current: 1 (1.7) Substance use: Alcohol abuse or dependence, n:^ Total: 7 **G1:** 2 **G2:** 5 Alcohol dependence, onset post-TBI, n (%):* < 1 year: 1 (1.7) 1-10 years: 0 > 10 years: 0 Alcohol dependence, current, n (%): 2 (3.3)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Koponen et al. 2002* (#524) Koponen et al. 2004^ (#382)	**TBI Def:** Mild TBI: PTA < 1 hour Moderate TBI: PTA 1-24 hours Severe TBI: PTA 1-7 days Very Severe TBI: PTA > 7 days	**N with prior TBI:** NR **Age, yrs ± SD:** 60.8 ± 10.3 **Age ≥16, n (%):** 60 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Very severe: 19 (31.7) Severe: 11 (18.3) Moderate: 15 (25) Mild: 15 (25) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Alcohol abuse, onset post-TBI, n (%): < 1 year: 0 1-10 years: 3 (5.0) > 10 years: 3 (5) Alcohol abuse, current, n (%): 3 (5) Irritability: NR Aggression: NR Suicidality: NR Other psychiatric conditions: Psychotic disorder, n:^ Total: 4 **G1:** 2 **G2:** 2 Schizoaffective disorder, onset post-TBI, n:* < 1 year: 0 1-10 years: 0 > 10 years: 0 Schizoaffective disorder, current, n (%): 1 (1.7) Psychotic disorder NOS, onset post-TBI, n (%): < 1 year: 1 (1.7) 1-10 years: 0 > 10 years: 0 Psychotic disorder NOS, current, n (%): 1 (1.7) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Koponen et al., 2005 See Koponen et al., 2002 & Koponen et al., 2004 **Country, Setting:** Finland, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, median yrs (range):** 29.7 (26-47) **Length of follow up:** NA **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • A head trauma severe enough to cause TBI and neurological symptoms (including headache and nausea) lasting at least 1 week • At least one of the following: LOC ≥ 1 min, PTA ≥ 30 min, neurological symptoms (excluding headache and nausea) during the first 3 days after injury, or neuroradiological findings suggesting TBI (e.g., skull fracture, intracerebral hemorrhage) **Exclusion criteria:** • Neurological illness before TBI • Clinical symptoms of a non-traumatic neurological illness that developed after TBI (excluding dementia) • Insufficient cooperation • Unavailability of medical records **TBI Def:** Mild TBI: PTA < 1 hour Moderate TBI: PTA 1 to 24 hours Severe TBI: PTA 1 to 7 days Very Severe TBI: PTA > 7 days	**Group(s):** **G1:** Patients referred for neuropsychological evaluation due to a recent TBI or with significant disability after an earlier TBI **G2:** Participants matched for gender, age, and severity of depression **N screened:** 210 **N eligible:** 118 **N included:** **G1:** 54 **G2:** 54 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, median (range):** **G1:** 58.8 (44-80) **G2:** 59.0 (44-64) **Age ≥16, n (%):** 108 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Very severe: 18 (33.3) Severe: 8 (14.8) Moderate: 13 (24.1) Mild: 15 (27.8)	**Depression:** SCID: DSM-IV criteria BDI-13: ≥ 16: Severe 8-15: Moderate 5-7: Mild 0-4: None/ minimal **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, SCID, n (%):** MDD: **G1:** 3/54 (5.6) Depression, BDI-13, n (%): Severe: **G1:** 3/52 (5.8) **G2:** 3/54 (5.6) Moderate: **G1:** 14/52 (26.9) **G2:** 14/54 (25.9) Mild: **G1:** 8/52 (15.4) **G2:** 6/54 (14.8) None/minimal: **G1:** 27/52 (51.9) **G2:** 29/54 (53.7) BDI-13 score, median (range): **G1:** 3.5 (0-26) **G2:** 4.0 (0-19) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety Disorder: **G1:** 10/54 (18.5) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol abuse/ dependence: **G1:** 4/54 (7.4) Other psychiatric diagnoses: Alexithymia: **G1:** 17/54 (31.5) **G2:** 8/54 (14.8) Any axis I disorder: **G1:** 18/54 (33.3) Psychotic disorder: **G1:** 3/54 (5.6)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Koponen et al., 2005		**Mechanism/type of injury, n (%):** MVA: 34 (63.0) Fall: 10 (18.5) Falling object: 4 (7.4) Other: 6 (11.1) **Area of brain injured, MRI, n:** Bilateral contusions: 8 Exclusively right hemisphere contusions: 3 Exclusively left hemisphere contusions: 3 **Concomitant injuries:** NR		Bipolar II disorder: **G1:** 1/54 (1.9) Any axis II disorder: **G1:** 17/54 (31.5) Personality disorder: Total: **G1:** 13/54 (24.1) Cluster A: **G1:** 7/54 (13.0) Cluster B: **G1:** 2/54 (3.7) Cluster C: **G1:** 8/54 (14.8) Organic personality syndrome: Total: **G1:** 9/54 (16.7) Labile: **G1:** 5/54 (9.3) Disinhibited: **G1:** 6/54 (11.1) Apathetic: **G1:** 1/54 (1.9) Paranoid: **G1:** 2/54 (3.7) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Koponen et al., 2006 See Koponen et al., 2002 & Koponen et al., 2004 **Country, Setting:** Finland, tertiary care center **Enrollment Period:** January 1998 to April 1999 **Design:** Cross-sectional **Time from injury, yrs ± SD:** 31.5 ± 4.5 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • A head trauma severe enough to cause TBI and neurological symptoms (including headache and nausea) lasting at least 1 week • At least one of the following: LOC ≥ 1 min, PTA ≥ 30 min, neurological symptoms (excluding headache and nausea) during the first 3 days after injury, or neuroradiological findings suggesting TBI (e.g., skull fracture, intracerebral hemorrhage) **Exclusion criteria:** • Neurological illness before TBI • Clinical symptoms of a non-traumatic neurological illness that developed after TBI (excluding dementia) • Insufficient cooperation • Unavailability of medical records **TBI Def:** Mild TBI: PTA less than 1 hour Moderate TBI: PTA 1 to 24 hours Severe TBI: PTA 1 to 7 days Very severe TBI: PTA greater than 7 days	**Group(s):** Patients with TBI **N screened:** 210 **N eligible:** 118 **N included:** 58 **N at conclusion:** NA **Depression:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** Anxiety disorders: 6 (10.3) Schizoaffective disorder: 1 (1.7) **N with prior TBI:** NR **Age, yrs ± SD:** 60.7 ± 10.2 **Age ≥16, n (%):** 58 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Mild: 15 (25.9) Moderate: 15 (25.9) Severe: 9 (15.5) Very severe: 19 (32.8) **Mechanism/type of injury, n (%):** MVA: 35 (60.3) Fall: 13 (22.4) Falling object: 4 (6.9) Other: 6 (10.3)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-IV criteria Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-IV criteria Other psychiatric diagnoses: DSM-IV criteria **Health related QoL or functional status:** NR	**Depression:** Major depression, n (%): Total: 14 (24.1) Patients with contusions: 3/17 (17.6) Patients without contusions: 11/41 (26.8) *P* = 0.52 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Anxiety disorders: 10 (17.2) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol abuse or dependence: 7 (12.1) Other psychiatric diagnoses: Any Axis I: 27 (46.6) Delusional: 3 (5.2) Psychotic: 1 (1.7) Bipolar II: 1 (1.7) Dissociative amnesia: 1 (1.7) Dementia: 3 (5.2) Any Axis II disorder, n (%): 17 (29.3) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Koponen et al., 2006		**Area of brain injured, patients with contusions on MRI, n (%):** Bilateral: 10/17 (58.8) Right hemisphere only: 4/17 (23.5) Left hemisphere only: 3/17 (17.6) Orbital frontal: 14/17 (82.4) Mesial frontal: 9/17 (52.9) Lateral frontal: 11/17 (64.7) Temporal: 12/17 (70.6) Parietal: 3/17 (17.6) Occipital: 0 **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kreuter et al., 1998 Kreuter et al., 1998^ **Country, Setting:** Sweden, tertiary care center **Enrollment Period:** **G1:** 1971 to 1990 **G2:** November 1982 to July 1991 **G3:** NR **Design:** Cross-sectional **Time from injury, median yrs (range):** **G1:** 9 (1-20) **G2:** 5 (1-9) **G3:** NA **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • 16 to 60 yrs old at time of injury (G1) • Over 18 yrs old at time of study **Exclusion criteria:** • Older than 70 at time of study, commotio cerebri injury, severe injuries precluding participation, or heavy alcohol abuse (G1) • Psychiatric illness (G2) **TBI Def:** NR	**Group(s):** **G1:** Patients with TBI **G2:** Patients with spinal cord injuries **G3:** Healthy participants **N screened:** **G1:** 152 **G2:** 252 **G3:** 334 **N eligible:** **G1:** 116 **G2:** 167 **G3:** 334 **N included:** **G1:** 92 **G2:** 167 **G3:** 264 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 40.5 ± 11.1 **G2:** 38.9 ± 15.7 **G3:** 36.9 ± 15.4 **Age ≥16, n (%):** 523 (100) **Global injury severity:** Patients required an operation due to their intracranial injuries, %:^ **G1:** 45	**Depression:** Six items from the HADS scale **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS Anxiety Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Global quality of life: recorded on a visual analogue scale (VAS) and endpoints were labeled 'very low' and 'very high'. For G2 and G3 participants, a 0-100 scale was applied while the TBI patients were examined with the aid of an earlier scale version linearly transformed to match the current scale. The higher score the better. Functional limitations: SIP GOS: Severe disability Moderate disability Good Recovery	**Depression, %:^** Morbid depression: **G1:** 10 Borderline depression: **G1:** 16 HADS depression score, mean ± SD: **G1^:** 5.4 ± 4.3 **G1:** 4.7 ± 4.0 **G2:** 4.7 ± 3.8 **G3:** 2.7 ± 2.6 **G1/G2:** *P* = NS **G1/G3:** *P* < 0.001 **G2/G3:** *P* < 0.001 **Taking depression medications, %:** **G1^:** 10 **G2:** NR **G3:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder:^ Morbid anxiety: **G1:** 12 Borderline anxiety: **G1:** 18 HADS anxiety score, mean ± SD: **G1^:** 5.8 ± 4.9 **G2:** NR **G3:** NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kreuter et al., 1998 Kreuter et al., 1998^		**Severity of TBI.** **PTA, %:^** < 24 hours: **G1:** 3 2-7 days: **G1:** 10 8-14 days: **G1:** 7 15-30 days: **G1:** 21 31-60 days: **G1:** 26 61-90 days: **G1:** 9 > 90 days: **G1:** 24 **Mechanism of injury:^** MVA: **G1:** 60 Falls: **G1:** 20 Acts of violence: **G1:** 11 Other: **G1:** 9 Type of injury, %: Intracerebral haematomas:^ **G1:** 16 Subdural or/and epidural bleeding: **G1:** 38 Contusio cerebri: **G1:** 26 Fractures and intracranial damage: **G1:** 20 Some remaining paresis of either the left or the right side: **G1:** 77 **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** Global QoL score, mean ± SD: **G1:** 63.5 ± 24.3 **G2**: 57.2 ± 28.1 **3:** 69.8 ± 21.3 **G1/G2:** *P* = NS **G1/G3:** *P* = NS **G2/G3:** *P* < 0.001 Functional limitations, mean ± SD: **G1:** 24.6 ± 24.6 **G2:** 30.2 ± 20.2 **G3:** NA QoL and HADS depression, correlation: **G1:** -0.56 (*P* < 0.001) **G2:** -0.69 (*P* < 0.001) **G3:** -0.67 (*P* < 0.001) GOS category, %: Severe disability: **G1:** 11 Moderate Disability: **G1:** 66 Good Recovery: **G1:** 23 QoL and GOS, correlation: **G1:** 0.48 (*P* < 0.001)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kreutzer et al., 2001 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 2.5 ± 3.5 **Length of follow up:** NR **Dep. Scale/Tool:** SCID, NFI	**Inclusion criteria:** • Patients with brain injury referred for outpatient assessment **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Outpatients with TBI **N screened:** NR **N eligible:** NR **N included:** 722 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 36.0 ± 12.1 **Age ≥16, n (%):** 722 (100) **Global injury severity:** NR **Severity of TBI, LOC, days ± SD (range):** 10.0 ± 27.6 (0-210) **Mechanism/type of injury, %:** MVA: 76 Assault: 8 Falls: 7 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria NFI scales grouped with DSM-IV symptom domains to examine the value of the NFI as a diagnostic instrument **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: DSM-IV Aggression: NR Suicidality: NFI Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, %:** MDD: 42 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: NR Irritability: Jumpy or irritable: 25 Aggression: NR Suicidality: Threaten to hurt themselves: Sometimes: 13 Often or always: 3 Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Levin et al., 2001 See McCauley et al., 2001 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD :** **G1:** 3.20 ± 1.45 **G2:** 3.25 ± 1.59 **Length of follow up:** NA **Dep. Scale/Tool:** SCID, CES-D, VAS-D	**Inclusion criteria:** • 16 years or older • Residence within Harris County (the catchment area for the trauma center) **Exclusion criteria:** • Penetrating missile injury of the brain • History of diagnosed schizophrenia • Mental deficiency • Hospitalization for previous TBI • History of treatment for recent substance abuse • Blood alcohol level exceeding 200 mg/dL when examined in the EC **TBI Def:** Mild TBI: A closed head injury producing a period of unconsciousness no longer than 20 min in duration, lowest postresuscitation GCS score of 13 to 15, no extracranial injury that necessitated surgical repair under general anesthesia, and CT findings within 24 hr after injury indicating normal intracranial findings or a brain lesion that did not require surgical evacuation	**Group(s):** **G1:** Patients with mild/moderate TBI **G1a:** Patients with mild TBI **G1b:** Patients with moderate TBI **G2:** Patients with general trauma **N screened:** NR **N eligible:** NR **N included:** **G1:** 69 **G2:** 52 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 35.06 ± 14.69 **G2:** 36.26 ± 13.39 **Age ≥16, n (%):** 121 (100) **Global injury severity (ISS), mean (range):** **G1:** 5.87 (0-26) **G2:** 4.15 (0-17) **Severity of TBI, n:** Mild: **G1a:** 60 Moderate: **G1b:** 9 **GCS score, mean (range):** **G1:** 14.41 (9-15) **G2:** 15 (NR)	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD: PTSD Checklist Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Outcomes not reported separately for TBI (only for both groups combined) based on depression status	**Depression, SCID, n :** **G1a:** 11 **G1b:** 1 MDD, n (%): **G1:** 12 (17) **G2:** 3 (6) **G1/G2:** *P* = 0.09 CES-D score, mean ± SD: **G1:** 22.14 ± 15.18 **G2:** 17.19 ± 14.57 VAS-D score, mean ± SD: **G1:** 40.79 ± 36.72 **G2:** 23.79 ± 32.80 **Taking depression medications:** NR **Other co-morbidities:** PTSD, n (%): **G1a:** 8 (13) **G1b:** 0 PTSD checklist, mean ± SD: **G1:** 25.53 ± 17.31 **G2:** 17.19 ± 15.46 PTSD and MDD: **G1:** 4 Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Outcomes not reported separately for TBI (only for both groups combined) based on depression status

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Levin et al., 2001	Moderate TBI: lowest postresuscitation GCS score was 9 to 12 with or without evidence of lesion on CT	**Mechanism/type of injury, n (%):** MVA: **G1:** 44 (64) Fall/jump: **G1:** 3 (4) Assault/fight: **G1:** 15 (22) MVA vs. pedestrian: **G1:** 5 (7) Other: **G1:** 2 (3) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Levin et al., 2005 See McCauley et al., 2005 **Country, Setting:** US, trauma center **Enrollment Period:** August 2001 to April 2003 **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 12 weeks **Dep. Scale/Tool:** SCID, CES-D	**Inclusion criteria:** • Arrival to the hospital within 24 hours of injury • Blood alcohol level less than 200 mg/dL • Age 16 years and older • Fluent in English or Spanish • Residing in the hospital catchment area (Harris County, Texas) • Diagnosis of non-penetrating TBI • Lowest post-resuscitation GCS > 8 • CT scan of the brain performed within 24 hours of arrival **Exclusion criteria:** • Undocumented alien, incarcerated, homeless, or on active military service • Spinal cord injury • Previous TBI requiring hospitalization • History of substance dependence, mental retardation, major psychiatric disorders, or other central nervous system disturbance (including patients who were clinically depressed at the time of their injury)	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 239 **N at conclusion:** 129 **Depression:** Prior to injury: None (see exclusion criteria) At time of injury: None (see exclusion criteria) **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI:** NR **Age at conclusion, yrs ± SD:** 31.5 ± 12.8 **Age ≥16, n (%):** 129 (100) **Global injury severity, ISS score, mean ± SD:** 3.1 ± 4.1 GCS score, mean ± SD: 14.8 ± 0.5 **Mechanism/type of injury, n (%):** Car accident: 87 (67.4) Assault: 27 (20.9) Fall/jump: 10 (7.8) Other: 5 (3.9)	**Depression:** SCID: DSM-IV criteria Predictors of MDE at 3 months determined by Odds Ratio (OR) Predictive model includes CES-D score, older age, and CT scan results* **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, 3 months, n (%):** MDE: 15 (11.6) MDE with abnormal CT scan (vs. no CT abnormality), OR (95% CI): 7.68 (1.36-43.48) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Levin et al., 2005	• Other preexisting condition preventing standard administration and interpretation of the outcome measures (e.g., deafness, blindness) • Surgery under general anesthesia during the hospital admission • Positive illicit drug screen results on ER admission • Receiving antidepressant therapy at the time of head injury Participants were screened for illicit drugs at one week and dropped from further participation if testing positive **TBI Def:** Mild TBI: A closed head injury producing a GCS of 13 to 15 on arrival to the hospital with no later deterioration to GCS < 13	**Area of brain injured, CT scan, n (%):** Diffuse injury I (no pathologic features): 115 (89.1) Diffuse Injury II (no lesion > 25 cm^3 with midline shift < 5 mm): 14 (10.8) Lesion location, CT scan, n (%): Left: 3 (21.4) Right: 10 (71.4) Bilateral: 1 (7.2) **Concomitant injuries:** NR		

*Predictive model showed 93% sensitivity and 62% specificity of identifying MDE

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Lima et al., 2008 **Country, Setting:** Brazil, tertiary care center **Enrollment Period:** September 2004 to October 2004 **Design:** Cross-sectional **Time from injury:** At least 18 months **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • GCS score between 13 and 15 with at least one of the following symptoms on hospital admission: headache, vertigo, amnesia, nausea, vomiting or LOC for less than 15 minutes **Exclusion criteria:** • Any history of head trauma (G2) **TBI Def**: Mild head trauma (MHT): A transient neurological deficit after a trauma resulting from acceleration and deceleration forces that cause impairment or LOC lasting less than 15 min, short retrograde amnesia, change in the level of consciousness without focal neurological deficits and GCS score between 13 and 15 at hospital admission	**Group(s):** **G1:** Patients with MHT **G2:** Participants living in the same household as G1 patients **N screened:** NR **N eligible:** **G1:** 41 **N included:** **G1**: 39 **G2:** 39 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI, %:** **G1**: NR **G2:** 0 (see exclusion criteria) **Age, yrs ± SD:** **G1**: 39 ± 2.87 **G2:** 40 ± 2.14 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS score:** **G1:** 13 to 15 Injury on CT, n: **G1:** 6 No injury on CT, n: **G1:** 35 **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** HADS: 15-21: Abnormal 8-14: Borderline 0-7: Normal **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS, see depression cutoffs Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** SF-36	**Depression, n (%):** Abnormal: **G1:** 9 (25.0) **G2:** 4 (11.1) Borderline: **G1:** 7 (19.4) **G2:** 6 (16.7) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Abnormal: **G1:** 17 (47.2) **G2:** 8 (22.2) Borderline: **G1:** 9 (25.0) **G2:** 10 (27.8) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, SF36 domain scores, mean ± SD:** Functional capacity: **G1:** 77.4 ± 3.6 **G2:** 93.0 ± 2.2 Physical aspects: **G1:** 57.7 ± 6.9 **G2:** 71.6 ± 6.1 Pain: **G1:** 59.2 ± 4.9 **G2:** 73.9 ± 4.1 Overall health condition: **G1:** 58.1 ± 5.1 **G2:** 76.1 ± 4.1 Vitality: **G1:** 48.7 ± 4.4 **G2:** 68.1 ± 3.3 Social aspects: **G1:** 59.6 ± 5.0 **G2:** 78.0 ± 3.8

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Lima et al., 2008		**Concomitant injuries:** NR		Emotional aspects: **G1:** 52.1± 6.9 **G2:** 57.7 ± 6.1 Mental health: **G1:** 52.5 ± 4.2 **G2:** 69.4 ± 3.1 Quality of life (mental health), mean ± SD: Injury on CT: **G1:** 72.67± 9.66 No injury on CT: **G1:** 48.85 ± 4.42

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Linn et al., 1994 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 70.3 ± 65.2 **Length of follow up:** NA **Dep. Scale/Tool:** SCL-90-R	**Inclusion criteria:** • At least 1 year postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** TBI patients **G2:** Spouses **N screened:** NR **N eligible:** NR **N included:** **G1:** 60 **G2:** 60 **N at conclusion:** **G1:** 60 **G2:** 60 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 40.8 ± 10.4 **G2:** 40.8 ± 9.9 **Age ≥16, n (%):** 120 (100) **Global injury severity:** NR **Severity of TBI, PTA, n:** ≤ 1 week: 9 1-2 weeks: 7 > 2 weeks: 41 LOC, days ± SD: 22.0 ± 41.2 **Mechanism/type of injury, n:** MVA: 33 Bicycle accident: 2 Pedestrian: 2 Fall: 7 Industrial accident: 4 Other: 12	**Depression:** SCL-90 R depression subscale, T-scores: < 60: no elevation 60-69: mild elevation 70-79: moderate elevation > 79: severe elevation **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90 R anxiety sub-scale, T-scores: see depression cutoffs Irritability: NR Aggression: Social aggression scale Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Health and Activity Limitations Survey (HALS), including motor disability and sensory disability subscores	**Depression, %:** Severe: **G1:** 15.3 **G2:** 1.7 Moderate: **G1:** 13.6 **G2:** 26.7 Mild: **G1:** 40.7 **G2:** 45 SCL-90 R depression subscale, T-score, mean ± SD: **G1:** 63.9 ± 13.3 SCL-90 R depression scale score, correlation: Years married: **G1:** -0.37 (*P* < 0.01) Cognitive disability: **G1:** 0.59 (*P* < 0.001) Social aggression: **G1:** 0.65 (*P* < 0.001) Motor disability: **G1:** 0.39 (*P* < 0.01) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety, %: Severe: **G1:** 8.9 **G2:** 1.7 Moderate: **G1:** 8.9 **G2:** 20 Mild: **G1:** 32.1 **G2:** 33.3 SCL-90 R anxiety subscale, T-score, mean ± SD: **G1:** 62.1 ± 16.9 Irritability: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Linn et al., 1994		**Area of brain injured:** NR **Concomitant injuries:** NR		Aggression: Social aggression predicts depression (r^2 change=0.038) Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Quantitative data NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: MacNiven and Finlayson, 1993 **Country, Setting:** Canada, NR **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 1-2 years **Dep. Scale/Tool:** MMPI	**Inclusion criteria:** • Diagnosis of CHI • Neurocognitive test results indicating competence to complete the MMPI **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Patients with CHI **N screened:** NR **N eligible:** NR **N included:** 59 **N at conclusion:** 14 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean yrs:** Men: 27 (n=42) Women: 22 (n=17) **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** MMPI: elevated score in scale 2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Hypochondriasis: MMPI scale 1 Hysteria: MMPI scale 3 Psychopathic deviate: MMPI scale 4 Paranoia: MMPI scale 6 Psychasthenia: MMPI scale 7 Schizophrenia: MMPI scale 8 Hypomania: MMPI scale 9 Social introversion: MMPI scale 0 T-score ≥ 70: elevated MMPI scale **Health related QoL or functional status:** NR	**Depression, elevated scale 2, (%):** Initial assessment: 40.68 1 year: 40.68 2 years: 42.86 MMPI scale 2, T-score, mean ± SD: Initial assessment: 66.24 ± 14.27 1 year: 65.66 ± 15.37 **Taking depression medications:** NR **Other co-morbidities, T-score, mean ± SD:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Hypochondriasis: Initial assessment: 60.32 ± 19.81 1 year: 60.37 ± 10.24 Hysteria: Initial assessment: 61.76 ± 9.47 1 year: 61.44 ± 12.27 Psychopathic deviate: Initial assessment: 63.22 ± 10.41 1 year: 67.53 ± 12.76 Paranoia: Initial assessment: 58.19 ± 10.24 1 year: 58.64 ± 13.75

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
MacNiven and Finlayson, 1993				Psychasthenia: Initial assessment: 58.92 ± 10.84 1 year: 61.81 ± 12.86 Schizophrenia: Initial assessment: 65.85 ± 12.16 1 year: 69.85 ± 15.41 Hypomania: Initial assessment: 64.54 ± 10.69 1 year: 63.86 ± 11.70 Social introversion: Initial assessment: 53.90 ± 8.71 1 year: 52.25 ± 9.62 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Marsh and Kersel, 2006 See Kersel et al., 2001 **Country, Setting:** New Zealand, tertiary care center **Enrollment Period:** April 1993 to August 1996 **Design:** Cross-sectional **Time from injury, days ± SD:** 386 ± 31 **Length of follow up:** NA **Dep. Scale/Tool:** HIBS	**Inclusion criteria:** • Ventilation on clinical grounds was required for > 24 hours, at least in part, for treatment of TBI • Between 16 and 70 years of age **Exclusion criteria:** • Non-English speaking • Previous hospital admission for TBI or psychiatric illness **TBI Def:** NR*	**Group(s):** Patients with TBI and caregivers nominated by family members **N screened:** NR **N eligible:** 123 **N included:** 62 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 28 ± 11 **Age ≥16, n (%):** 62 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Severe: 50 (81) Moderate: 9 (15) Mild: 3 (5) **Mechanism/type of injury, n (%):** Road traffic crash: 47 (76) Fall: 6 (10) Assault: 5 (8) Other: 4 (7) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** HIBS, self-report and caregiver versions: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HIBS Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: Severe disability, Moderate disability, Good recovery	**Depression, n (%):** Self-report: 32 (52) Caregivers: 32 (52) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Self-report: 28 (45) Caregivers: 32 (52) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOSE, n (%): Severe disability: 15 (24) Moderate disability: 13 (21) Good recovery: 34 (55)

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCauley et al., 2001 See Levin et al., 2001 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days ± SD :** 31.4 ± 8.1; 87.7 ± 21.8 **Length of follow up:** 3 months **Dep. Scale/Tool:** SCID, CES-D, VAS-D	**Inclusion criteria:** • At least 16 years of age • Non-penetrating head injury (G1) • CT scan performed within 24 hrs of injury (G1) • Fluency in English or Spanish **Exclusion criteria:** • Previous hospitalization for head trauma • Preinjury major neuropsychiatric disorder • Preinjury substance dependence (including alcohol) • Pre-existing CNS disturbance (e.g., HIV/AIDS, seizure disorder, strokes, Parkinsonism, etc.) • Associated spinal cord injury • Undocumented resident status • Blood alcohol level (BAL) ≥ 200 mg/dL when the GCS score was obtained without external signs of head trauma and in conjunction with a normal CT scan (G1) • Surgery with general anesthesia for extracranial injuries	**Group(s):** **G1:** Patients with TBI **G1a:** Patients with mild TBI **G1b:** Patients with moderate TBI **G2:** Patients with general trauma **N screened:** NR **N eligible:** NR **N included:** **G1:** 115 **G2:** 85 **N at conclusion:** **G1:** 115 **G2:** 85 **Depression, n (%):** Prior to injury: **G1a:** 7 (7.9) **G1b:** 3 (11.5) **G2:** 7 (8.2) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** NR **Age, time of injury, yrs ± SD:** **G1:** 33.4 ± 13.7 **G2:** 34.5 ± 12.5 **Age ≥16, n (%):** 200 (100) **Global injury severity (ISS), mean ± SD:** **G1:** 4.9 ± 6.1 **G2:** 3.7 ± 4.4 **Severity of TBI, n:** Mild: **G1a:** 95 Moderate: **G1b:** 20	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD: SCID PCL-C Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Outcomes not reported by depression status	**Depression, SCID, n (%):** Current MDD, n (%): **G1a:** 19 (21.4) **G1b:** 6 (23.1) **G2:** 14 (16.5) CES-D score, mean ± SD: **G1:** 22.5 ±14.7 **G2:** 19.1 ± 14.1 VAS-D score, mean ± SD: **G1:** 40.1 ± 34.8 **G2:** 28.8 ± 32.1 Dysthymia, n: Total: 2 **Taking depression medications:** NR **Other co-morbidities:** PTSD, SCID, n (%): **G1a:** 11 (12.4) **G1b:** 4 (15.4) **G2:** 12 (14.1) PCL-C score, mean ± SD: **G1:** 24.3±16.7 **G2:** 20.9 ± 17.2 Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: PCD, n (%): **G1a:** 27 (33.0) **G1b:** 8 (30.8) **G2:** 13 (15.3) MDD among PCD patients, %: 47.9 **Health related QoL or functional status:** Outcomes not reported by depression status

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001	**TBI Def:** Mild TBI: A non-penetrating head injury with a LOC, if present, no greater than 20 min, a lowest postresuscitation GCS score of 13 to 15 and no evidence of brain lesion on CT within 24 hrs postinjury Moderate TBI: A non-penetrating head injury with lowest postresuscitation GCS of 9 to 12 with or without evidence of brain lesion on CT within 24 hrs following injury. TBI patients with trauma-related abnormality on CT within 24 hrs postinjury and lowest postresuscitation GCS of 13 to 15 (complicated mild) were included in the moderate category	**Mechanism/type of injury, n (%):** MVA: **G1:** 87 (75.7) **G2:** 51 (60) Assault: **G1:** 18 (15.7) **G2:** 12 (14.1) Fall: **G1:** 7 (6.0) **G2:** 17 (20) Other: **G1:** 3 (2.6) **G2:** 5 (5.9) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCauley et al., 2001 **Country, Setting:** US, trauma centers **Enrollment Period:** October 1994 to November 1998 **Design:** Prospective cohort **Time from injury, days ± SD:** 94.1 ± 10.2 **Length of follow up:** 6 months **Dep. Scale/Tool:** NRS-R	**Inclusion criteria:** • 15 to 65 yrs old • Abnormal CT within 24 hrs of injury • Postresuscitation GCS motor score of 1 to 5 (total GCS ≤ 8) **Exclusion criteria:** • Evidence of hypotension (systolic BP < 90 mm Hg for ≥ 30 mins after resuscitation) • Hypoxia (saturation < 94%) for 30 minutes after resuscitation • Estimated AIS score of ≥ 4 for any organ system • GCS of 3 with uncreative pupils • Inability to randomize within 6 hours of injury **TBI Def:** NR*	**Group(s):** **G1:** Patients with severe closed HI meeting inclusion criteria **G2:** Patients with severe closed HI not meeting inclusion criteria **N screened:** 392 **N eligible:** 392 **N included:** **G1:** 315 **G2:** 77 **N at conclusion:** **G1:** 210 **G2:** 77 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 29.5 ± 11.0 **G2:** 35.4 ± 13.4 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS score, mean ± SD:** **G1:** 6.0 ± 1.2 **G2:** 5.4 ± 1.3 Pupil response Normal, n (%): **G1:** 146 (70.5) **G2:** 45 (58.4)	**Depression:** NRS-R: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NRS-R Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NRS-R **Health related QoL or functional status:** Cognitive battery: (Buschke verbal selective reminding test, immediate and delayed recall trials of the Rey-Osterrieth complex figure, trial making test B, symbol digit modalities, grooved peg board, controlled oral word association test)	**Depression, 6 months, %:** Severe: 0.5 Moderate: 15.7 Mild: 34.8 **Taking depression medications (%):** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Severe: 0 Moderate: 10.0 Mild: 36.7 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Liability of mood: Severe: 0.5 Moderate: 3.3 Mild: 21.9 Unusual thought content: Severe: 0.5 Moderate: 1.0 Mild: 12.4 Disinhibition: Severe: 1.0 Moderate: 4.3 Mild: 12.9 Hyperactivity/ agitation: Severe: 0.5 Moderate: 1.0 Mild: 11.4 Excitement: Severe: 0.5 Moderate: 3.8 Mild: 12.9 Suspiciousness: Severe: 0 Moderate: 1.0 Mild: 7.1

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001		Abnormal unilaterally, n (%): **G1:** 24 (11.6) **G2:** 11 (14.3) Abnormal bilaterally, n (%): **G1:** 37 (17.8) **G2:** 20 (26.0) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Hostility: Severe: 0.5 Moderate: 2.4 Mild: 9.0 Emotional withdrawal: Severe: 0.5 Moderate: 3.3 Mild: 25.7 Blunted affect: Severe: 1.0 Moderate: 6.2 Mild: 22.4 Exaggerated somatic concern: Severe: 0.5 Moderate: 0.5 Mild: 6.2 Irritability: Severe: 1.9 Moderate: 8.1 Mild: 37.1 Mental fatigability: Severe: 1.0 Moderate: 6.7 Mild: 21.4 **Health related QoL or functional status:** Executive/ cognition: Difficultly in planning: Severe: 8.6 Moderate: 26.7 Mild: 30.5 Difficultly in mental flexibility: Severe: 7.6 Moderate: 23.8 Mild: 34.3 Memory difficulties: Severe: 9.0 Moderate: 28.1 Mild: 33.3 Disorientation: Severe: 20.5 Moderate: 10.5 Mild: 6.2

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001				Decreased initiative or motivation: Severe: 5.2 Moderate: 15.2 Mild: 25.7 Self appraisal difficulties: Severe: 11.9 Moderate: 19.0 Mild: 32.4 Conceptual disorganization: Severe: 2.9 Moderate: 26.7 Mild: 48.1 Difficulties in oral comprehension: Severe: 0.5 Moderate: 1.9 Mild: 28.1 Oral/Motor: Difficulties in articulation: Severe: 1.0 Moderate: 6.7 Mild: 13.3 Motor slowing: Severe: 3.8 Moderate: 10.5 Mild: 21.4 Difficulties in oral expression: Severe: 0 Moderate: 5.7 Mild: 27.1 Mental fatigability: Severe: 1.9 Moderate: 6.7 Mild: 21.4 Attention: Severe: 1.9 Moderate: 12.9 Mild: 31.4 Reduces alertness: Severe: 0 Moderate: 0 Mild: 20.5

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001				Guilt: Severe: 0 Moderate: 1.0 Mild: 28.6 Hallucinations: Severe: 0 Moderate: 1.0 Mild: 7.1 GOS score, 6 months, %: Severe disability: 28.1 Moderate disability: 40 Good recovery: 31.9 DRS score, 6 months, mean ± SD: **G1:** 3.93 ± 3.42 **G2:** 14.36 ± 8.66 **G1/G2:** *P* < 0.0001

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCauley et al., 2005 See Levin et al., 2005 **Country, Setting:** US, trauma center **Enrollment Period:** January 1999 to April 2003 **Design:** Cross-sectional **Time from injury, days ± SD:** 86.4 ± 17.4 **Length of follow up:** NA Dep. Scale/Tool: SCID, CES-D, VAS-D	**Inclusion criteria:** • Arrival to hospital within 24 hours of injury • Blood alcohol level < 200 mg/dL • Age 16 years or older • Fluent in English or Spanish • Residing in the hospital catchment area (Harris County, TX) • Diagnosis of non-penetrating TBI • Lowest post-resuscitation GCS > 8 • CT scan of the brain performed within 24 hours of arrival **Exclusion criteria:** • Undocumented alien, incarcerated, homeless, or on active military service • Spinal cord injury • Previous TBI requiring hospitalization • History of substance dependence, mental retardation, major psychiatric disorders, or other central nervous system disturbance • Mild TBI with surgery under general anesthesia during the admission	**Group(s):** **G1:** Postconcussional disorder, DSM-IV criteria **G2:** No PCD **G3:** Postconcussional syndrome, ICD-10 criteria **G4:** No PCS **N screened:** NR **N eligible:** 854 **N included:** Total: 340 **G1:** 59 **G2:** 281 **G3:** 183 **G4:** 157 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 32.3 ± 13.5* **Age ≥16, n (%):** 340 (100) **Global injury severity, ISS not including head region, mean ± SD:** **G1:** 3.0 ± 4.6 **G2:** 4.6 ± 5.6 **G3:** 4.0 ± 5.3 **G4:** 4.6 ± 5.6	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD (PTSD Checklist-Civilian Form; SCID PTSD) and anxiety grouped together Other anxiety disorder: see PTSD Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS-E	**Depression, SCID, current MDE, n (%):** **G1:** 28 (47.5) **G2:** 23 (8.2) **G3:** 48 (26.2) **G4:** 3 (1.9) CES-D score, mean ± SD: **G1:** 33.9 ± 1.7 **G2:** 17.5 ± 0.9 **G3:** 26.1 ± 1.0 **G4:** 11.2 ± 1.1 VAS-D score, mean ± SD: **G1:** 57.5 ± 4.2 **G2:** 29.1 ± 2.4 **G3:** 45.8 ± 2.5 **G4:** 15.9 ± 2.8 **Taking depression medications:** NR **Other co-morbidities:** PTSD/Anxiety: SCID-PTSD, n (%): **G1:** 21 (35.6) **G2:** 18 (6.4) **G3:** 33 (18.0) **G4:** 6 (3.8) PCL-C score, mean ± SD: **G1:** 38.2 ± 1.9 **G2:** 17.1 ± 1.1 **G3:** 29.1 ± 1.1 **G4:** 9.5 ± 1.2 Other anxiety disorder: see PTSD Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2005	• Other pre-existing conditions preventing standard administration and interpretation of the outcome measures (deafness, blindness, and so forth) **TBI Def:** Mild TBI: A closed head injury producing a GCS score of 13 to 15 upon arrival to the hospital with no later deterioration of GCS < 13 Moderate TBI: A GCS score of 9 to 12 upon arrival with no later deterioration of GCS < 9	**Severity of TBI, n (%):** Moderate: 21 (6.2) Mild: 319 (93.8) GCS score, mean ± SD: **G1:** 14.7 ± 1.0 **G2:** 14.6 ± 1.1 **G3:** 14.6 ± 1.2 **G4:** 14.6 ± 1.1 **Mechanism/type of injury, n (%):** MVA: **G1:** 45 (76.3) **G2:** 194 (69.0) **G3:** 133 (72.7) **G4:** 106 (67.5) Assault: **G1:** 9 (15.2) **G2:** 50 (17.8) **G3:** 28 (15.3) **G4:** 31 (19.8) Fall/jump: **G1:** 4 (6.8) **G2:** 25 (8.9) **G3:** 18 (9.8) **G4:** 11 (7.0) Other: **G1:** 1 (1.7) **G2:** 12 (4.3) **G3:** 4 (2.2) **G4:** 9 (5.7) **Area of brain injured:** CT scan positive, n (%): **G1:** 8 (13.6) **G2:** 22 (7.8) **G3:** 19 (10.4) **G4:** 11 (7.0) **Concomitant injuries:** NR		**Health related QoL or functional status:** GOS-E, n (%): Good recovery: **G1:** 23 (39.0) **G2:** 209 (74.4) **G3:** 96 (52.4) **G4:** 136(86.6) Moderate recovery: **G1:** 36 (61) **G2:** 72 (25.6) **G3:** 87 (47.6) **G4:** 21 (13.4)

*Calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCleary et al., 1998 See Satz et al., 1998 & Satz et al., 1998 **Country, Setting:** US, tertiary care centers **Enrollment Period:** 1991 to 1995 **Design:** Prospective cohort **Time from injury:** 12 months **Length of follow up:** 12 months **Dep. Scale/Tool:** SCL-90-R, NRS	**Inclusion criteria:** • At least 16 yrs old • Moderate to severe TBI (G1) • GCS score of 12 or less, or GCS score of 13 or higher if abnormalities noted on the admission CT scan, or if the condition deteriorated to below 13 on the GCS prior to discharge (G1) • Bodily injuries other than to the head (G2) **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** **G1:** Patients with TBI **G2:** Other injury patients matched by age, gender, and AIS score **N screened:** NR **N eligible:** NR **N included:** **G1:** 105 **G2:** 40 **N at conclusion:** **G1:** 66 **G2:** 25 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 31.14 ± 13.17^ **G2:** 34.10 ± 11.70 **Age ≥16, n (%):** 145 (100) **Global injury severity:** NR **Severity of TBI (GCS):** All patients had moderate to severe injury **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** SCL-90-R: > 2 SD above the mean NRS: scores of 4-7 on item 13 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Based on GOS: ≥ 3 Severe disability Moderate disability Good recovery	**Depression, n (%):** SCL-90-R and NRS, 6 mos: **G1:** 44/105 (41.9) **G2:** 8/40 (20) SCL-90-R and NRS, 12 mos: **G1:** 24/66 (36.3) **G2:** 8/26 (30.8) SCL-90-R, 6 mos: **G1:** 23/94 (24.4) **G2:** 5/33 (15.2) SCL-90-R, 12 mos: **G1:** 11/55 (20) **G2:** 3/21 (14.3) NRS, 6 mos: **G1:** 34/103 (33) **G2:** 4/40 (10) NRS, 12 mos: **G1:** 22/66 (33.3) **G2:** 7/26 (26.9) Depressed at both 6 and 12 months, n (%): **G1:** 17/24 (70.8)* **G2:** 3/6 (50) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCleary et al., 1998		**Concomitant injuries, n:** Bodily injury other than head: 40		**Health related QoL or functional status:** Severe disability **G1:** 22 Moderate disability: **G1:** 44 Good recovery: **G1:** 39

*GCS scores recorded
^Statistic calculated by reviewer

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Mobayed and Dinan, 1990 **Country, Setting:** Ireland, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 11 to 13 months **Length of follow up:** NA **Dep. Scale/Tool:** DSM-III, Leeds Scales for Anxiety and Depression	**Inclusion criteria:** • 18 to 65 yrs old • Negative neurological exam on admission and discharge • No medical complications • Closed mild head injury (MHI) **Exclusion criteria:** See inclusion criteria **TBI Def:** MHI: LOC for < 20 mins, and hospitalization for < 3 days	**Group(s):** Patients with MHI **N screened:** 70 **N eligible:** 55 **N included:** 55 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** History of affective disorder: 0 Family history of affective disorder, epilepsy, cognitive impairment, alcohol abuse or significant social stresses: 0 **N with prior TBI:** NR **Age, yrs ± SD:** Patients with depression: 30.63 ± 2.39 (n=11) Patients without depression: 32.75 ± 2.27 (n=8) **Age ≥16, n (%):** 55 (100) **Global injury severity:** NR **Severity of TBI, n (%):** MHI: 55 (100)	**Depression:** DSM-III criteria Leeds self-rating questionnaire : Cutoff score of 6-7 for anxiety and depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, DSM-III, n (%):** MDD: 11/32 (34.4) Affective disorder, Leeds, n (%): 16/55 (29.1) **Taking depression medications, n (%):** 1 (1.8)(diazepam, anti-anxiety) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Mobayed and Dinan, 1990		**Mechanism/type of injury, n (%):** Road traffic accident: 13/19 (68.4) Falls: 3/19 (15.8) Industrial: 2/19 (10.5) Assault: 1/19 (5.3) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Mooney et al., 2001 See Mooney et al., 2005 **Country, Setting:** US, TBI rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, weeks (median):** 24.50 **Length of follow up:** NA **Dep. Scale/Tool:** DSM-IV	**Inclusion criteria:** • Mild TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** According to ACRM criteria	**Group(s):** Patients with actual or suspected mild TBI **N screened:** NR **N eligible:** NR **N included:** 80 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 12 (15) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Anxiety: 2 (3) Other psychiatric condition: 9 (11) Alcohol an injury related factor: (NR) 11 **N with prior TBI:** NR **Age, yrs ± SD:** 31.11 ± 13.42 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** DSM-IV criteria **Other co-morbidities:** PTSD: Impact of event scale Other anxiety disorder: BSQ Fear survey Irritability: NR Aggression: NR Suicidality: NR Substance use: Self-report / presence of positive blood alcohol levels noted in the clinical record Other psychiatric diagnoses: MMPI DES **Health related QoL or functional status:** POMS Post-concussion symptom check-list Complex partial seizure check list Cognitive function (WAIS-R, WMS-R, Auditory verbal learning test, Trail making test)	**Depression, n (%):** 35 (44) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder, n (%): 19 (24) Irritability: NR Aggression: NR Suicidality: NR Substance use: Diagnosis, n (%): TBI only: 17 (21) Psychiatric condition only: 13 (16) TBI and psychiatric condition: 48 (60) No diagnosis: 2 (3) Other psychiatric diagnoses, n (%): MMPI: 6 (8) DES score, mean ± SD: 13.8 ± 12.62 DES score, poor recovery group, mean: 20.14 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Mooney et al., 2001		**Severity of TBI, %:** LOC: 33 Amnesia for the accident: 61 PTA: 69 Retrograde amnesia: 29 Abnormal neuroradiological exam: 38 Abnormal early neurological exams: 45 Abnormal neuropsychological exam: 63 Post concussive syndrome (≥ 3 PCS symptoms): 85 **Mechanism/type of injury, %:** Traffic accidents: 74 Falls, industrial accidents & assaults: 26 **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Mooney et al., 2005 See Mooney et al., 2001 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, median:** 15 months **Length of follow up:** NA **Dep. Scale/Tool:** DSM-IV, BDI-II	**Inclusion criteria:** • Outpatient of mild TBI clinic of the tertiary care center **Exclusion criteria:** See inclusion criteria **TBI Def:** According to ACRM criteria	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 67 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 21 (34) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Lifetime history of prior mental health problems: 36 (54) Anxiety disorder: 6 (9) **N with prior TBI (%):** 17 (25) **Age, yrs ± SD:** 41.36 ± 13.26 **Age ≥16, n (%):** 67 (100) **Global injury severity:** NR **Severity of TBI, n (%):** LOC: 4 (6) Amnesia: 47 (70) Dazed/confused at time of injury: 16 (24) **Mechanism/type of injury, n (%):** Traffic accident: 35 (52) Industrial accidents, falls, sports, assaults: 32 (48) **Area of brain injured:** NR	**Depression:** DSM-IV criteria BDI-II; participant and/or family member interview used to determine depression status pre-TBI **Other co-morbidities:** PTSD: NR Other anxiety disorder: participant and/or family member interview used to determine anxiety status pre-TBI Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: participant and/or family member interview used to determine mental health history pre-TBI **Health related QoL or functional status:** NR	**Depression, MDD, %:** 61 BDI-II score, mean ± SD: Total: 22.03 ± 12.36 Disabled: 22.24 ± NR (n=47) Non-disabled: 16.61± NR (n=19) *P* = 0.03 Correlation with BDI-II scores: Headache: 0.23 (*P* = 0.07) Non-cephalic pain: 0.26 (*P* = 0.05) PCS checklist scores: 0.58 (*P* < 0.001) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses, moderate-severe, %: Headache: 72 Non-cephalic pain: 64 Dizziness: 32 Vertigo: 15 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Mooney et al., 2005		**Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Parcell et al., 2006 See Curran et al., 2000 **Country, Setting:** Australia, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean:** **G1:** 230 days **G2:** NA **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • 16 to 65 yrs old • Sufficient English language ability to complete the questionnaires **Exclusion criteria:** • Transmeridian travel across more than 1 time zone in the preceding 3 months and no shift work in the previous 12 months • Preinjury sleep disorder, as indicated by significant other's responses on a screening checklist for classic symptoms of periodic limb movement disorder, sleep apnea, or insomnia • Taking benzodiazepines or other sleeping medications • Previous head injury, neurologic disorder, or major psychiatric disorder **TBI Def:** NR*	**Group(s):** **G1:** Participants with TBI **G2:** Age and sex matched uninjured participants **N screened:** NR **N eligible:** NR **N included:** **G1:** 63 **G2:** 63 **N at conclusion:** **G1:** 63 **G2:** 63 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** None (see exclusion criteria) **Age, yrs ± SD:** **G1:** 32.5 ± 1.7 **G2:** 30.5 ± 1.21 **Age ≥16, n (%):** 126 (100) **Global injury severity:** NR **Severity of TBI, PTA, n (%):** Very severe: **G1:** 14 (22) Severe: **G1:** 27 (44) Moderate: **G1:** 13 (21) Mild: **G1:** 8 (13) Not recorded: **G1:** 1 (2)	**Depression:** HADS: 15-21: Severe 11-14: Moderate 8-10: Mild **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS, see depression scale for cutoffs Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, %:** Severe: **G1:** 5 **G2:** 0 Moderate: **G1:** 6 **G2:** 0 Mild: **G1:** 27 **G2:** 2 HADS score, mean ± SD: **G1:** 5.84 ± 0.54 **G2:** 2.13 ± 0.27 **G1/G2:** $P < 0.01$ Depression and GCS, correlation: 0.19 $P = 0.15$ **Taking depression medications (%):** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Anxiety: Severe anxiety: **G1:** 3 **G2:** 3 Moderate anxiety: **G1:** 19 **G2:** 5 Mild anxiety: **G1:** 18 **G2:** 18 HADS, anxiety score, mean ± SD: **G1:** 6.73 ± 0.55 **G2:** 5.74 ± 0.46 **G1/G2:** $P = 0.17$ Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Parcell et al., 2006		GCS score, mean ± SD: **G1:** 9.58 ± 0.57 **Mechanism/type of injury, %:** MVA: 60 Cycling: 16 Pedestrian: 9.5 Falls: 8 Assault: 3 Falling objects: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Perlesz et al., 2000 See Curran et al., 2000 **Country, Setting:** Australia, multicenter **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 1 to 5 years **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • At least 16 yrs old • 1 to 5 years postinjury • Discharged to home care following acute rehabilitation **Exclusion criteria:** • No interest in participating (36, 22.4%) • Minor head injury and discussion with researcher leading to decision that participation was not relevant (17, 10.6%) • Anger with rehabilitation system and refusal to participate (5, 3.1%) • Failure to return questionnaires (24, 14.9%) **TBI Def:** Mild: PTA 5-59 minutes Moderate: PTA 1-23 hours Severe: PTA 1-6 days Very Severe: PTA 1-4 weeks Extremely severe: PTA 1-3 months Profoundly severe: PTA > 3 months	**Group(s):** **G1:** Patients with TBI **G2:** Relatives **N screened:** 223 families of TBI patients **N eligible:** 161 families **N included:** **G1:** 65 **G2:** 147 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** **G1:** 7 (11) **G2:** NR **Age, yrs ± SD:** **G1:** 33.8 ± 14.95 **G2:** NR **Age ≥16, n (%):** 212 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Profoundly severe: 5 (7.7) Extremely severe: 18 (27.7) Very severe: 27 (41.5) Severe: 9 (13.8) Moderate: 2 (3.1) Mild: 0 (0) Not Known: 4 (6.2)	**Depression:** BDI: score > 10 indicates borderline or clinical depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: STAI > 80th percentile Irritability: NR Aggression: NR Suicidality: NR Substance use: data gathered on Head Injury Family Interview (HI-FI) demo-graphic and pre-injury form Other psychiatric diagnoses: POMS: score ≥ 73 indicates a clinical level of mood disturbance **Health related QoL or functional status:** Family Satisfaction Scale (FSS): midpoint of 32.5 indicates dissatisfaction with the family	**Depression, n (%):** 37/62 (59.7%) **Taking depression medications:** NR* **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: 31/62 (50) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol: Severe: 0 (0) Moderate: 5 (7.7) Drugs : Severe: 0 (0) Moderate: 6 (9.2) Other psychiatric diagnoses: POMS: Anger: 35/61 (57.4) Fatigue: 35/61 (57.4) **Health related QoL or functional status:** Family dissatisfaction, n (%): 10/41 (24.4)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Perlesz et al., 2000		**Mechanism/type of injury, n (%):** Car accident: 34 (52.3) Car/pedestrian accident: 9 (13.8) Motorcycle: 9 (13.8) Bicycle: 1 (1.5) Blow to the head: 3 (4.6) Fall: 8 (12.3) Other: 1 (1.5) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Popovic et al., 2004 **Country, Setting:** Serbia, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 3.8 ± 0.7 **Length of follow up:** NA **Dep. Scale/Tool:** ZDS, SCL-90-R	**Inclusion criteria:** • Moderate-to-severe TBI • At least 1 year after hospitalization • Not treated with glucocorticoids while in the ICU **Exclusion criteria:** See inclusion criteria **TBI Def:** Moderate TBI: GCS of 9 to 13 Severe TBI: GCS of < 8	**Group(s):** **G1:** Patients with moderate-to-severe TBI **G2:** Healthy participants **N screened:** NR **N eligible:** NR **N included:** **G1:** 67 **G2:** 78 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 37.5 ± 1.8 **G2:** 37.2 ± 1.4 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, n (%):** Moderate to severe: **G1:** 67 (100) **Mechanism/type of injury:** NR	**Depression:** ZDS > 39 SCL-90-R: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90-R Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, ZDS, n (%):** Total: 19/41 (46.3) Strong intensity of depression: 8/41 (19.5) Mild to moderate depression: 11/41 (26.8) ZDS score, mean: 41.2 SCL-90-R, depression dimension, T-score: 0.51 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90-R, phobic anxiety dimension, T-score: 0.57 SCL-90-R, psychoticism dimension, T-score: 0.53 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Popovic et al., 2004		**Area of brain injured, %:** Skull fracture: 56.1 Linear skull fracture: 32.7 Impressive skull fracture: 2.4 Basilar skull fracture: 22 **Concomitant injuries, %:** Focal neurological deficits: 31.7 Hemiparesis: 31.7 Hemihypesthsia: 5 Anosmia: 2.4 Post-traumatic epilepsy: 12.2		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Powell et al., 2002 **Country, Setting:** UK, tertiary care center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, yrs ± SD:** **G1:** 4.0 ± 4.9 **G2:** 2.7 ± 3.6 **Length of follow up:** 18 to 40 months **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • 16 to 65 yrs old • TBI as verified by hospital or general practitioner records • No concurrent neurological diagnoses • Living within 1 hour travel time of the hospital • Long term treatment goals agreed within the team as being amenable in principle to intervention **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** Outreach group **G2:** Information group **N screened:** 166 **N eligible:** 110 **N included:** **G1:** 54 **G2:** 56 **N at conclusion:** **G1:** 48 **G2:** 46 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 34 ± 11 (n=48) **G2:** 35 ± 10 (n=46) **Age ≥16, n (%):** 110 (100) **Global injury severity:** NR	**Depression:** HADS > 10 **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS > 10 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** FIM+FAM Unmodified Barthel Index 20: Physical independence Brain Injury Community Rehabilitation Outcome-39 scales (BICRO-39)	**Depression, %:** Total: 35 HADS > 13: 15 HADS score, intake, mean ± SD: **G1:** 7.7 ± 4.2 **G2:** 8.5 ± 5.0 HADS, follow-up, mean change ± SD: **G1:** 0 ± 4.2 **G2:** 0.4 ± 4.0 HADS, improved at follow-up, n (%): **G1:** 10/20 (50) **G2:** 14/26 (53.8) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder, %: Total: 29 HADS > 13: 15 HADS score, intake, mean ± SD: **G1:** 8.7 ± 4.1 **G2:** 8.3 ± 4.8 HADS, follow-up, mean change ± SD: **G1:** 0.5 ± 4.1 **G2:** -0.6 ± 3.8 HADS, improved at follow-up, n (%): **G1:** 10/20 (50) **G2:** 9/26 (34.6) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Powell et al. 2002		**Severity of TBI, PTA duration, n (%):** < 1 hour: **G1:** 1/48 (2.1) **G2:** 0 1-24 hours: **G1:** 0 **G2:** 0 1-7 days: **G1:** 1/48 (2.1) **G2:** 4/46 (8.7) 7-31 days **G1:** 9/48 (18.8) **G2:** 10/46 (21.7) > 1 month: **G1:** 37/48 (77.1) **G2:** 30/46 (65.2) Unknown: **G1:** 0 **G2:** 2/46 (4.3) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** FIM+FAM, intake, median (range): **G1:** 28.4 (6.9-34.2) **G2:** 29.3 (12.0-33.7) FIM+FAM, follow-up, median change (range): **G1:** 2.8 (-2.1,19.1) **G2:** 2.5 (-1.9,18.9) FIM+FAM, improved at follow-up, n (%): **G1:** 41 (85.4) **G2:** 40 (88.9) Barthel Index, intake, median (range): **G1:** 20 (6-20) **G2:** 20 (4-20) Barthel Index, follow-up, median change (range): **G1:** 0 (-5,5) **G2:** 0 (-5,4) Barthel Index, improved at follow-up, n (%): **G1:** 17 (35.4) **G2:** 9 (19.6) BICRO-39, intake, median (range): **G1:** 15.3 (8-22.3) **G2:** 12.9 (8.8-25.7) BICRO-39, follow-up, median change (range): **G1:** 2.5 (-1.7,6.2) **G2:** 0.9 (-4.1,6.8) BICRO-39, improved at follow-up, n (%): **G1:** 28/35 (80) **G2:** 28/40 (70)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rao et al., 2008 **Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, range:** 0 to 3 months **Length of follow up:** 1 to 3 months **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Ability to provide informed or personal consent • At least 18 years of age **Exclusion criteria:** • Prior TBI • Open-head injury • History of brain illness • No admission to hospital • Absence of clear history of LOC **TBI Def:** At least one of following: (a) admitted to the hospital with clear history of loss of consciousness; (b) Glasgow Coma Score 15 or less; and/or (c) evidence of trauma on computerized tomography (CT) scans done as part of clinical workup Mild TBI: GCS 13 to 15 Moderate TBI: GCS 9 to 12 Severe TBI: GSC ≤ 8	**Group(s):** Patients with TBI **N screened:** ~1,000 **N eligible:** NR **N included:** 54 **N at conclusion:** 54 **Depression, n (%):** Prior to injury: 5 (9) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Anxiety disorder: 4 (7) **N with prior TBI:** None, see exclusion criteria **Age, yrs ± SD:** 43.2 ± 17.7 **Age ≥16, n (%):** 54 (100) **Global injury severity:** NR **Severity of TBI, GCS, %:** Mild: 65 Moderate: 11 Severe: 19 Unknown: 5.5 **Mechanism / type of injury, %:** MVA: 52 Assault: 24 Falls: 22 UNK: 2 **Area of brain injured:** NR **Concomitant injuries, n (%):** Body trauma: 29 (52)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** MOS	**Depression, n (%):** Major depressive-like episode: 7 (13) **Taking medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: General anxiety: 6 (11) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, MOS, mean ± SD:** Sleep disturbance: Pre-TBI: 17.5 ± 15.9 Post-TBI: 27.7 ± 24.1 *P* = 0.018 Snoring: Pre-TBI: 18.4 ± 30.2 Post-TBI: 14.5 ± 26.9 *P* = 0.4 SOB/HA: Pre-TBI: 0.39 ± 2.8 Post-TBI: 14.1 ± 27.5 *P* = 0.001 Sleep adequacy: Pre-TBI: 26.7 ± 28.2 Post-TBI: 38.6 ± 31.1 *P* = 0.023 Daytime sleepiness: Pre-TBI: 17.3 ± 17.5 Post-TBI: 31.8 ± 26.9 *P* = 0.002

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rao et al., 2008				Sleep problem index 1: Pre-TBI: 14.4 ± 14.0 Post-TBI: 28.0 ± 22.3 *P* < 0.001 Sleep problem index 2: Pre-TBI: 17.2 ± 12.7 Post-TBI: 29.3 ± 20.5 *P* = 0.001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2002 **Country, Setting:** Canada, tertiary care centers **Enrollment Period:** October 1994 to November 1998 (severe TBI); January 1998 to October 2000 (mild and moderate TBI) **Design:** Cross-sectional **Time from injury, days ± SD:** **G1:** 77.95 ± 21.8 **G2:** 79.66 ± 24.4 **G3:** 93.80 ± 9.7 **Length of follow up:** NA **Dep. Scale/Tool:** NRS-R	**Inclusion criteria:** • Abnormal CT scan obtained within 24 hours of injury • Postresuscitation GCS motor score of 1–5 (total GCS <8) **Exclusion criteria:** • Evidence of hypotension (systolic BP < 90 mm Hg for > 30 minutes after resuscitation) • Hypoxia (saturation < 94%) for 30 minutes after resuscitation • Estimated AIS score > 4 for any organ system • GCS of 3 with unreactive pupils • Inability to randomize within 6 hours of injury • Prior admission for TBI **TBI Def:** Mild TBI: LOC for less than 20 minutes, a GCS of 13 or above, and PTA for less than 24 hours (based on ACRM criteria) Moderate TBI: GCS of 9-12 or a GCS of ≥ 13 with intracerebral complication on CT scan Severe TBI: NR	**Group(s):** **G1:** Patients with mild TBI **G2:** Patients with moderate TBI **G3:** Patients with severe TBI **N screened:** 870 **N eligible:** 323 **N included:** **G1:** 102 **G2:** 41 **G3:** 139 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 32.30 ± 11.8 **G2:** 32.31 ± 12.5 **G3:** 31.86 ± 10.6 **Age ≥16, n (%):** NR **Global injury severity, ISS score, mean ± SD:** **G1:** 15.36 ± 10.3 (n=83) **G2:** 17.4 ± 9.8 (n=34) **G3:** 25.62 ± 7.4 **Severity of TBI, %:** Severe: 49.3 Moderate:14.5 Mild: 36.2	**Depression:** NRS-R: classified as not present, mild, moderate, or severe **Other co-morbidities:** PTSD: NR Other anxiety disorder: NRS-R Irritability: NRS-R Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: severe disability, moderate disability, good recovery	**Depression, %:** Severe: **G1:** 0 **G2:** 0 **G3:** 0.7 Moderate: **G1:** 9.8 **G2:** 17.1 **G3:** 11.5 Mild: **G1:** 22.5 **G2:** 22.0 **G3:** 36.7 Not present: **G1:** 64.7 **G2:** 61.0 **G3:** 51.1 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Severe **G1:** 2.0 **G2:** 0 **G3:** 0.7 Moderate **G1:** 9.8 **G2:** 22.0 **G3:** 10.1 Mild **G1:** 35.3 **G2:** 19.5 **G3:** 45.3 Not present **G1:** 52.9 **G2:** 58.5 **G3:** 43.9

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2002		**Mechanism/type of injury, n (%):** MVA: **G1:** 66 (64.7) **G2:** 23 (56.1) **G3:** 95 (68.3) Pedestrian: **G1:** 13 (12.7) **G2:** 5 (12.2) **G3:** 8 (5.8) Fall: **G1:** 7 (6.9) **G2:** 5 (12.2) **G3:** 17 (12.2) Assault: **G1:** 2 (2.0) **G2:** 2 (4.9) **G3:** 12 (8.6) Other: **G1:** 14 (13.7) **G2:** 6 (14.6) **G3:** 7 (5.0) **Area of brain injured:** NR **Concomitant injuries:** NR		Irritability: Severe: **G1:** 0 **G2:** 0 **G3:** 1.4 Moderate: **G1:** 12.7 **G2:** 9.8 **G3:** 7.9 Mild: **G1:** 41.2 **G2:** 41.5 **G3:** 34.5 Not present: **G1:** 46.1 **G2:** 48.8 **G3:** 56.1 Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NRS-R score, mean ± SD: **G1:** 33.77 ± 4.3 **G2:** 34.71 ± 5.2 **G3:** 43.20 ± 10.4 **G1/G3:** $P < 0.001$ **G2/G3:** $P < 0.001$ NRS-R score, GOS categories, mean ± SD: Severe disability: 47.46 ± 12.0 Moderate disability: 36.98 ± 6.7 Good recovery: 33.38 ± 4.0

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2003 See Rapoport et al., 2003 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD:** 49.02 ± 30.0 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Non-penetrating, mild TBI **Exclusion criteria:** • Preinjury history of focal brain disease (e.g., stroke, tumor) • Serious acute medical illness (e.g., heart or renal failure , malignancy) • Previous diagnosis of schizophrenia, bipolar disorder, or dementia **TBI Def:** Mild TBI: LOC ≤ 30 min; after 30 mins, an initial GCS of 13-15; PTA ≤ 24 hrs (based on ACRM criteria)	**Group(s):** **G1:** Patients with TBI aged 16 to 59 **G2:** Patients with TBI aged 60 and older **N screened:** 222 **N eligible:** 210 **N included:** **G1:** 146 **G2:** 64 **N at conclusion:** NA **Depression, n (%):** Prior to injury: **G1:** 13 (8.9) **G2:** 16 (25.0) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** **G1:** 42 (28.8) **G2:** 18 (28.1) **Age, yrs ± SD:** **G1:** 36.44 ± 11.4 **G2:** 72.03 ± 8.6 **Age ≥16, n (%):** 210 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n (%):** Mild: 210 (100)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** Per MD records, no tests PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric conditions: NR **Health related QoL or functional status:** MMSE	**Depression, n (%):** Major Depression: **G1:** 31/146 (21.2) **G2:** 4/64 (6.3) **G1/G2:** $P < 0.01$ Depression, OR (95% CI): **G1/G2:** 4.04 (1.36-11.99) Previous history of MD, patients with MD, n (%): 7/35 (20) Depression, logistic regression, OR (SE): Substance abuse: 0.246 (0.659) ($P < 0.05$) Time post-injury: 1.000 (0.001) (P = NS) Gender: 0.497 (0.517) (P = NS) Employment: 0.493 (0.705) (P = NS) Education: 0.518 (0.481) (P = NS) Past Depression: 0.283 (0.667) (P = NS) Family Depression: 1.062 (0.914) (P = NS) Medical History: 1.493 (0.546) (P = NS) Focal CT Abnormalities: 0.773 (0.544) (P = NS) Mechanism: 1.660 (1.620) (P = NS) Age: 0.999 (0.046) (P = NS) Age X Mechanism: 0.995 (0.034) (P = NS) **Taking depression medications:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2003		**Mechanism/type of injury, %:** MVC: 61.4 Falls: 23.3 Sports: 7.1 Assault: 3.8 Other: 4.3 **Area of brain injured:** NR **Concomitant injuries:** NR		**Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use, %: Drug: **G1:** 14.4 **G2:** 1.6 Alcohol: **G1:** 11.6 **G2:** 4.7 Other psychiatric conditions: NR **Health related QoL or functional status:** MMSE score, mean ± SD: Total: 28.93 ± 1.1 **G1:** 28.72 ± 1.23 **G2:** 29.02 ± 1.04 **G1/G2:** *P* = 0.069

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2003 See Rapoport et al., 2003 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days (range):** 48.4 ± 33.6 (1-227) **Length of follow up:** NR **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Non-penetrating, mild TBI **Exclusion criteria:** • Preinjury history of focal brain disease (e.g., stroke, tumor) • Serious acute medical illness (e.g., heart or renal failure , malignancy) • Previous diagnosis of schizophrenia, bipolar disorder, dementia, or major depressive disorder **TBI Def:** Mild TBI: LOC at time of injury of 30 min or less; after 30 mins, an initial GCS of 13-15; PTA less than 24 hrs (based on ACRM criteria)	**Group(s):** **G1:** Patients with depression post-TBI **G2:** Patients without depression post-TBI **N screened:** 211 **N eligible:** 170 **N included:** **G1:** 26 **G2:** 144 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** History of significant alcohol misuse, n (%): G1: 3 (11.5) G2: 10(6.9) History of significant substance misuse, n (%): G1: 3 (11.5) G2: 13 (9) **N with prior TBI (%):** **G1:** 6 (23.1) **G2:** 33 (22.9) **Age, yrs ± SD:** **G1:** 41.3 ± 17.8 **G2:** 44.8 ± 20.5 Total: 44.2 ± 20.1 **Age ≥16, n (%):** NR **Global injury severity:** NR **Severity of TBI, n (%):** Mild: 170 (100)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: Interview and clinician's judgment Other psychiatric diagnoses: NR **Health related QoL or functional status:** GHQ Riverhead Head Injury Follow-up Questionnaire NRS GOS	**Depression, n (%):** Major depression: 26/170 (15.3) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: General Health Questionnaire, anxiety score, mean ± SD: **G1:** 5.50 ± 2.3 **G2:** 2.61 ± 2.6 **G1/G2:** *P* < 0.0001 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Rivermead Post Concussion Disorder Questionnaire score, mean ± SD: **G1:** 43.41 ± 17.2 **G2:** 19.89 ± 17.3 **G1/G2:** *P* < 0.0001 **Health related QoL or functional status:** General Health Questionnaire, total score, mean ± SD: **G1:** 20.23 ± 6.6 **G2:** 9.57 ± 7.7 **G1/G2:** *P* < 0.0001 Riverhead Head Injury Follow-up Questionnaire score, mean ± SD: **G1:** 27.50 ± 11.8 **G2:** 15.17 ± 12.4 **G1/G2:** *P* < 0.0001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2003		**Mechanism/type of injury, n (%):** MVA: **G1:** 17 (65.4) **G2:** 64 (44.4) **Area of brain injured, CT scan, n (%):** Focal abnormalities: **G1:** 4 (20) **G2:** 23 (20.5) Atrophy: **G1:** 1 (5) **G2:** 10 (8.9) Normal: **G1:** 15 (75) **G2:** 79 (70.5) **Concomitant injuries:** Fractures: **G1:** 9 (34.6) **G2:** 37 (25.7) Soft tissue only: **G1:** 13 (50) **G2:** 75 (52.1)		NRS, total score minus depression item subscore, mean ± SD: **G1:** 38.46 ± 5.3 **G2:** 31.57 ± 3.8 **G1/G2:** *P* < 0.0001 Good outcome (GOS=5), n (%): **G1:** 5 (19.2) **G2:** 53 (36.8) **G1/G2:** *P* < 0.0001

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2005 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD:** **G1:** 214.67 ± 74.1 **G2:** 194.79 ± 34.8 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 65 or younger • Non-penetrating mild or moderate TBI **Exclusion criteria:** • Premorbid history of focal brain disease (e.g., stroke, tumor) • Serious medical illness (e.g., acute heart or renal failure, malignancy) • History of dementia, schizophrenia or bipolar disorder **TBI Def:** Mild TBI: LOC ≤ 30 minutes; after 30 minutes, an initial GCS of 13-15; PTA ≤ 24 hrs (based on ACRM criteria) Moderate TBI: GCS of 9-12 and PTA < 1 week	**Group(s):** Patients with TBI **G1:** Patients with major depression **G2:** Patients without major depression **N screened:** NR **N eligible:** NR **N included:** **G1:** 21 **G2:** 53 **N at conclusion:** NA **Depression, n (%):** Prior to injury: **G1:** 5 (23.8) **G2:** 3 (5.6) At time of injury: NR **Other preexisting psychiatric conditions, %:** Alcohol misuse: 13.5 Substance misuse: 16.2 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 41.38 ± 13.2 **G2:** 32.32 ± 12.2 **Age ≥16, n (%):** 74 (100) **Global injury severity:** NR **Severity of TBI, PTA > 24 hrs, n (%):** **G1:** 12 (60) **G2:** 35 (67.3)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognitive Measures: Wechsler Adult Intelligence Scale: assessed attention/working memory and processing speed Wechsler Memory Scale: assessed logical memory Wisconsin Card Sorting Test: assessed executive functioning	**Depression, n (%):** Major depression: 21 (28.4) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Wechsler Adult Intelligence Scale, mean ± SD: Working memory: **G1:** 22.62 ± 9.09 **G2:** 30.10 ± 6.44 Processing speed: **G1:** 14.35 ± 4.57 **G2:** 18.86 ± 4.9 Wechsler Memory Scale, mean ± SD: **G1:** 21.81 ± 8.6 **G2:** 29.78 ± 8.2 Wisconsin Card Sorting Test, mean ± SD: **G1:** 3.95 ± 2.2 **G2:** 5.33 ± 1.3

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2005		GCS score, mean ± SD: **G1:** 14.38 ± 0.7 **G2:** 13.92 ± 1.4 (n=52) **Mechanism/type of injury, n (%):** MVA: **G1:** 15 (71.4) **G2:** 32 (60.4) **Area of brain injured, CT scan abnormalities, n (%):** **G1:** 7/18 (38.9) **G2:** 25/45 (55.6) **Concomitant injuries, n (%):** Fractures or other significant injuries: **G1:** 12 (60) **G2:** 35 (67.3)		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport, Herrmann et al., 2006 See Rapoport, Kiss et al., 2006 **Country, Setting:** Canada, rehabilitation center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** 1 year **Length of follow up:** 1 year **Dep. Scale/Tool**: SCID	**Inclusion criteria:** • Age 50 and over and within 2 months of injury (G1) • Non-injured participants matched by age decade, education, and gender (G2) **Exclusion criteria:** • A pre-injury history of neurologic disease, serious acute medical illness, schizophrenia, or bipolar disorder • Preexisting cognitive decline based on history and a score of > 3.38 on the Informant Questionnaire for Cognitive Decline in the Elderly (IQCODE) • Lack of an informant to complete the IQCODE **TBI Def:** Mild TBI: Loss or alteration of consciousness at the time of injury for ≤ 20 minutes, an initial GCS of 13 to 15, and PTA of < 24 hour Complicated Mild TBI: Met criteria for mild TBI but had an intracranial complication of TBI (e.g., contusion) Moderate TBI: A GCS of 9 to 12 and PTA < 1 week	**Group(s):** **G1:** Participants with TBI **G2:** Participants without TBI **N screened:** **G1:** 712 **G2:** 79 **N eligible:** **G1:** 248 **G2:** 79 **N included:** **G1:** 69 **G2:** 69 **N at conclusion:** **G1:** 49 **G2:** 69 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI (%):** Mild TBI: **G1:** 8 (11.8) **G2:** 5 (6.3) **Age, yrs ± SD:** **G1:** 67.00 ± 7.9 **G2:** 68.04 ± 8.5 **Age ≥16, n (%):** 138 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Moderate: 14 (20.1) Complicated Mild: 18 (26.1) Mild: 37 (53.6) **Mechanism/type of injury, n (%):** Falls: 35 (50.7) MVA:14 (20.3) Other: 20 (29)	**Depression:** SCID: DSM-IV Subsyndromal depression: minimum of three DSM-IV symptoms of a major depressive episode, at least one of which is persistent depressed mood or anhedonia, lasting for two weeks **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Dementia: Mattis Dementia Rating Scale (DRS) and MMSE **Health related QoL or functional status:** Psychologic distress: GHQ Informant ratings: FAQ	**Depression, baseline, n (%):** Major Depression: **G1:** 11/69 (15.9) **G2:** 0 Subsyndromal depression: **G1:** 15/69 (21.7) **G2:** 3/79 (3.8) Depression, 1 year, n (%): Major depression: **G1:** 6*/49 (12.2) **G2:** 1/68 (1.5) Subsyndromal depression: **G1:** 9 (18.8) **G2:** 2 (2.9) **Taking depression medications, n (%):** **G1:** 10 (14.5) **G2:** 3 (4) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Dementia: DRS score, mean: **G1:** 135.38 ± 8.5 **G2:** 139.0 ± 3.7 MMSE, mean: **G1:** 28.19 ± 1.9 **G2:** 29.07 ± 1.2 **Health related QoL or functional status:** GHQ score, 1 year, mean ± SD: **G1:** 4.35 ± 5.8 **G2:** 1.48 ± 3.4

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2006		**Area of brain injured:** CT scan, mild TBI, n (%): No CT scan: 15 (40.5) Negative CT scan: 15 (40.5) General atrophy: 3 (8) Atrophy with incidental white matter changes: 3 (8) Incidental lacunar infarction: 1 (2.7) CT scan, complicated mild TBI", n (%): Subarachnoid hematomas: 2 (11) Subdural hematomas: 5 (27.8) Contusions: 2 (11) Injuries at multiple sites: 7 (38.9) General atrophy: 1 (5.6) Epidural or sphenoid: 1 (5.6) CT scan, moderate TBI, n (%): Negative scan: 1 (7) Contusions: 2 (14.3) Injuries at multiple sites: 8 (57) General atrophy: 2 (14.3) Epidural or sphenoid: 1 (7) hematomas **Concomitant injuries, n (%):** Fractures or intra-abdominal injuries: 38 (55.1)		FAQ score, 1 year, mean ± SD: **G1:** 2.98 ± 4.9 **G2:** 0.38 ± 1.5

* 2 mild TBI and 4 moderate or complicated mild TBI
5 of the 11 patients with TBI with major depression at baseline also met criteria at one year, and conversely, 5 of the 6 patients with TBI with major depression at one year also had major depression at the baseline post-injury visit.
Moderate TBI cases and not mild TBI cases were rated as having poorer IADLS

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport, Kiss et al., 2006 See Rapoport, Herrmann et al. 2006 **Country, Setting:** Canada, rehabilitation center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days ± SD:** 46.9 ± 34 **Length of follow up:** 1 year **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • At least 50 yrs old **Exclusion criteria:** • Pre-injury history of neurological disease • Serious acute medical illness • Schizophrenia or bipolar disorder • Drug abuse **TBI Def:** Mild TBI: According to ACRM criteria Moderate TBI: GCS score of 9 to 12 and PTA < 1 week, or met criteria for mild TBI but had an intracranial complication of TBI (e.g., contusion)	**Group(s):** Patients with mild to moderate TBI **N screened:** NR **N eligible:** 77 **N included:** 77 **N at conclusion:** 46 **Depression, n (%):** Prior to injury: 14 (18.2) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 67.12 ± 8.4 **Age ≥16, n (%):** 77 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n (%):** Mild: 44 (57.1) Moderate: 33 (42.9) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Psychosocial functioning and psychological distress: RHFQ, GHQ Post-concussive symptoms: RPDQ Informant ratings: FAQ	**Depression, n (%):** Baseline: 12 (15.6) 1-year*: 5/9 (55.6) **Taking depression medications, 1 year, n (%):** Antidepressants: 4/5 (80%) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** RHFQ, baseline, mean ± SD: MDD: 25.00 ± 7.9 (n=12) No MDD: 10.74 ± 10.9 (n=58) RHFQ, 6 months, mean ± SD: MDD: 26.17 ± 8.5 (n=6) No MDD: 9.92 ± 9.9 (n=38) RHFQ, 1 year, mean ± SD: MDD: 16.25 ± 13.0 (n=8) No MDD: 10.16 ± 11.3 (n=37) GHQ, baseline, mean ± SD: MDD: 18.73 ± 7.3 (n=11) No MDD: 6.34 ± 6.3 (n=59)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2006				GHQ, 6 months, mean ± SD: MDD: 15.17 ± 7.1 (n=6) No MDD: 4.13 ± 5.2 (n=38) GHQ, 1 year, mean ± SD: MDD: 9.38 ± 7.9 (n=8) No MDD: 3.29 ± 4.7 (n=38) RPDQ, baseline, mean ± SD: MDD: 37.45 ± 17.3 (n=12) No MDD: 14.88 ± 13.7 (n=59) RPDQ, 6 months, mean ± SD: MDD: 41 ± 13.6 (n=6) No MDD: 14.31 ± 13.1 (n=36) RPDQ, 1 year, mean ± SD: MDD: 27.75 ± 22.6 (n=8) No MDD: 16.27 ± 18.6 (n=37) Informant ratings, FAQ, 1 year, mean ± SD: MDD: 6.38 ± 8.9 (n=8) No MDD: 2.24 ± 3.3 (n=37)

* 9 of the 12 depressed at baseline returned for 1 year follow-up

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rowland et al., 2005 **Country, Setting:** US, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD (range):** 57.3 ± 37.8 (8-148) **Length of follow up:** NA **Dep. Scale/Tool:** BDI-II	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Cognitive or motor abnormalities that precluded the ability to give informed consent or complete standard administrations of the neuropsycho-logical tests • Self-report of previous brain injury or documentation of previous TBI in medical records **TBI Def:** Documented by neuroradiologic scans (e.g., MRI, CT) or indisputable independent evidence (e.g., paramedics at the scene or emergency room personnel observation and documentation of loss of consciousness due to traumatic impact) TBI Severity determined by several cut-offs: time to follow commands (24 hours), length of PTA (24 hours), and duration of coma (6 hours)	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 51 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** None (see exclusion criteria) **Age, yrs ± SD (range):** 40.3 ± 16.0 (18-70) **Age ≥16, n (%):** 51 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Severe: 26 (51) Mild-moderate: 25 (49) **Mechanism/type of injury, n (%):** Car accident: 23 (45.1) Fall: 14 (27.5) Assault: 9 (17.6) Other: 5 (9.8) **Area of brain injured, CT scan:** Frontal or non-frontal (specific numbers for each group NR)	**Depression:** BDI-II ≥ 14 was classified as depressed (severity of depression not identified in this study) BDI-II analyzed to extract factors based on cumulative percent variance: **Negative Self Evaluation:** measures level of person's perception and cognitive view of self **Symptoms of Depression:** measures symptoms largely associated with DSMV-IV criteria for MDE **Vegetative Symptoms of Depression:** symptoms associated with depression, but failed to load under same factor as depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: Determined by self-report (no analysis of co-occurrence with depression)	**Depression, BDI-II, n (%):** Depressed: 13 (25.5)* Total variance for each factor, %: Negative Self Evaluation: 20 Symptoms of Depression: 18* Vegetative Symptoms of Depression: 12 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: 13 (25.5) Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rowland et al., 2005		**Concomitant injuries:** NR	Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	

* In linear regression models, time since injury was the only significant predictor of Total BDI-II score (*P* = 0.004) and a significant predictor of the Symptoms of Depression factor (*P* = 0.018).

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ruocco et al., 2007 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** MCMI-III	**Inclusion criteria:** • At least 18 yrs of age • Referred for neuropsycho-logical evaluation in relation to head trauma • Completion of the MCMI-III as part of a larger neuropsycho-logical battery **Exclusion criteria:** • Suspected dementia (G2) **TBI Def:** According to ACRM criteria	**Group(s):** **G1:** Patients with TBI **G2:** Psychiatric patients **N screened:** NR **N eligible:** NR **N included:** **G1:** 231 **G2:** 231 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age,** yrs ± SD**:** **G1:** 40.6 ± 12.4 **G2:** 40.9 ± 12.1 **Age ≥16, n (%):** 462 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: **G1:** 84 Moderate: **G1:** 16 Reported LOC: **G1:** 43.9	**Depression:** MCMI-III: Base Rate (BR) scores ≥ 75 was used to demark scale elevations that are clinically significant and determine if there were any differences between the TBI sample and the matched group of psychiatric patients. **Other co-morbidities:** PTSD: MCMI-III Other anxiety disorder: MCMI-III Irritability: NR Aggression: MCMI-III Suicidality: NR Substance use: MCMI-III Other psychiatric diagnoses: MCMI-III **Health related QoL or functional status:** NR	**Depression, n (%):** Major depression: **G1:** 70 (30.3) **G2:** 68 (29.4) Depressive: **G1:** 39 (16.9) **G2:** 96 (41.6) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: **G1:** 52 (22.5) Other anxiety disorder: **G1:** 32 (57.1) Irritability: NR Aggression: Aggressive (sadistic): **G1:** 6 (2.6) Suicidality: NR Substance use: Alcohol dependence: **G1:** 3 (1.3) Drug dependence: **G1:** 5 (2.2) Other psychiatric diagnoses: Schizoid: **G1:** 57 (24.7) Avoidant: **G1:** 63 (27.3) Dependent: **G1:** 71 (39.7) Histrionic: **G1:** 37(16.0) Narcissistic: **G1:** 35 (15.2) Antisocial: **G1:** 10 (4.3) Compulsive: **G1:** 47 (29.3) Passive-aggressive: **G1:** 57 (24.7) Masochistic (self-defeating): **G1:** 42 (18.2); Schizotypal: **G1:** 14 (6.1)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Ruocco et al., 2007		**Mechanism/type of injury, %:** MVA: **G1:** 74.8 Falls: **G1:** 11 Blows to the head: **G1:** 10.6 Physical assault: **G1:** 2.2 Aircraft crash: **G1:** 1.3 **Area of brain injured:** NR **Concomitant injuries:** NR		Borderline: **G1:** 30 (13.0) Paranoid: **G1:** 20 (8.7) Anxiety: **G1:** 132 (57.1) Somatoform: **G1:** 76 (32.9) Bipolar (manic) **G1:** 7 (3.0) Dysthymia: **G1:** 110 (47.6) Thought disorder: **G1:** 19 (8.2) Delusional disorder: **G1:** 12 (5.2) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Satz et al., 1998 Satz et al., 1998^ See McCleary et al., 1998 **Country, Setting:** US, academic medical centers **Enrollment Period:** 1991 to 1995 **Design:** Cross-sectional **Time from injury:** Up to 6 months **Length of follow up:** NA **Dep. Scale/Tool:** SCL-90-R, NRS-13	**Inclusion criteria:** • At least 16 yrs of age • Initial GCS score ≤ 12, or initial GCS score of ≥ 13 with abnormalities on admission CT scan • Literate and able to understand either Spanish or English • Bodily injuries other than to the head, admitted to the hospital for 24 hours or more, and AIS severity level comparable to the TBI patients (G2) **Exclusion criteria:** • Less than 6 mos postinjury • Too injured to complete neuropsycho-logical assessments • Severe pre-existing comorbidity, such as chronic heart failure, stroke, chronic severe neurological disease (e.g., Parkinson's disease, AIDS dementia, presenile dementia), or previous severe diminished mental capacity **TBI Def:** NR†	**Group(s):** **G1:** TBI patients with severe disability **G2:** TBI patients with moderate disability **G3:** TBI patients with good recovery **G4:** Other injury comparison group **Ga:** Depressed (SCL-90-R criteria) patients in G1+G2 **Gb:** Nondepressed patients in G1+G2 **Gc:** Nondepressed patients in G3+G4 **N screened:** NR **N eligible:** NR **N included:** **G1:** 21 **G2:** 42 **G2^:** 43 **G3:** 37 **G3^:** 36 **G4:** 30 **Ga^:** 17 **Gb^:** 47 **Gc^:** 64 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR	**Depression:** SCL-90-R: a deviation score of greater than 2 standard deviations adjusted for gender indicates major depression NRS-13: a score greater than 4 indicates moderate to severe depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: standard definitions	**Depression, SCL-90-R, %** **G1:** 24 **G2:** 28 **G3:** 2.7 **G4:** 3.3 Depression, NRS-13, %: **G1:** 52 **G2:** 35 **G3:** 22 **G4:** 17 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:*** AIMS score, mean ± SD: **Ga:** 59.1 ± 8.4 **Gb:** 42.5 ± 10.7 **Gc:** 39.2 ± 12.1 Psychomotor score, mean ± SD: Color trials 1: **Ga:** 64.8 ± 31.4 **Gb:** 68.2 ± 42.6 **Gc:** 43.1 ± 20.3 Color trials 2: **Ga:** 117.2 ± 41.1 **Gb:** 116.4 ± 53.8 **Gc:** 90.4 ± 37.5 Symbol digit, total correct: **Ga:** 33.1 ± 11.7 **Gb:** 35.5 ± 10.4 **Gc:** 47.0 ± 15.5

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Satz et al., 1998 Satz et al., 1998^		**Age, yrs ± SD:** **G1:** 32.4 ± 12.1 **G2:** 32.0 ± 13.6 **G3:** 31.9 ± 15.8 **G4:** 34.0 ± 12.7 **Age ≥16, n (%):** 130 (100) **Global injury severity:** NR **Severity of TBI, initial GCS score, %:** 3: 8 4-5: 12 6-8: 27 9-11: 14 12-13: 7 14-15: 32 GCS score, mean ± SD: **G1:** 7.0 ± 3.9 **G2:** 10.3 ± 4.2 **G3:** 10.3 ± 3.9 **G4:** NA CT diagnoses, mean ± SD: **G1:** 2.1 ± 1.5 **G2:** 1.9 ± 1.6 **G3:** 1.4 ± 1.3 **G4:** NA **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Motor score: Grooved peg (dominant): **Ga:** 89.8 ± 24.5 **Gb:** 98.4 ± 55.3 **Gc:** 71.4 ± 16.1 Grooved peg (non-dominant): **Ga:** 108.4 ± 11.7 **Gb:** 107.8 ± 55.6 **Gc:** 79.7 ± 19.1 Memory score, mean ± SD: RAVLT-1: **Ga:** 5.2 ± 2.8 **Gb:** 5.8 ± 2.1 **Gc:** 6.1 ± 2.0 RAVLT-total: **Ga:** 37.3 ± 6.5 **Gb:** 42.0 ± 13.8 **Gc:** 47.5 ± 10.4 RAVLT-8: **Ga:** 6.8 ± 4.4 **Gb:** 7.6 ± 4.3 **Gc:** 9.4 ± 2.8 Word list, total correct: **Ga:** 14.2 ± 7.1 **Gb:** 16.5 ± 6.9 **Gc:** 20.9 ± 5.7 Prospective memory-other: **Ga:** 12.9 ± 5.7 **Gb:** 11.3 ± 3.4 **Gc:** 9.5 ± 2.9 Retrospective memory-other: **Ga:** 14.9 ± 4.5 **Gb:** 13.1 ± 3.7 **Gc:** 10.7 ± 3.4 Functional score, mean ± SD: Patient competency rating-total: **Ga:** 105.4 ± 21.1 **Gb:** 114.2 ± 21.3 **Gc:** 133.3 ± 11.2 Employability rating-total: **Ga:** 4.2 ± 2.6 **Gb:** 4.7 ± 3.2 **Gc:** 7.5 ± 3.3

*None of the individual contrasts except AIMS revealed a difference between groups Ga and Gb, while significant differences were observed between group Gc and groups Ga and Gb
† GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Schofield et al., 2006 **Country, Setting:** Australia, other **Enrollment Period:** September 2003 to June 2004 **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NR **Dep. Scale/Tool:** RDS	**Inclusion criteria:** • Inmates recruited consecutively or chosen randomly based on prison ID number on days with too many potential new participants to be interviewed **Exclusion criteria:** See inclusion criteria **TBI Def:** Self-report of a blow to the head the causing the participant to become dazed and confused without LOC (TBI without LOC) or unconscious or blacked-out (TBI with LOC) Mild TBI: LOC < 30 minutes	**Group(s):** Inmates examined for TBI history **G1:** No TBI's **G2:** 1 to 3 TBI's **G3:** ≥ 4 TBI's **N screened:** NR **N eligible:** NR **N included:** **G1:** 36 **G2:** 79 **G3:** 85 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 30.6 ± 8.1 **Age ≥16, n (%):** 200 (100) **Global injury severity:** NR **Severity of TBI, n:** TBI with LOC ≥ 30 minutes: 53 TBI with LOC <30 minutes: 77 TBI without LOC: 34 **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** RDS: score of one or more indicated positive result for lifetime history of major depressive disorder **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: Suicide or self-harm – direct inquiry Substance use: AUDIT score of 8 or more Specific enquiry for illegal drug use in the past 4 weeks Other psychiatric diagnoses: Psychosis: screener from the Australian Low Prevalence Disorders Study: weighted scores of four or more = positive (current or past) ICD personality international personality disorder screener: 3 or more items from either scales for impulsive or dissocial personality **Health related QoL or functional status:** NR	**Depression:** Depression associated with TBI and increased as number of TBI's increased: Depression, n (%): **G1:** 3 (10) **G2:** 14 (19) **G3:** 26 (31) Depression, OR (95% CI): **G2+G3/G1:** 3.55 (0.99, 12.78) **G2/G1:** 2.46 (0.63,9.57) **G3/G1:** 4.70 (1.26, 17.54) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: Suicide or self-harm, n (%): **G1:** 4 (13) **G2:** 11 (14) **G3:** 21 (25) Suicide or self-harm, OR (95% CI): **G2+G3/G1:** 1.73 (0.56, 5.34) **G2/G1:** 1.14 (0.33, 3.95) **G3/G1:** 2.36 (0.73, 7.62) Substance use: Alcohol problems, n (%): **G1:** 13 (36) **G2:** 37 (47) **G3:** 38 (45)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Schofield et al., 2006		**Concomitant injuries:** NR		Alcohol problems, OR (95% CI): **G2+G3/G1:** 1.59 (0.74, 3.38) **G2/G1:** 1.63 (0.72, 3.72) **G3/G1:** 1.54 (0.68, 3.49) Drug use, n (%): **G1:** 11 (31) **G2:** 40 (51) **G3:** 43 (51) Drug use, OR (95% CI): **G2+G3/G1:** 2.42 (1.10, 5.29) **G2/G1:** 2.31 (0.99, 5.39) **G3/G1:** 2.52 (1.09, 5.85) Other psychiatric diagnoses: Psychosis, n (%): **G1:** 5 (14) **G2:** 24 (30) **G3:** 32 (38) Psychosis, OR (95% CI): **G2+G3/G1:** 3.08 (1.12, 8.50) **G2/G1:** 2.64 (0.90, 7.74) **G3/G1:** 3.54 (1.23, 10.21) Impulsive personality, n (%): **G1:** 20 (56) **G2:** 36 (46) **G3:** 55 (65) Impulsive personality, OR (95% CI): **G2+G3/G1:** 0.83 (0.39, 1.77) **G2/G1:** 0.55 (0.24, 1.27) **G3/G1:** 1.22 (0.53, 2.80)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Schofield et al., 2006				Dissocial personality, n (%): **G1:** 15 (42) **G2:** 37 (47) **G3:** 48 (56) Dissocial personality, OR (95% CI): **G2+G3/G1:** 1.37 (0.63, 2.99) **G2/G1:** 1.04 (0.44, 2.44) **G3/G1:** 1.78 (0.77, 4.14) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sebit et al., 1998 **Country, Setting:** Kenya, tertiary care center **Enrollment Period:** 1991 to 1992 **Design:** Cross-sectional **Time from injury:** 6 to 8 months **Length of follow up:** NA **Dep. Scale/Tool:** CIS-R, DSM-III-R	**Inclusion criteria:** • 16 to 65 yrs old • Non-penetrating, closed head injury (CHI) **Exclusion criteria:** • Previous hospital admission due to LOC, associated fractures elsewhere in the body, or undergone major surgical interventions (i.e. elevation of depressed skull fracture) for the fractured lower limb injury group (G2) **TBI Def*:** Mild CHI: Consciousness on admission and throughout the period of hospitalization and absence of neurologic deficits Moderate CHI: Comatose for not more than 24 hrs with possible neurologic deficits Severe CHI: Duration of coma exceeding 24 hours and may have manifested focal neurologic deficits.	**Group(s):** **G1:** Patients with CHI **G2:** Patients with FLLI **N screened:** NR **N eligible:** 100 **N included:** **G1:** 37 **G2:** 39 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 32.2 ± 9.1 **G2:** 30.5 ± 7.9 **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: **G1:** 59.5 Moderate: **G1:** 21.6 Severe: **G1:** 18.6	**Depression:** CIS-R: cutoff for cases of 13 points then correlated with DSM-III-R criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: CIS-R cutoff for cases of 13 points then correlated with DSM-III-R criteria Irritability: NR Aggression: NR Suicidality: NR Substance use: WHO Audit Core and an 8 item procedure for alcohol abuse with a cutoff of 8 points Other psychiatric diagnoses: Psychiatric interview for delusional disorders using DSM-III-R criteria **Health related QoL or functional status:** NR	**Depression, n (%):** **G1:** 20 (54.1) **G2:** 10 (25.6) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: **G1:** 8 (21.6) **G2:** 6 (15.4) Irritability: NR Aggression: NR Suicidality: NR Substance use: **G1:** 2 (5.4) **G2:** 1 (2.6) Other psychiatric diagnoses: Delusional disorder: **G1:** 0 **G2:** 3 (7.7) **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sebit et al., 1998		**Mechanism/type of injury, n (%):** Fall: **G1:** 3 (8.1) **G2:** 21 (53.9) MVA: **G1:** 22 (59.5) **G2:** 8 (20.5) Assault: **G1:** 12 (32.4) **G2:** 8 (20.5) Sports: **G1:** 0 (0) **G2:** 2 (5.1) **Area of brain injured:** NR **Concomitant injuries:** NR		

*Levin, HS and Grossman, RG. Behavioural sequelae of closed head injury. *Arch Neurol.*1978; **35**:720-727

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Seel and Kreutzer, 2003 See Seel et al., 2003 **Country, Setting:** US, rehabilitation center **Enrollment Period:** 1996 to 2000 **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 27.8 ± 43.8 (1-323) **Length of follow up:** NA **Dep. Scale/Tool:**, BDI, NFI-D	**Inclusion criteria:** • Completion of comprehensive evaluations at an outpatient rehabilitation center between 1996 and 2000 **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 172 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 36.5 ± 12.2 **Age ≥16, n (%):** 172 (100) **Global injury severity:** NR **Severity of TBI, GCS score, mean:** 10.51 **Mechanism/type of injury, %:** MVA: 68 Violence: 13 Falls: 12 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** BDI ≥ 21 NFI ≥ 43 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, BDI, %:** Extreme: 2 Severe: 12 Moderate: 24 BDI score, mean ± SD: 16.90 ± 11.40 Depression, NFI, %: 30 NFI score, mean ± SD: 36.13 ± 11.57 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Seel et al., 2003 See Seel and Kreutzer, 2003 **Country, Setting:** US, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 35.3 ± 26.9 **Length of follow up:** NA **Dep. Scale/Tool:** NFI-R, DSM-IV	**Inclusion criteria:** • Completion of a TBIMS outpatient follow-up evaluation between 1996 and 2000 • Availability of demographic data • Completion of the NFI at annual follow-up intervals **Exclusion criteria:** See inclusion criteria **TBI Def:** Damage to brain tissue caused by an external mechanical force as evidenced by medically documented LOC or PTA due to brain trauma or by objective neurological findings that can be reasonably attributed to TBI on physical examination or mental status examination	**Group(s):** Patients with TBI **G1:** Depressed patients **G2:** Non-depressed patients **N screened:** NR **N eligible:** NR **N included:** Total: 666 **G1:** NR **G2:** NR **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 38.0 ± 14.5 **Age ≥16, n (%):** 666 (100) **Global injury severity:** Acute treatment, days ± SD: 21.2 ± 16.7 Inpatient rehabilitation, days ± SD: 33.7 ± 25.6	**Depression:** Measured using NFI to screen for DSM-IV major depression symptoms. NFI comprised of 70 items measures neurobehavioral problems in TBI patients – contains 6 domains (depression, somatic, memory/attention, communication, aggression, & motor) Respondents responses measured on 5 point Likert scale DSM-IV criteria used to classify depressive symptoms of NFI scale **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, DSM-IV criteria, %:** MDE: 27 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: Threaten to hurt self, %: Total: 7 **G1:** 19 **G2:** 3 Substance use: NR Other psychiatric diagnoses:* NFI criteria, mood symptoms, always/ often, % : Easily angered: 26 Frustrated: 25 Sad, blue: 18 Feel hopeless: Total:12 **G1:** 38 **G2:** 3 Argue: 16 Curse at others: 12 Scream or yell: 9 Hit or push others: 2 Bored: 22 Sit with nothing to do: 19 Lonely: 19 Loss of interest in sex: 16 Difficulty enjoying activities: Total: 13 **G1:** 38 **G2:** 4

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Seel et al., 2003		**Severity of TBI:** GCS score, mean ± SD: 8.6 ± 4.6 LOC, days ± SD: 9.8 ± 21.2 LOC, median days: 3.0 PTA, days ± SD: 31.7 ± 26.2 PTA ≥ 7 days, %: 90 **Mechanism/type of injury, n (%):** Car crash: 360 (54) Violence: 147 (22) Falls: 100 (15) Pedestrian accidents: 47 (7) **Area of brain injured:** NR Concomitant injuries: NR		Uncomfortable around others: 13 No confidence: 14 Feel worthless: Total: 11 **G1:** 37 **G2:** 2 Curse at self: 11 NFI criteria, somatic symptoms, always/often, %: Poor appetite: Total: 8 **G1:** 24 **G2:** 3 Trouble falling asleep: Total: 22 **G1:** 58 **G2:** 9 Move slowly: 24 Restless: Total: 20 **G1:** 55 **G2:** 7 Talk too fast or slow: 13 Tire easily during physical activity: 29 Weak: Total: 14 **G1:** 39 **G2:** 5 NFI criteria, cognitive symptoms, always/ often, %: Easily distracted: 28 Cannot get mind off certain thoughts: 25 Poor concentration: Total:19 **G1:** 56 **G2:** 6 Forget if I have done things: 20 Forget yesterday's events: 19 Forget to do chores or work: 12 Forget or miss appointments: 11 **Health related QoL or functional status:** NR

*Only significant criteria differentiating depressed from non-depressed TBI patients reported by group

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sherer et al., 2007 **Country, Setting:** US, rehabilitation center **Enrollment Period:** February 2003 to August 2005 **Design:** Prospective cohort **Time from injury, days (range):** 82 (23-938) **Length of follow up:** NA **Dep. Scale/Tool:** CES-D	**Inclusion criteria:** • All patients admitted to rehabilitation center and a family member/ significant other • Ability to provide informed consent **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** Patients with TBI **N screened:** 94 **N eligible:** 94 **N included:** 69 **N at conclusion:** 49 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 29.3 ± 13.2 **Age ≥16, n (%):** NR **Global injury severity, acute length of stay, mean ± SD:** 23.1 ± 16.2 **Severity of TBI, GCS score, mean ± SD:** 8.0 ± 3.7 **Mechanism/type of injury, n (%):** MVC: 54 (79) Fall: 6 (9) Assault: 5 (7) Other: 3 (4) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** CES-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** California Psychotherapy Alliance Scale (CALPAS) Prigatano Alliance Scale (PAS) Awareness Questionnaire (AQ) Disability Rating Scale (DRS) Productivity Status	**Depression:** Severe: 3 Moderate: 6 Mild: 13 CES-D score, mean ± SD: 11.6 ± 8.0 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CALPAS score, mean ± SD: 122.0 (16.5) CALPAS, family member, mean ± SD: 126.2 (10.3) CALPAS score, clinician, mean ± SD: clinician: 112.0(14.4) PAS score, mean ± SD: 11.3 ± (1.1) AQ score, mean ± SD: 49.4 ± 9.1 AQ score, family member, mean ± SD: 35.9 ± 9.7

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sherer et al., 2007				AQ score, clinician, mean ± SD: 32.6 ± 5.7 DRS score, admit-ting, mean ± SD: 4.3 ± 1.5 DRS score, mean ± SD: 2.4 ± 1.4 Productivity (yes), n (%): 43 (62)

*GCS scores recorded

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sherman et al., 2000 **Country, Setting:** Canada, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 2.52 ± 2.02 **Length of follow up**: NA **Dep. Scale/Tool:** MMPI-2	**Inclusion criteria:** • Availability of information on head injury severity • Complete neuropsychological test data including MMPI-2 • No evidence of symptom exaggeration (i.e. below-chance performance) on a forced-choice symptom validity measure (Victoria Symptom Validity Test) **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild HI: LOC of < 1 hour and PTA of < 24 hours (based on ACRM criteria) Moderate-to-severe HI: LOC > 1 hour and PTA > 24 hours	**Group(s):** **G1:** Mild TBI **G2:** Moderate-to-severe TBI **Ga:** Low Dep score **Gb:** High Dep score **N screened:** NR **N eligible:** 175 **N included:** **G1:** 114 **G2:** 61 **Ga:** 117 **Gb:** 58 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 32.8 ± 12.7 **Age ≥16, n (%):** NR **Global injury severity:** NR **Severity of TBI, n (%):** Mild TBI: 114 (65) Moderate/Severe TBI: 61 (35) **Mechanism/type of injury, n (%):** Car accident: 167 (95) **Area of brain injured:** NR	**Depression:** Measured by Depression content scale (Dep) of MMPI-2 High Dep score (T-score > 65) includes all individuals with symptoms in the clinical range Low Dep score (T-score < 65) includes all individuals with symptoms not in clinical range **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, high score, n (%)*:** Total: 58 (33) Mild TBI: 36 (32) Moderate/Severe TBI: 22 (36) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Logical memory, test scores in impaired range, %: **Ga:** 19.2 **Gb:** 32.8 **Ga/Gb:** *P* = 0.04 PASAT memory, test scores in impaired range, %: **Ga:** 25.5 **Gb:** 41.9 **Ga/Gb:** *P* = 0.10

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sherman et al., 2000		**Concomitant injuries:** NR		

*Contingency coefficients comparing persons with depression symptoms in clinical range in each TBI severity range not significant – indicates equal distribution of depression symptoms across severity ranges

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Slaughter et al., 2003 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** PRIME-MD	**Inclusion criteria:** • 18 years of age or older • English speaking • Completely sentenced on all current charges (no further pending legal charges) **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI:* A head injury immediately followed by LOC ≤ 30 minutes, alteration of mental status at the time of the accident (e.g. feeling dazed, confused or disoriented), or loss of memory of the time around the injury (based on ACRM criteria) Moderate/severe TBI:* Any injury of greater severity than mild TBI	**Group(s):** **G1:** Inmates with self-reported TBI **G2:** Inmates without self-reported TBI **N screened:** 475 **N eligible:** 91 **N included:** **G1:** 25 **G2:** 25 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, n (%):** 18-29: 30 (43.5) 30-39: 20 (49.0) 40-49: 17 (24.6) 50-59: 2 (2.9) **Age ≥16, N (%):** 69 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n:** Mild: **G1:** 20 Moderate/severe: **G1:** 5 **Mechanism/type of injury:** NR	**Depression:** PRIME-MD: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: PRIME-MD Irritability: NR Aggression: Brief Anger and Aggression Questionnaire (BAAQ) Suicidality: NR Substance use: PRIME-MD Other psychiatric diagnoses: BAAQ, COWAT, WAIS-R Vocabulary, WAIS-R Picture Completion, Trail Making Test A and B, WMS-R **Health related QoL or functional status:** BAAQ, COWAT, WAIS-R Vocabulary, WAIS-R Picture Completion, Trail Making Test A and B, WMS-R	**Depression, n (%):** MDD: **G1:** 13 (52) **G2:** 9 (36) MDD in partial remission: **G1:** 1 (4) **G2:** 1 (4) Dysthymia: **G1:**10 (40) **G2:** 8 (32) Minor depressive disorder: **G1:** 2 (8) **G2:** 3 (12) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Generalized anxiety disorder, n (%): **G1:** 10 (40) **G2:** 7 (28) Anxiety disorder NOS, n (%): **G1:** 3 (12) **G2:** 2 (8) Irritability: NR Aggression: BAAQ score, mean ± SD: **G1:** 11.6 **G2:** 7.8 **G1/G2:** *P* = 0.05 Suicidality: NR Substance use: Probable alcohol abuse/dependence, n (%): **G1:** 14 (56) **G2:** 13 (52) Other psychiatric diagnoses: COWAT score, mean: **G1:** 32.8 **G2:** 42.0

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Slaughter et al., 2003		**Area of brain injured:** NR Concomitant injuries: NR		WAIS-R Vocabulary score, mean: **G1:** 30.9 **G2:** 30.8 WAIS-R Picture Completion score, mean: **G1:** 13.6 **G2:** 13.8 Trail Making Test A score, mean: **G1:** 30.5 **G2:** 31.6 Trail Making Test B score, mean: **G1:** 74 **G2:** 66.6 WMS-R LM I score, mean: **G1:** 18.4 **G2:** 18.8 WMS-R LM II score, mean: **G1:** 14.0 **G2:** 15.4 **Health related QoL or functional status:** NR

* Self-reported; medical records not obtained or available for use

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sliwinski et al., 1998 See Hibbard et al., 1998; Gordon, Brown et al., 1998; Gordon, Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean yrs:** 7.6 **Length of follow up:** NR **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • 18 years of age or older at the time of injury • Brain injury of traumatic origin occurring at least 1 year prior to the study • Current age < 65 years • Self-identified as having received a TBI and as having a disability • Able to engage in a 3 to 4-hour interview • Resident of New York state and living in non-institutional settings in the community **Exclusion criteria:** See inclusion criteria **TBI Def:** Self-report	**Group(s):** Patients with TBI **N screened:** 433 **N eligible:** 100 **N included:** 100 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, assessment, yrs ± SD:*** 39.8 ± 10.2 Age, time of injury, mean (range): 32 (18-59) **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR **Severity of TBI, LOC, %:*** Dazed/confused < 20 minutes: 20 > 20 min to < 1 day: 9 > 1 day to < 1 week: 20 1-4 weeks: 17 > 1 month: 24	**Depression:** SICD: DSM-IV criteria BDI: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** TIRR	**Depression, SCID, n (%):** MDD: 23 (23) Dysthymia: 2 (2) BDI score and SCID diagnosis of depression, correlation: 0.30 ($P < 0.05$) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** BDI score and TIRR Symptom Checklist score, correlation: 0.67 ($P < 0.05$)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sliwinski et al., 1998		**Mechanism/type of injury:*** MVA: 62 Assault: 8 Pedestrian accident: 8 Fall: 6 Sports related: 6 Hit by falling/flying object: 5 Gunshot wound: 2 Other: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		

*Taken from Hibbard, M. R., S. Uysal, et al. (1998). "Axis I psychopathology in individuals with traumatic brain injury." J Head Trauma Rehabil 13(4): 24-39

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Stalnacke, 2007 **Country, Setting:** Sweden, tertiary care center **Enrollment Period:** 2001 **Design:** Cross-sectional **Time from injury:** 3 years **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • Admitted to the ED within 24 hours after the trauma • GCS 13 to 15 on arrival to the ED • Diagnosis of concussion/ commotion cerebri/mild head injury/mild TBI resulting in hospitalization for observation **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS 13 to 15	**Group(s):** Patients with mild TBI **N screened:** 214 **N eligible:** 201 **N included:** 163 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 7 (4.3) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** 68 (42) **Age, yrs ± SD:** 30.6 ± 14.4 **Age ≥16, n (%):** 163 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Mild TBI: 163 (100) PTA, minutes ± SD (range): 41 ± 118 (0-720) LOC, minutes ± SD (range): 4.0 ± 7 (0-30)	**Depression:** BDI: 0-9: Asymptomatic 10-18: Mild to moderate depression 19-29: Moderate to severe depression 30-63: Extremely severe depression **Other co-morbidities:** PTSD: IES Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CIQ LiSat-11 RPQ	**Depression, %:** Mild to moderate depression: 25 Moderate to severe depression: 15 BDI score, mean ± SD: 6.88 ± 8.1 **Taking depression medications:** NR **Other co-morbidities:** PTSD: IES score, mean ± SD: 9.6 ± 13 Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CIQ score, mean ± SD: 20.19 ± 4.15 LiSat-11 score, mean ± SD: 46.4 ± 10.7 RPQ score, mean ± SD: 10.7 ± 13.2

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Stalnacke, 2007		**Mechanism/type of injury, n (%):** Falls: 59 (36.2) Bicycle: 25 (15.3) MVA: 37 (22.7) Sports: 23 (14.1) Assault: 9 (5.5) Vehicle related: 37 (22.7) Other: 5 (3.1) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Tateno et al., 2003 See Jorge et al., 2004 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD:** **G1a:** 23.9 ± 17.7 **G1b:** 33.4 ± 26.5 **Length of follow up:** NA **Dep. Scale/Tool:** SCID, HAM-D	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Penetrating head injury or spinal cord injury • Severe comprehension deficits that precluded thorough neuropsychiatric evaluation **TBI Def:** Closed head injury followed by PTA ≥ 30 mins Mild TBI: GCS score 13 to 15 Moderate TBI: GCS score from 9 to 12, or a GCS score of 12 to 15 with intracranial surgical procedures or with focal lesions greater than 15 cc Severe TBI: GCS score from 4 to 8	**Group(s):** **G1:** Patients with TBI **G1a:** Patients with TBI and significant aggression **G1b:** Patients with TBI but not significant aggression **G2:** Multiple trauma patients with no HI or spinal cord injury **N screened:** NR **N eligible:** NR **N included:** **G1:** 89 **G1a:** 30 **G1b:** 59 **G2:** 26 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Mood disorder: **G1:** 23 (26.4) **G1a:** 13 (43.3) **G1b:** 10 (17.5) **G2:** 8 (34.8) Anxiety disorder: **G1:** 11 (12.6) **G1a:** 4 (13.3) **G1b:** 7 (12.3) **G2:** 2 (8.7) Aggressive behavior (post- traumatic): **G1:** 30 (33.7) **G2:** 3 (11.5)	**Depression:** SCID: DSM-III-R criteria HAM-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A Irritability: NR Aggression: Aggressive Overt Aggression Scale (OAS) ≥ 3 and ≥ 4 episodes of aggressive behavior Suicidality: NR Substance use: NR Other psychiatric conditions: NR **Health related QoL or functional status:** FIM	**Depression, SCID, %:** MDD: **G1a:** 56.7 **G1b:** 28.8 Minor depression: **G1a:** 23.3 **G1b:** 27.1 HAM-D score, mean ± SD: **G1a:** 12.2 ± 6.4 **G1b:** 7.6 ± 5.6 **G1a/G1b:** *P* < 0.01 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A score, mean ± SD: **G1a:** 12.8 ± 6.6 **G1b:** 8.4 ± 5.4 **G1a/G1b:** *P* < 0.01 Irritability: NR Aggression, n (%): **G1:** 30/89 (34) Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** **G1:** 62.7 ± 10.1 **G1a:** 63.2 ± 9.7 **G1b:** 62.5 ± 10.4 **G2:** 59.4 ± 10.9

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Tateno et al., 2003		Alcohol abuse: **G1:** 18 (20.7) **G2:** 5 (21.7) Substance abuse: **G1:** 11 (12.6) **G2:** 6 (26.1) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 36.1 ± 15.2 **G2:** 36.4 ± 14.3 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: **G1a:** 20 **G1b:** 22.4 Moderate: **G1a:** 23.3 **G1b:** 20.7 Mild: **G1a:** 56.7 **G1b:** 56.9 GSC score, mean ± SD: **G1a:** 11.7 ± 3.0 **G1b:** 11.7 ± 2.9 **Mechanism/type of injury, %:** MVA: **G1:** 75.3 **G2:** 73.1 **Area of brain injured, %:** Diffuse lesion: **G1a:** 48.3 **G1b:** 40 Left hemisphere: **G1a:** 37.9 **G1b:** 17 Frontal lobe: **G1a:** 41.4 **G1b:** 8 **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Varney et al., 1987 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean yrs (range):** 3.4 (2-8) **Length of follow up**: NA **Dep. Scale/Tool:** DSM-III	**Inclusion criteria:** • History of closed head injury • Period of un-consciousness lasting from a few minutes to eight days • At least two yrs postinjury **Exclusion criteria:** • History of head injury (G2) **TBI Def:** NR	**Group(s):** **G1:** Patients with TBI **G2:** Patients with back injury **N screened:** NR **N eligible:** NR **N included:** **G1:** 120 **G2:** 60 **N at conclusion:** **G1:** 120 **G2:** 60 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** **G1:** NR **G2:** None (see exclusion criteria) **Age:** NR **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** DSM-III criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: DSM-III Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: DSM-III **Health related QoL or functional status:** NR	**Depression, n (%):** MDD: **G1:** 92/120 (76.7) **G2:** 23/60 (38.3) MDD onset, n: Immediately or shortly after TBI: **G1:** 45/92 (48.9) At least six months post TBI: **G1:** 42/92 (45.7) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability, n (%): Patient report: **G1:** 29/92 (31.5) **G2:** NR Relative report: **G1:** 80/92 (87.0) **G2:** NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses, n (%): Bipolar: **G1:** 4/120 (3.3) **G2:** 0 Schizophrenic: **G1:** 1/120 (0.8) **G2:** 0 **Health related QoL or functional status:** NR

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Vasterling et al., 2000 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • Military veterans with exposure to combat as verified by military records • Completion of the SCID, BDI, Mississippi Scale for Combat-related PTSD, CES, and self report measures of depression, PTSD symp-tommatology, and combat exposure **Exclusion criteria:** See inclusion criteria **TBI Def:** HI: Injuries to the head from blunt or penetrating force sufficient to cause intracranial injury	**Group(s):** **G1:** Veterans with HI **G2:** Veterans with no HI **N screened:** 260 **N eligible:** 171 **N included:** **G1:** 87 **G2:** 84 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 48.33 ± 8.97 **Age ≥16, n (%):** 171 (100) **Global injury severity:** NR **Severity of TBI, n:** LOC: 56 Data missing: 5 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria BDI: 0: None, 59: Severe **Other co-morbidities:** PTSD: SCID Mississippi Scale score Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, n (%):** Lifetime:* **G1:** 61 (70.0) **G2:** 61 (72.6) Current: **G1:** 58 (66.7) **G2:** 48 (57.1) BDI score, mean ± SD: **G1:** 31.77 ± 11.40 **G2:** 27.08 ± 12.33 **G1/G2:** $P < 0.05$ **Taking depression medications:** NR **Other co-morbidities:** PTSD, n (%): Lifetime:* **G1:** 78 (89.7) **G2:** 73 (86.9) Current: **G1:** 76 (87.4%) **G2:** 72 (85.7%) Mississippi Scale score (PTSD), mean ± SD: **G1:** 125.98 ± 22.25 **G2:** 120.24 ± 27.44 Other anxiety disorder, n (%): Lifetime:* **G1:** 20 (23.0) **G2:** 18 (21.4) Current: **G1:** 22 (25.3) **G2:** 18 (21.4) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol use disorder, n (%): Lifetime:* **G1:** 55 (63.2) **G2:** 53 (63.1) Current: **G1:** 5 (17.2) **G2:** 2 (14.3)

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Vasterling et al., 2000				Other substance use disorder, n (%): Lifetime:* **G1:** 30 (34.5) **G2:** 38 (45.2) Current: **G1:** 9 (10.3) **G2:** 5 (5.6) Other psychiatric diagnoses: Bipolar mood disorder (Type I or II), n (%): Lifetime:* **G1:** 3 (3.6) **G2:** 2 (2.3) Current: **G1:** 0 (0.0) **G2:** 0 (0.0) Somatization disorder, current, n (%): **G1:** 7 (8.0) **G2:** 3 (3.6) Eating disorder, n (%): Lifetime:* **G1:** 3 (3.4) **G2:** 0 (0.0) Current: **G1:** 3 (3.4) **G2:** 0 (0.0) Adjustment disorder, current, n (%): **G1:** 0 (0.0) **G2:** 2 (2.4) **Health related QoL or functional status:** NR

* Lifetime was not defined anywhere in the article.
Pearson product moment and point-biserial indicated that extensive combat exposure (0.22, $P < 0.01$), self-report PTSD (0.72, $P < 0.001$), Hx of TBI (0.19, $P < 0.05$) associated with severe depression.

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Wade et al., 1998 **Country, Setting:** UK, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • Age 16-65 years • Reside in Oxfordshire • Admitted to hospital with head injury of any severity, with or without other injuries **Exclusion criteria:** • Minor head injuries, not requiring admission **TBI Def:** Head injury defined as "any blow to the head causing a clinical diagnosis of head injury to be made" Mild: PTA < 1 hr Moderate: PTA ≥ 1 hr but < 24 hrs Severe: PTA ≥ 24 hrs but ≤ 7 days Very severe: PTA > 7 days	**Group(s):** **G1:** OXHIS **G2:** Usual care **N screened:** 321 **N eligible:** **G1:** 184 **G2:** 130 **N included:** **G1:** 181 **G2:** 122 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 33.53 ± 13.99 **G2:** 32.45 ± 12.23 **Age ≥16, n (%):** 303 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Very severe: **G1:** 10 (8) **G2:** 7 (9) Severe: **G1:** 21 (18) **G2:** 17 (22) Moderate: **G1:** 39 (33) **G2:** 23 (29) Mild: **G1:** 48 (41) **G2:** 31 (40) Unable to estimate: **G1:** 14 **G2:** 8	**Depression:** HADS: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** RHFUQ 0 1-10 11-20 21-30 31-40	**Depression, n (%):** Feeling depressed: **G1:** 33 (25) **G2:** 29 (34) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: NR Irritability: **G1:** 38 (29) **G2:** 36 (42) Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Some disability at follow up, %: 61 RHFUQ score, mean ± SD: **G1:** 5.36 ± 7.81 **G2:** 8.23 ± 8.75 RHFUQ score, %: 0: **G1:** 44 **G2:** 52 1-10: **G1:** 34 **G2:** 32 11-20: **G1:** 16 **G2:** 20 21-30: **G1:** 4 **G2:** 14 31-40: **G1:** 1 **G2:** 1

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Wade et al., 1998		**Mechanism/type of injury, n (%):** RTA including pedestrian: **G1:** 54 (41) **G2:** 36 (42) Cyclist: **G1:** 13 (10) **G2:** 8 (9) Horse riding: **G1:** 3 (2) **G2:** 4 (5) Domestic accident: **G1:** 9 (7) **G2:** 8 (9) Work accident: **G1:** 10 (8) **G2:** 5 (6) Assault: **G1:** 16 (12) **G2:** 10 (12) Sport: **G1:** 7 (5) **G2:** 4 (5) Other: **G1:** 20 (15) **G2:** 11 (13) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 1. KQ 1 Prevalence of Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Whelan-Goodinson et al., 2008 **Country, Setting:** Australia, tertiary care center **Enrollment Period:** July 2000 to July 2005 **Design:** Cross-sectional **Time from injury, yrs ± SD (range):** 2.98 ± 1.47 (0.5-5.5) **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 17 to 70 years of age at time of injury • Lowest recorded GCS score < 15 • Cognitive capacity for participation as determined by neuropsychologist • Proficient in English • No history of TBI or neurological disorders **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** Patients with TBI **N screened:** 720 **N eligible:** 550 **N included:** 100 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 17 (17) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Anxiety disorder: 13 (13) Substance abuse disorder: 41 (41) **N with prior TBI:** 0 (see inclusion criteria) **Age, yrs ± SD:** 37.18 ± 14.19 **Age ≥16, n (%):** Total: 187 (100) **Global injury severity :** PTA, days: 20.77 Length inpatient stay, days: 41.59 **Severity of TBI:** Lowest pre-intubation GCS score, mean: 9.1 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: AUDIT, DAST Other psychiatric diagnoses: SCID **Health related QoL or functional status:** SPRS	**Depression, n (%):** Major depression: 32 (32) Non-major depression:2 (2) Resolved post-TBI depression: 12 (12) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: 11 (11) Other anxiety disorder: GAD: 14 (14) Irritability: NR Aggression: NR Suicidality: NR Substance use: Current use: 17 (17) Resolved use: 4 (4) Other psychiatric diagnoses: Specific phobia: 7 (7) Panic disorder: 6 (6) Social phobia: 6 (6) OCD: 1 (1) Agorophobia: 1 (1) Resolved anxiety: 2 (2) **Health related QoL or functional status:** SPRS total score, mean (range): 52.91 (15-72)

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Al-Adawi et al., 2007 **Country, Setting:** Oman, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, months± SD:** 18.17 ± 12.17 **Length of follow up:** NA **Dep. Scale/Tool:** HADS, CIDI	**Inclusion criteria:** • A score of 51 or higher on the 17-item Awareness Questionnaire **Exclusion criteria:** • Pre-injury psychiatric or neurological history other than TBI • Non-Omani • Sensory or cognitive impairments that would preclude completion of the protracted assessment **TBI Def:** An injury to brain tissues caused by an external mechanical force as evidenced by LOC, post-traumatic cognitive and behavioral changes or objective neurological finding Mild TBI: GCS score of 13 to 15 Moderate TBI: GCS score of 9 to 12 Severe TBI: GCS score of 3 to 8	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 68 **N at conclusion:** NA **Depression:** Prior to injury: None (see exclusion criteria) At time of injury: None (see exclusion criteria) **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI:** NR **Age, yrs ± SD:*** 31.13 ± 7.56 **Age ≥16, n (%):** 68 (100) **Global injury severity:** NR **Severity of TBI:** Mild or moderate: majority of patients (exact number NR) **Mechanism/type of injury:** NR **Area of brain injured, n (%):** Diffuse: 21 (32.6) Focal: 14 (20.6) Frontal: 25 (36.8) **Concomitant injuries:** NR	**Depression:** HADS: score ≥ 8 indicated propensity for depression/ anxiety CIDI: clinical depression/ anxiety determined by clinical interview **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, HADS, n (%):** 13 (19.1) Depression, CIDI, n (%): 39 (57.4) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Aloia et al., 1995 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** MMPI	**Inclusion criteria:** • Sample of private practice patients based on group criteria **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** HI and depression **G2:** HI and no depression **G3:** No HI and depression **G4:** No HI and no depression **N screened:** NR **N eligible:** NR **N included:** **G1:** 277 **G2:** 471 **G3:** 220 **G4:** 214 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean yrs:** **G1:** 35.2 **G2:** 31.5 **G3:** 38.5 **G4:** 38.3 **Age ≥16:** NR **Global injury severity:** NR Severity of TBI: NR **Mechanism/type of injury:** NR	**Depression:** MMPI: T score of 70 or higher on the depression (D) scale Discriminate Functional analysis (DFA) and cross validation used to determine if characteristics of depression were the same for HI and no HI groups **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, MMPI, n:** 497 (42.0) MMPI depression (D) scale score, mean: **G1:** 84.6 **G2:** 55.9 **G3:** 86.7 **G4:** 56.4 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Aloia et al., 1995		**Area of brain injured:** NR **Concomitant injuries:** NR		

Discriminate Functional analysis (DFA):

-Analysis for depression using entire HI population was successful (85.83%), cross validation with no HI group successful as well (85.64%, $X^2 = 0.00$, $P > 0.10$)

-Analysis for no HI group was successful (92.4%) and cross validation was equally successful (77.41%, $X^2 = 2.43$, $P > 0.10$)

-When MMPI variables removed, DFA not as successful in classifying HI patients as depressed or not depressed, cross validation only successful (48.26%, $X^2 = 13.16$, $P > 0.001$)

-May imply that neuropsychological variables associated with depression are not the same in HI vs. no HI patients

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ashman et al., 2004 See Hibbard et al., 2004 **Country, Setting:** US, tertiary care center **Enrollment Period:** March 1995 to December 2000 **Design:** Prospective cohort **Time from injury:** Initial assess-ment (T1) 3 months to 4 years post injury **Length of follow up (years):** Second (T2) and third (T3) assessments 12 and 24 months after initial assessment **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Self-identified TBI • 3 months to 4 years postinjury • Between age 18 and 87 • Residents of the United States living within the community • Capable of giving informed consent for participation and answering interviews independently **Exclusion criteria:** • The presence of an acquired brain injury (e.g., cerebrovascular accident, aneurysm) • A preexisting neurocognitive disorder • Any preexisting psychotic disorder (e.g., schizophrenia, psychoses NOS, depression with psychotic features) **TBI Def:** According to ACRM criteria	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 188 **N at conclusion:** 83 **Depression, %:** Prior to injury: 20 At time of injury: NR **Other preexisting psychiatric conditions, %:** PTSD: 10 Anxiety disorder: 16 Substance use: 32 Other psychiatric conditions: 5 **N with prior TBI:** NR **Age, yrs ± SD:** 40.4 ± 15.1 **Age ≥16, n (%):** 188 (100) **Global injury severity:** NR **Severity of TBI, %:** Moderate to severe: 62 Mild : 29 LOC of unknown duration: 9 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: SCID Other anxiety disorder: SCID: OCD, GAD, panic, phobias Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID: abuse and dependence Other psychiatric conditions: SCID: any axis I disorder other than above **Health related QoL or functional status:** NR	**Depression, %:** Initial assessment: 35 12 months: 24 24 months: 21 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: Initial assessment: 30 12 months: 18 24 months: 21 Other anxiety disorder: Initial assessment: 27 12 months: 19 24 months: 9 Irritability: NR Aggression: NR Suicidality: NR Substance use: Initial assessment: 14 12 months: 10 24 months: 17 Other psychiatric conditions: Initial assessment: 9 12 months: 5 24 months: 0 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bay et al., 2002^ Bay et al., 2007 See Bay and Donders, 2008 **Country, Setting:** US, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 9.57 ± 6.31 **Length of follow up:** NA **Dep. Scale/Tool:** NFI-D, POMS-D, CES-D	**Inclusion criteria:** • 18 to 65 years old • Mild or moderate brain injury • Hospitalization for the injury • Evaluation by a neuropsychologist with expertise in assessment of brain injury • Within two years of the injury • English-speaking • Not psychotic at the time of neuropsychological evaluation • No preinjury neurological impairment • A relative or significant other (R/SO) who agreed to participate **Exclusion criteria:** • Severe TBI **TBI Def:** Mild TBI: According to ACRM criteria Moderate TBI: LOC exceeding 30 minutes but less than 2 weeks, GCS score of 9-12 or 13-15 with an abnormal CT scan^	**Group(s):** Patients with mild or moderate TBI **N screened:** NR **N eligible:** NR **N included:** 75 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Psychiatric disorders including depression: 15 (20) Suicidal thoughts in the year prior to injury: 6 (8) **N with prior TBI, n (%):** 12 (16) **Age, yrs ± SD:** 37.4 ± 12.10 **Age ≥16, n (%):** 75 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: 50 Moderate: 50 PTA duration, mean days ± SD: 7.65 ± 8.92 **Mechanism/type of injury, n (%):** Car Crash: 54 (71) Fall: 10 (13.3) Pedestrian/car accident: 9 (12) Sports Injury/ Violence: 3 (3.7)	**Depression:** NFI-D: 13-28: Minimally depressed 29-42: Borderline depressed 43-65: Clinically depressed POMS-D: NR CES-D: 16-20: Mild depression 21-26: Moderate 27-60: Severe **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, NFI-D, n (%):** Clinical: 11 (14.7) Borderline: 30 (40) Minimal: 34 (45.3) NFI-D score, mean ± SD (range): 30.69 ± 10.66 (13-54) POMS-D score, mean ± SD (range): 15.02 ± 14.07 (0-59) Depression, CES-D, n: Probable MDD: 22 (29.4) Moderate: 16 (21.3) Mild: 10 (13.3) Not in depression range: 27 (36)^ CES-D > 30.5: 12 (20)^ CES-D score, mean ± SD (range): 20.45 ± 13.24 (0-57) **Taking depression medications (%):** 40 **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bay et al., 2007		**Area of brain injured, n (%):** Abnormal head CT results: 26 (48)^ **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bay and Donders, 2008 See Bay et al. 2002 & Bay et al. 2007 **Country, Setting:** US, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 15.06 ± 11.29 (1-36) **Length of follow up:** NA **Dep. Scale/Tool:** NFI-D	**Inclusion criteria:** • 1 to 36 mos postinjury • Must have been hospitalized (ED or in-patient for the injury) • Must be English speaking and competent to sign informed consent as determined by the admitting neuropsychologist **Exclusion criteria:** • History of neurological conditions known to affect cognition, such as Parkinson's or Alzheimer's disease • Severe TBI according to admitting ED (GCS ≥9) **TBI Def:** NR*	**Group(s):** **G1:** Borderline or clinically depressed patients with TBI **G2:** Not or minimally depressed patients with TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 49 **G2:** 35 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** "Prior psychiatric history": 26 (31.0) Prior history of substance abuse, n (%): 14 (16.7) **N with prior TBI:** NR **Age, yrs ± SD:** 38.02 ± 11.29 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS, n (%):** 13-15: 65 (77.4) 9-12: 19 (22.6) **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** NFI-D: 13-28: Minimally depressed 29-42: Borderline depressed 43-65: Clinically depressed **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** PSS IES-R MPQ-SF MFIS: 0: None 1: Mild 2: Moderate 3: Severe Reaction time: index of information processing speed	**Depression, n (%):** Total: 49 (58) NFI-D score, mean ± SD: **G1:** 39.59 ± 6.13 **G2:** 20.69 ± 4.36 Total: 31.71 (10.8) NFI-D score, median (range): Total: 32 (13-56) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** PSS score, mean ± SD: **G1:** 27.37 ± 5.50 **G2:** 19.66 ± 4.32 IES-R score, mean ± SD: **G1:** 22.74 ± 8.82 **G2:** 12.14 ± 8.51 MPQ-SF score, mean ± SD: **G1:** 1.53 ± 1.02 **G2:** 0.63 ± 0.88 MFIS score, mean ± SD: **G1:** 53.04 ± 16.54 **G2:** 28.34 ± 14.75

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bay and Donders, 2008		**Concomitant injuries:** NR		Reaction time, mean ± SD: **G1:** 0.82 ± 0.21 **G2:** 0.72 ± 0.14

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bombardier et al., 2006 **Country, Setting:** US, trauma center **Enrollment Period:** May 2001 to January 2003 **Design:** Prospective cohort **Time from injury:** Up to 6 months **Length of follow up:** 6 months **Dep. Scale/Tool:** PHQ-9	**Inclusion criteria:** • At least 18 yrs old • Residing in King, Pierce, Kitsap, or Snohomish counties (WA) • English speaking **Exclusion criteria:** • Uncomplicated MTBI • homelessness, incarceration, a history of schizophrenia, or participation in an investigational drug study **TBI Def:** Radiological evidence of acute brain abnormality or lowest GCS score less than or equal to 12 within the first 24 hours since admission. Complicated mild TBI: GCS > 12 and abnormal CT Uncomplicated MTBI: GCS 13-15 and no CT abnormality Moderate TBI: GCS 9-12 Severe TBI: GCS ≤ 8	**Group(s):** Patients with TBI **G1:** Patients with TBI and PTSD **G2:** Patients with TBI and no PTSD **N screened:** NR **N eligible:** 211 **N included:** 141 **N at conclusion:** **G1:** 14 **G2:** 110 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** History of anxiety or depression: 68 (54.8) **N with prior TBI:** NR **Age, yrs ± SD:** 43 ± 18.6 **Age ≥16, %:** 100 **Global injury severity:** NR **Severity of TBI, %:** Comp. Mild: 44 Moderate: 30 Severe: 27 **Mechanism/type of injury, %:** MVC: 49 Falls: 32 Assault: 7 Other: 12 **Area of brain injured:** NR	**Depression:** PHQ-9: NR **Other co-morbidities:** PTSD: PCL-C Criteria F Other anxiety disorder: PHQ Self-history Irritability: NR Aggression: NR Suicidality: NR Substance use: Positive for Toxicology screening test for amphetamines/ Cocaine Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognistat GHS of SF-36	**Depression, PHQ-9, n (%):** MDD: 27 (21.8)^ MDD, %: **G1:** 71.4 **G2:** 15.5 *P* < 0.001 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: 14 (11.3) PTSD + criteria F: 10 (8*) PTSD + all criteria (A2,B,C,D,F,PCL-C): 7/125 (5.6*) Other anxiety disorder: PHQ, %: **G1:** 21.4 **G2:** 4.5 *P* < 0.046 Other anxiety disorders, %: **G1:** 71.4 **G2:** 18.2 *P* < 0.001 Irritability: NR Aggression: NR Suicidality: NR Substance use: Positive toxicology test for amphetamine/ Cocaine, n (%): **G1:** 4 (3.2) **G2:** 8 (7.3) Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bombardier et al., 2006		**Concomitant injuries:** NR		**Health related QoL or functional status:** Difficult to function, OR (95% CI): **G1/G2:** 1.28 (1.02-1.61) Fair/Poor health, OR (95% CI): **G1/G2:** 1.34 (0.91-1.81)

^Statistic calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Brooks et al., 1987 **Country, Setting:** UK, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean yrs (range):** 3.4 (2-8) **Length of follow up:** NA **Dep. Scale/Tool:** Questionnaire by structured interview of patients and relatives	**Inclusion criteria:** • Coma duration of at least 6 hrs • Intracranial hematoma requiring surgery • PTA of at least two days **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Patients with severe closed- head injury **N screened:** NR **N eligible:** NR **N included:** 134 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, time of assessment, n (%):** 15-25: 34 (25.4) 26-35: 25 (18.7) 36-45: 23 (17.2) 46-55: 23 (17.2) 56-65: 21 (15.7) 65-70: 7 (5.2) Missing: 1 (0.7) **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, PTA, n (%):** 2-14 days: 34 (25.4) 15-28 days: 31 (23.1) 1-2 months: 32 (23.9) 3-6 months 23 (17.2) >6 months: 3 (2.2) Missing: 11 (8.2) **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** Internally developed structured questionnaires administered to patient and to close family member, querying depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: Internally developed structured questionnaire administered to patient and to close family member, querying tension/anxiety/ worry Irritability: See Aggression Aggression: Internally developed structured questionnaire administered to patient and to close family member, querying anger/ irritation/ impatience Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR	**Depression, %:** Patient report: 49 Relative report: 63 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Patient report: 35 Relative report: 65 Irritability: See Aggression Aggression: Patient report: 62 Relative report: 74 Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, reported by relative, %:** Worrying that patient could not be left in charge of the household: 47 Patient still needed "looking after": 36 Relative worried about patient going out alone: 24 Washing difficulty: 20 Problems with personal hygiene: 27 Burden category low, PTA, n: 0-7 days: 2 8-14 days: 3 15-28 days: 4 29-60 days: 2 >60 days: 3

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Brooks et al., 1987		**Concomitant injuries:** NR	**Health related QoL or functional status:** Internally developed structured questionnaires administered to patient and to close family member, querying difficulties in dependence and burden on the relative (not analyzed by depression status)	Burden category medium, PTA, n: 0-7 days: 9 8-14 days: 8 15-28 days: 9 29-60 days: 10 >60 days: 5 Burden category high, PTA, n: 0-7 days: 4 8-14 days: 5 15-28 days: 17 29-60 days: 16 >60 days: 16

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Brown et al., 2004 **Country, Setting:** US, trauma center **Enrollment Period:** August 1999 to March 2001 **Design:** Cross-sectional **Time from injury, wks ± SD:** 12 ± 2 **Length of follow up:** NA **Dep. Scale/Tool:** SCID, CES-D, VAS-D	**Inclusion criteria:** • Age 16 or older • Residence within Harris County, TX **Exclusion criteria:** • Penetrating missile injury of the brain • History of diagnosed schizophrenia • Mental deficiency • Hospitalization for prior TBI • History of treatment for recent substance abuse • Blood alcohol level > 200 mg/dL when examined in ER **TBI Def:** Mild TBI: A closed head injury producing a LOC ≤ 20 min, lowest postresuscitation GCS of 13 to 15, no extracranial injury that necessitated surgical repair under general anesthesia, and CT findings after 24 hours indicating normal intracranial findings or a brain lesion that did not require surgical evacuation Moderate TBI: Lowest post-resuscitation GCS of 9 to12 with or without evidence of lesion on CT	**Group(s):** **G1:** Patients with TBI **G2:** Patients with general trauma (GT) **Ga:** European American patients **Gb:** Hispanic American patients **Gc:** African American patients **N screened:** **G1:** 399 **G2:** 255 **N eligible:** **G1:** 399 **G2:** 255 **N included:** **G1:** 135 **G1a:** 28 **G1b:** 63 **G1c:** 44 **G2:** 83 **G2a:** 17 **G2b:** 46 **G2c:** 20 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 33.94 ± 14.52 **G2:** 34.85 ± 12.73 **Age ≥16, n (%):** 218 (100)	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** SF-36 (PCS/ MCS) CIQ SSQ	**Depression, SCID, %:** MDE: **G1:** 16 **G1a:** 11 **G2b:** 17 **G1c:** 18 CES-D score, mean ± SD: **G1:** 21.75 ± 14.76* **G1a:** 17.89 ± 15.98 **G1b:** 21.26 ± 14.28 **G1c:** 24.91 ± 13.93 **G2:** 18.79 ± 14.55* **G2a:** 17.53 ± 13.93 **G2b:** 18.89 ± 14.88 **G2c:** 19.65 ± 14.24 VAS-D score, mean ± SD: **G1:** 39.45 ± 34.84 **G1a:** 32.41 ± 35.74 **G1b:** 37.02 ± 32.79 **G1c:** 47.25 ± 36.48 **G2:** 26.66 ± 31.68 **G2a:** 21.18 ± 28.05 **G2b:** 30.09 ± 33.25 **G2c:** 23.45 ± 31.35 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Brown et al., 2004		**Global injury severity, ISS score, mean ± SD:** Total: 4.05 ± 5.38 **G1:** 4.28 ± 5.90 **G2:** 3.67 ± 4.40 **Severity of TBI, GCS score, mean ± SD:** **G1**: 14.47 ± 1.38 **G2:** 15.00 ± 0.00 **Mechanism/type of injury, n:** MVC: **G1:** 100 **G2:** 51 Assault: **G1:** 22 **G2:** 10 Fall: **G1:** 10 **G2:** 17 Other: **G1:** 3 **G2:** 5 **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** PCS score, mean ± SD: **G1:** 44.98 ± 9.79 **G1a:** 46.01 ± 10.35 **G1b:** 46.64 ± 8.69 **G1c:** 41.93 ± 10.41 **G2:** 42.21 ± 11.47 MCS score, mean ± SD: **G1:** 41.45 ± 13.29 **G2:** 44.74 ± 13.69 CIQ score, mean ± SD: **G1:** 15.93 ± 4.40* **G1a:** 16.36 ± 4.51 **G1b:** 16.52 ± 4.59 **G1c:** 14.82 ± 3.80 **G2:** 16.80 ± 4.32* **G2a:** 18.36 ± 5.08 **G2b:** 16.58 ± 3.96 **G2c:** 16.0 ± 4.07

*Statistic calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bryant et al., 2001 **Country, Setting:** Australia, rehabilitation center **Enrollment Period:** July 1994 to July 1997 **Design:** Cross-sectional **Time from injury, mos ± SD:** 6.27 ± 1.27 **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • Admission to major brain injury rehabilitation center after severe TBI **Exclusion criteria:** • Insufficient cognitive ability to understand or respond to the interview • Inability to speak English without an interpreter **TBI Def:** NR	**Group(s):** **G1:** Patients with TBI and PTSD **G2:** Patients with TBI and no PTSD **N screened:** 161 **N eligible:** 96 **N included:** **G1:** 26 **G2:** 70 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 34.26 ± 12.82 **Age ≥16, n (%):** 96 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, GCS score, mean ± SD:** Total: 8.00 ± 3.78 **G1:** 6.92 ± 3.52 **G2:** 8.43 ± 3.81 **Mechanism/type of injury, n:** MVC: 70 Assault: 12 Work: 14 **Area of brain injured:** NR	**Depression:** BDI: > 30: Severe 25-29: Moderate 19-24: Mild 11-18: Minimal < 10: None **Other co-morbidities:** PTSD: PTSD-I Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: OAS, GHQ **Health related QoL or functional status:** FAM CIQ SWLS	**Depression, %:** Severe: 8 Moderate:11 Mild: 0 Minimal: 27 BDI score, mean ± SD: **G1:** 23.04 ± 13.87 **G2:** 9.87 ± 9.77 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD, n (%): 26 (27) Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: OAS total score, mean ± SD: **G1:** 4.46 ± 3.82 **G2:** 2.53 ± 3.02 **G1/G2:** *P* = 0.01 GHQ score, mean ± SD: **G1:** 7.60 ± 3.41 **G2:** 3.48 ± 3.81 **Health related QoL or functional status:** FAM score, mean ± SD: **G1:** 198.77 ± 8.24 **G2:** 203.13 ± 6.76 **G1/G2:** *P* = 0.01

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bryant et al., 2001		**Concomitant injuries:** NR		CIQ score, mean ± SD: Productivity: **G1:** 1.85 ± 1.90 **G2:** 3.00 ± 1.36 **G1/G2:** *P* = 0.001 Home: **G1:** 3.42 ± 2.69 **G2:** 3.59 ± 2.28 **G1/G2:** *P* = NS Social: **G1:** 6.46 ± 2.12 **G2:** 7.33 ± 2.01 **G1/G2:** *P* = NS SWLS score, mean ± SD: **G1:** 12.88 ± 5.48 **G2:** 19.07 ± 8.92 **G1/G2:** *P* = 0.001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Chamelian and Feinstein, 2006 See Chamelian et al., 2004 **Country, Setting:** Canada, tertiary care hospital **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 60 yrs old • Mild to moderate TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS score of 13 to 15, LOC < 20 minutes and PTA < 24 hours Moderate TBI: GCS score of 9 to 12, PTA > 24 hours but less than 1 week	**Group(s):** **G1:** Participants with subjective cognitive complaints **G2:** Participants without subjective cognitive complaints **N screened:** NR **N eligible:** NR **N included:** **G1:** 34 **G2:** 29 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** **G1:** 17 (20.6) **G2:** 3 (10.3) **N with prior TBI (%):** **G1**: 7 (20.6) **G2**: 5 (17.2) **Age, yrs ± SD:** **G1:** 34.9 ± 12.8 **G2:** 31.3 ± 10.2 **Age ≥16, n (%):** 63 (100) **Global injury severity:** NR **Severity of TBI, GCS score, mean ± SD:** **G1:** 14.6 ± 0.65 **G2:** 13.7 ± 1.6 PTA, n (%): < 24 hours: **G1:** 27 (79.4) **G2:** 22 (75.9)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: CAGE Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, n (%):** **G1:** 5 (18.5) **G2:** 0 **Taking depression medications, %:*** Psychotropics and/or analgesics: **G1:** 61.8 **G2:** 37.9 **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: Problem drinking: **G1:** 32.3 **G2:** 51.7 Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Chamelian and Feinstein, 2006		> 24 hrs to < 1 week: **G1:** 7 (20.6) **G2:** 7 (24.1) **Mechanism/type of injury:** MVA: **G1:** 76.5 **G2:** 55.2 **Area of brain injured:** NR **Concomitant injuries:** NR		

* Not solely antidepressants

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Chamelian et al., 2004 See Chamelian and Feinstein, 2006 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 60 yrs old • Non-penetrating mild or moderate TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS score of 13 to 15; LOC < 20 min; PTA < 24 hrs Moderate TBI: GCS score of 9 to 12; PTA > 24 hrs but less than 1 week	**Group(s):** **G1:** Participants with TBI and positive for the APOE-ε4 allele **G2:** Participants with TBI and negative for the APOE-ε4 allele **N screened:** NR **N eligible:** NR **N included:** **G1:** 19 **G2:** 71 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** **G1:** 4 (21.1) **G2:** 12 (17.0) **N with prior TBI (%):** **G1:** 6 (31.6) **G2:** 16 (22.5)* **Age, yrs ± SD:** **G1:** 31.2 ± 13.3 **G2:** 34.1 ± 12.3 **Age ≥16, n (%):** 90 (100) Global injury severity, AISS, mean **± SD:** **G1:** 12.6 ± 9.5 **G2:** 13.5 ± 10.3 **Severity of TBI GCS, %:** 13-15: **G1:** 88.2 **G2:** 91 9-12: **G1:** 11.8 **G2:** 9	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS RHFUQ RPQ GHQ Resumption of work or studies	**Depression, n (%):** **G1:** 11 (18.2) **G2:** 51 (11.8) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ anxiety score, mean ± SD: **G1:** 2.2 ± 2.6 **G2:** 3.0 ± 2.7 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS score, 6 months, mean ± SD: **G1:** 4.3 ± 0.5 **G2:** 4.3 ± 0.6 RHFUQ score, 6 months, mean ± SD: **G1:** 17.9 ± 14.0 **G2:** 18.7 ± 13.7 RPQ score, 6 months ± SD: **G1:** 19.6 ± 18.2 **G2:** 24.6 ± 18.1 GHQ total score, 6 months, mean ± SD: **G1:** 7 ± 9.0 **G2:** 9.6 ± 8.6 Resumption of work or studies, n (%): **G1:** 6*/13 (46.2) **G2:** 25*/41 (61)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Chamelian et al., 2004		LOC < 20 minutes, %: **G1:** 83.3 **G2:** 93.8 PTA, %: < 24 hours: **G1:** 47.4 **G2:** 59.2 1- 7 days: **G1:** 52.6 **G2:** 40.8 **Mechanism/type of injury, %:** MVA: **G1:** 73.7 **G2:** 63.4 **Area of brain injured, %:** CT scan abnormalities: **G1:** 61.1 **G2:** 36.5 **Concomitant injuries:** NR		

*Statistic calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Chiu et al., 2006 **Country, Setting:** Taiwan, tertiary care hospitals **Enrollment Period:** January 2002 to June 2002 **Design:** Cross-sectional **Time from injury, yrs ± SD:** 1.0 ± 0.7 **Length of follow up:** NA **Dep. Scale/Tool:** CES-D	**Inclusion criteria:** • Admission to one of 22 hospitals with diagnosis of TBI based on the ICD criteria **Exclusion criteria:** • Patient transferred from other hospital **TBI Def:** Newly diagnosed TBI were identified by the presence among the discharge diagnoses of any of the following ICD-9 codes: 800-801.9, 803-804.9, and 850-854.9 Mild TBI: GCS score of 14 to 15 Moderate TBI: GCS score of 9 to 13 Severe TBI: GCS score of 3 to 8	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** 675 **N included:** 199 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 45.4 ± 20.3 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: 7.5 Moderate: 22.6 Mild: 66.9 AIS-H score, %: 1-2: 52 3-4: 35.7 5: 12.2 **Mechanism/type of injury, %:** MVC: 58.1 Falls: 26.3 Violence: 7.1 Others: 8.6 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** CES-D > 16 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: Severe, Moderate, Good Cognition TICS: < 38: Impaired Functional Independence: Barthel Index (BI) 0-60: Severe dependence: 61-90: Moderate dependence 91-100: Mild/no dependence	**Depression, %:** 23.9 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS, %: Severe: 5.4 Moderate: 9.7 Good: 84.9 TICS, improvement, %: 25.6 Functional independence, %: Moderate/severe independence: 40.6 Mild/no independence: 59.5

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Curran et al., 2000 See Parcell et al., 2006; Perlesz et al., 2000 **Country, Setting:** Australia, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 1 to 5 years **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • Received inpatient rehabilitation **Exclusion criteria:** See inclusion criteria **TBI Def:** Severe concussion: Recovery of consciousness delayed; PTA 1-7 days*	**Group(s):** **G1:** Patients with TBI **G2:** Patients with orthopedic injuries **Ga:** Male patients **Gb:** Female patients **N screened:** NR **N eligible:** NR **N included:** **G1:** 88 **G1a:** 61 **G1b:** 27 **G2:** 40 **G2a:** 22 **G2b:** 18 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, time of injury, yrs ± SD:** **G1:** 33.7 ± 15.6 **G2:** 44 ± 18 **Age ≥16, n (%):** **G1:** NR **G2:** 40 (100) **Global injury severity, days in inpatient and outpatient rehabilitation, mean ± SD:** **G1:** 199 ± 181 **G2:** 112 ± 112	**Depression:** BDI: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: STAI Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Coping Scale for Adults (CSA) Craig Handicap Assessment and Reporting Technique (CHART): 0: maximum degree of handicap 100: no handicap Rosenberg's Self-Esteem Scale: 0-2: High 3-4: Medium 5-6: Low	**Depression, %:** Extremely severe: **G1:** 14 **G2:** 5 Severe: **G1:** 18 **G2:** 18 Mild to moderate: **G1:** 25 **G2:** 33 **BDI score, mean ± SD:** **G1:** 14.35 ± 11.34 **G2:** 12.31 ± 9.05 **G1/G2:** *P* = 0.33 **G1a:** 13.95 ± 11.11 **G1b:** 15.26 ± 12.04 **G1a/G1b:** *P* = 0.62 **G2a:** 13.80 ± 9.51 **G2b:** 10.55 ± 9.46 **G2a/G2b:** *P* = 0.29 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: STAI-state score, mean ± SD: **G1:** 41.89 ± 16.20 **G2:** 39.76 ± 14.34 **G1a:** 41.26 ± 14.91 **G1b:** 43.38 ± 19.19 **G1a/G1b:** *P* = 0.58 **G2a:** 44.52 ± 13.52 **G2b:** 33.50 ± 13.31 **G2a/G2b:** *P* = 0.02 STAI-trait score, mean ± SD: **G1:** 44.45 ± 15.14 **G2:** 42.32 ± 15.04 **G1a:** 43.74 ± 14.60 **G1b:** 46.11 ± 16.56 **G1a/G1b:** *P* = 0.51 **G2a:** 46.47 ± 14.80 **G2b:** 36.87 ± 13.95 **G2a/G2b:** *P* = 0.06 Irritability: NR Aggression: NR Suicidality: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Curran et al., 2000		**Severity of TBI, PTA, %:** PTA: 1-7 days: 19 8-28 days: 28 > 28 days: 53 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CSA score, mean ± SD: Dealing with problems: **G1:** 424.94 ± 90.29 **G2:** 402.97 ± 111.09 **G1/G2:** *P* = 0.25 Nonproductive coping: **G1:** 367.45 ± 105.34 **G2:** 360.42 ± 124.66 **G1/G2:** *P* = 0.74 Optimism: **G1:** 231.86 ± 51.26 **G2:** 230.80 ± 53.64 **G1/G2:** *P* = 0.92 Sharing: **G1:** 132.44 ± 30.19 **G2:** 126.75 ± 39.38 **G1/G2:** *P* = 0.37 CHART score, mean ± SD: Physical independence: **G1:** 95.59 ± 12.43 **G2:** 91.85 ± 85.40 Mobility: **G1:** 92.51 ± 13.10 **G2:** 88.92 ± 15.87 Cognition: **G1:** 77.35 ± 23.82 **G2:** 86.90 ± 16.65 Occupation: **G1:** 74.46 ± 29.72 **G2:** 75.17 ± 33.85 Social integration: **G1:** 81.26 ± 23.88 **G2:** 84.05 ± 23.77

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Curran et al., 2000				Rosenberg's self-esteem scale, mean ± SD: **G1:** 2.39 ± 2.10 **G2:** 2.33 ± 1.98 Low self-esteem score, %: **G1:** 18 **G2:** 24

*Russell WRS. Post traumatic amnesia in closed head injury. *Arch Neurol.* 1961; 5:4–17

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Deb et al., 1999 Deb et al., 1999^ See Deb and Burns, 2007 **Country, Setting:** UK, tertiary care center **Enrollment Period:** July 1994 to June 1995 **Design:** Cross-sectional **Time from injury:** 1 year **Length of follow up:** NA **Dep. Scale/Tool:** SCAN, behavioral checklist	**Inclusion criteria:** • At least 17 yrs old • A period of unconsciousness • Evidence of fracture on skull X-rays • Contusion or hemorrhage in CT/magnetic resonance imaging scans • Focal neurological signs • A GCS score of less than 15 **Exclusion criteria:** See inclusion criteria **TBI Def:** Based on ICD-9 codes. Mild TBI: GCS of 13-15 Moderate TBI: GCS of 9-12 Severe TBI: GCS < 9	**Group(s):** Patients with HI **N screened:** 346 **N eligible:** 196 **N included:** 164 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n:^** History of psychiatric illness: 28 **N with prior TBI:^** 42 **Age, median yrs (range):** 43.5 (18-94) **Age ≥16, n (%):** 196 (100) **Global injury severity:** NR **Severity of TBI, n:** Mild: 134 Moderate/severe: 30 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCAN: NR Depressed mood: based on checklist of neurobehavioral symptoms, scored from 1 (most severe) to 6 (least severe); score of 1 to 4 indicates the presence of the symptom **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCAN Irritability: SCAN Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: SCAN **Health related QoL or functional status:** Not reported by depression status Edinburgh Rehab Status Scale (based upon GOS)	**Depression, n (%):** Severe/moderate: 15 (9) Moderate/mild: 17 (10.4) Depressive episode, n (%):^ 21 (12.8) Depressed mood, n (%): Mild TBI: 22 (16.3) Moderate/Severe TBI: 10 (33.3) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety Disorder: GAD:^ 3 (2.5) Irritability: Mild/Moderate: 35 (21.3) Severe/Moderate: 23 (14) Aggression: NR Suicidality: NR Substance use:^ Alcohol: 6 (4.9) Other psychiatric diagnoses: Panic disorder associated with depressive episode: 5 (NR) Psychiatric cases (CIS-R and PSQ): 28 (17) **Health related QoL or functional status, n (%):** ERSS: Severe Disability: 60 (36.6)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Deb and Burns, 2007 See Deb et al., 1999 & Deb et al., 1999 **Country, Setting:** UK, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 12 months **Length of follow up:** NA **Dep. Scale/Tool:** SCAN, behavioral checklist	**Inclusion criteria:** • A period of unconsciousness • Evidence of fracture on skull X-rays • Contusion or hemorrhage in CT or MRI brain scans • Focal neurological signs • A GCS score of less than 15 **Exclusion criteria:** See inclusion criteria **TBI Def:** According to ICD-9 codes	**Group(s):** **G1:**Patients with TBI aged 18 to 65 **G2:** Patients with TBI aged 65 and older **N screened:** NR **N eligible:** NR **N included:** **G1:** 120 **G1:** 45 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean:** **G1:** 35.5 **G2:** 79.2 **Age ≥16, n (%):** 165 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Minor: **G1:** 97 (81) **G2:** 38 (85) Moderate: **G1:** 16 (13) **G2:** 6 (13) Severe: **G1:** 7 (6) **G2:** 1 (2) **Mechanism/type of injury:** NR	**Depression:** Reported as part of SCAN results; patients with ICD-10 code for depressive disorder Checklist of neurobehavioral symptoms, scored from 1 (most severe) to 6 (least severe); score of 1 to 4 indicates the presence of the symptom **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: Checklist of neurobehavioral symptoms Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: CIS-R, SCAN Checklist of neurobehavioral symptoms (listed in next column) **Health related QoL or functional status:** GOS ERSS GHQ-28: score of 11 or more is significant	**Depression, SCAN, n (%):** **G1:** 19 (16)* **G2:** 5 (11)* Depressed mood, checklist of neurobehavioral symptoms, n (%): **G1:** 27 (23) **G2:** 5 (11) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: NR Irritability: **G1:** 44 (37) **G2:** 14 (31) Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses, n (%): Mood swings: **G1:** 36 (30) **G2:** 10 (22) Sleep problems: **G1:** 44 (37) **G2:** 18(18) Slowness in thinking: **G1:** 15 (12) **G2:** 15 (33) Safety hazard: **G1:** 7 (6) **G2:** 8 (18) Fatigue: **G1:** 33 (27) **G2:** 6 (13) Poor memory: **G1:** 34 (28) **G2:** 18 (40)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Deb and Burns, 2007		**Area of brain injured:** NR **Concomitant injuries:** NR		Difficulty in planning: **G1:** 12 (10) **G2:** 8 (18) Lack of initiative: **G1:** 16 (13) **G2:** 9(20) Impatience: **G1:** 37 (31) **G2:** 13 (29) Socially disinhibited behavior: **G1:** 3 (2) **G2:** 2 (4) Dependence: **G1:** 8 (7) **G2:** 17 (38) Socialization problem: **G1:** 31 (26) **G2:** 13 (29) Eating problem: **G1:** 8 (7) **G2:** 1 (2) Verbal outbursts: **G1:** 16 (13) **G2:** 9 (20) Lack of insight: **G1:** 5 (4) **G2:** 6 (13) **Health related QoL or functional status:** GOS, n (%): Mild: **G1:** 80 (67) **G2:** 25 (55) Moderate: **G1:** 30 (25) **G2:** 16 (36) Severe: **G1:** 10 (8) **G2:** 4 (9) ERSS, abnormal, n (%): **G1:** 31 (31) **G2:** 24 (53) **G1/G2:** $P < 0.01$

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Deb and Burns, 2007				GHQ-28, %: **G1:** 45 **G2:** 21 **G1/G2:** *P* < 0.01

* N calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Dunlop et al., 1991 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** At least 2 months **Dep. Scale/Tool:** Modified version of the NRS	**Inclusion criteria:** • Evidence of deterioration (G1) or improvement (G2) of emotional or cognitive function between the time interval from 2 to 6 months postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** **G1:** Patients with emotional or cognitive deterioration (an increase of 2 or more points in the total NRS score) **G2:** Patients with emotional improvement (a decrease of 2 or more points in the total NRS score) **N screened:** NR **N eligible:** 193 **N included:** **G1:** 34 **G2:** 34 **N at conclusion:** **G1:** 34 **G2:** 34 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** **G1:** 18 **G2:** 21 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 34.6 ± 10.9 **G2:** 34.6 ± 9.8 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS score, mean ± SD:** **G1:** 9.2 ± 4.0 **G2:** 9.2 ± 3.7	**Depression:** 10 item neurologic rating scale and 15 item neuropsychiatric rating scale, with scores ranging from 1-5: 5: Severe 1: No impairment **Other co-morbidities:** PTSD: NR Other anxiety disorder: Neuropsychiatric rating scale Irritability: NR Aggression: Neuropsychiatric rating scale Suicidality: NR Substance use: Positive Prior History of alcohol abuse Other psychiatric diagnoses: Past history **Health related QoL or functional status:** NR	**Depression, %:** Moderate to severe symptoms at 2-6 mos: **G1:** 57 **G2:** 44 Showing deterioration after 6 mos: **G1:** 28 **G2:** 0 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Anxiety: Moderate to severe symptoms at 2-6 mos: **G1:** 33 **G2:** 47 Showing deterioration after 6 mos: **G1:** 26 **G2:** 0 Irritability: NR Aggression: Agitation/hostility: Moderate to severe symptoms at 2-6 mos: **G1:** 3 **G2:** 44 Showing deterioration after 6 mos: **G1:** 41 **G2:** 6 Suicidality: NR Substance use: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Dunlop et al., 1991		**Mechanism of injury, %:** MVA: **G1:** 22 **G2:** 52 MCA: **G1:** 22 **G2:** 9 Fall: **G1:** 9 **G2:** 21 Assault: **G1:** 31 **G2:** 9 Other: **G1:** 12 **G2:** 9 Type of injury, %: Contusion/ concussion: **G1:** 97 **G2:** 94 Skull fracture: **G1:** 74 **G2:** 44 Epidural/subdural bleeding: **G1:** 44 **G2:** 29 Intracerebral bleeding: **G1:** 24 **G2:** 18 **Area of brain injured, CT scan, %:** Parenchymal lesion: **G1:** 56 **G2:** 55 Non-parenchymal abnormality: **G1:** 44 **G2:** 33 Left Parietal lesion: **G1:** 38 **G2:** 12 **Concomitant injuries:** NR		Other psychiatric diagnoses: Hallucinations/ delusions: Moderate to severe symptoms at 2-6 mos: **G1:** 0 **G2:** 7 Showing deterioration after 6 mos: **G1:** 3 **G2:** 0 **Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Evans et al., 2005 **Country, Setting:** US, rehabilitation center **Enrollment Period:** December 1998 to March 2002 **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** CES-D	**Inclusion criteria:** • Participation in the TBIMS research program funded by the National Institute for Disability and Rehabilitation Research • Inclusion criteria for the TBIMS program are medically documented TBI, admission to an affiliated trauma center within 24 hours of injury, admission to the system inpatient BI program within 72 hours of discharge from the trauma center, aged 16 years or older, and provision of informed consent by the participant or legal proxy as appropriate • Resolution of PTA prior to discharge from inpatient rehabilitation (to respond meaningfully to questionnaires) • Adequate language ability to respond to questionnaires **Exclusion criteria:** See inclusion criteria	**Group(s):** Participants with TBI **N screened:** NR **N eligible:** NR **N included:** 96 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, median (IQR):** 32 (22, 44) **Age ≥16, n (%):** 96 (100) **Global injury severity, DRS, admission, mean (IQR):** 11 (8,15) **Severity of TBI, n (%):** Severe: 55 (57) Moderate: 18 (19) Mild: 23 (24) **Mechanism/type of injury, %:** Whites (n=69): MVC: 79 Assault: 6.6 African-American (n=27): MVC: 58 Assault: 27 **Area of brain injured:** NR	**Depression:** CES-D: 16-20: Mild 21-26: Moderate ≥ 27: Severe **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Satisfaction With Life Scale (SWLS) ranges from 5 to 35 Disability Rating Scale (DRS) ranges from 0-30 Awareness Questionnaire (AQ) scale ranges from 17-85	**Depression, %:** Severe: 25 Moderate: 12 Mild: 17 CES-D score, median (IQR): 17 (9,27) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** AQ score, median (IQR): Clinician: Total: 32 (27,37) Cognitive: 12 (9,12) Behavioral: 11 (9,13) Motor: 9 (8,10) Patient: Total: 47 (40,53) Cognitive: 19 (16,22) Behavioral: 17 (15,20) Motor: 11 (9,12) Family: Total: 37 (31,44) Cognitive: 15 (12,17) Behavioral: 14 (11,16) Motor: 10 (8,10) SWLS score, median (IQR): 22 (15,29)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Evans et al., 2005	**TBI Def:** Mild: GCS score of 13 to 15 Moderate: GCS score of 9 to 12 Severe: GCS score of 3 to 8	**Concomitant injuries:** NR		SWLS, correlation coefficient: DRS, admission: 0.31 ($P < 0.01$) CES-D: 0.24 ($P < 0.05$) AQ, clinician: 0.34 ($P < 0.01$) AQ, patient: 0.39 ($P < 0.01$) AQ, family: 0.16 (P = NS)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Fann et al., 1995 **Country, Setting:** US, TBI rehabilitation center **Enrollment Period:** September 1992 to December 1993 **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 32.5 ± 35.1 (1-128) **Length of follow up:** NA **Dep. Scale/Tool:** DIS Version III-A	**Inclusion criteria:** • Mild or moderate/ severe TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Based on ACRM criteria for mild and moderate/ severe TBI Mild: 1) LOC <30 mins 2) PTA <24 hrs 3) Focal neurologic deficits when severity does not differ from the following – LOC<30 mins, GCS 13-15 after 30 mins, PTA <24 hrs Moderate/severe: 1) GCS <13 2) LOC >30 mins 3) PTA >24 hrs Head Injury Symptom Checklist includes subscale for patient self perceptions of injury	**Group(s):** **G1:** Current major depression **G2:** Current generalized anxiety disorder **G3:** Current non-depressed, non-anxious **N screened:** NR **N eligible:** 50 **N included:** **G1:** 13 **G2:** 12 **G3:** 29 **N at conclusion:** NA **Depression, n (%):** Major depression, prior to injury: 6 (12) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Psychiatric disorder: 25 (50) **N with prior TBI:** NR **Age, yrs ± SD:** **G1+G2:** 40.8 ± 13.5 **G3:** 35.9 ± 12.5 **Total:** 38.0 ± 13.0 **Age ≥16:** NR **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI (GCS), n (%):** Mild TBI: **G1+G2:** 15 (71.4) **G3:** 14 (48.3) Moderate/severe: **G1+G2:** 6 (28.6) **G3:** 15 (51.7)	**Depression:** DIS: DSM-III-R criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-III-R Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-III-R Other psychiatric diagnoses: DSM-III-R **Health related QoL or functional status:** Medical outcomes health survey: (scored 0-100) Physical functioning: degree to which health limits physical activities Role functioning (physical): degree to which physical health limits work/daily activities. Role functioning (emotional): extent to which mental health interferes with daily activities Social functioning Bodily pain: effect of pain on work	**Depression, n (%):** Major depression: Current: 13 (26) After BI, resolved: 14 (28) Before BI: 6 (12) Lifetime: 33 (66) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Current GAD: **G1:** 4/13 (30.8) **Total:** 12/50 (24.0) Current panic disorder: **G1:** 2/13 (15.4) **Total:** 2/50 (4.0) Current agoraphobia: **G1:** 0/13 **Total:** 1/50 (2.0) Irritability: NR Aggression: NR Suicidality: NR Current alcohol/ drug use: **G1:** NR **Total:** 4/50 (8.0) Current dysthymia: **G1:** 5/13 (38.5) **Total:** 7/50 (14.0) Current bipolar disorder: **G1:** 0/13 **Total:** 0 /50 **Health related QoL or functional status:** Role functioning (emotional): **G1+G2:** 19.3 ± 33.9 **G3:** 56.1 ± 42.9 **G1+G2/G3:** p=0.006

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Fann et al., 1995		**Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Mental health: **G1+G2:** 46.3 ± 18.2 **G3:** 66.5 ± 14.1 **G1+G2/G3:** p=0.0003 General health: **G1+G2:** 44.6 ± 20.0 **G3:** 59.4 ± 27.1 **G1+G2/G3:** p=0.03 Other differences not significant.

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Fann et al., 2005 **Country, Setting:** US, trauma center **Enrollment Period:** April 2001 to November 2004 **Design:** Prospective cohort **Time from injury:** NA **Length of follow up:** 12 months **Dep. Scale/Tool:** PHQ-9, SCID, SCL-20, HAM-D	**Inclusion criteria:** • 18 years of age or older • Hospitalized patients who sustained a traumatic injury to the head, with either the lowest GCS score ≤ 12 or radiological evidence of acute brain abnormality • Resident of greater Puget Sound region (King, Pierce, Kitsap, Jefferson, Mason, Thurston, or Snohomish counties) • English speaking **Exclusion criteria:** • Homelessness (or no contact information available) • Incarceration • A history of schizophrenia • Participation in an investigational drug study **TBI Def:** Complicated mild: GCS 13-15 Moderate: GCS 9-12 Severe: GCS ≤ 8	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 478 **N at conclusion:** 135 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 42 ± 16.8 (n=135) **Age ≥16, n (%):** 478 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Severe: 34 (25.2) Moderate: 25 (18.5) Complicated mild: 76 (56.3) **Mechanism/type of injury, n (%):** MVC: 56 (41.5) Fall: 45 (33.3) Assault: 15 (11.1) Recreation/Sport: 7 (5.2) Other: 12 (8.9) **Area of brain injured:** NR	**Depression:** PHQ-9: ≥ 10, other criteria SCID:DSM-IV criteria; served as comparator for sensitivity/ specificity analyses HAM-D SCL-20 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, PHQ criteria, %:** PHQ-9 score ≥ 10: 22.5 PHQ-9 score ≥ 10, at least one cardinal symptom scored ≥ 2: 16.3 At least five symptoms scored ≥ 2, at least one cardinal symptom: 11.6 At least five symptoms scored ≥ 1, at least one cardinal symptom: 24.1 At least one cardinal symptom scored ≥ 2: 20.5 Pearson's correlations: PHQ-9, SCL-20: 0.84 (*P* < 0.001), n=39 0.90 (*P* < 0.001), n=138 PHQ-9, HAM-D: 0.67 (*P* < 0.001), n=39 0.78 (*P* < 0.001), n=138 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Fann et al., 2005				Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Federoff et al., 1992^ Jorge, Robinson, and Arndt, 1993* Jorge, Robinson, Arndt, Starkstein et al., 1993† See Jorge, Robinson, Arndt, Forrester et al., 1993; Jorge, Robinson, Starkstein, and Arndt, 1994 ; Jorge, Robinson, Starkstein, and Arndt, 1994 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NA **Length of follow up:** 12 mos **Dep. Scale/Tool:** DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Shock trauma admissions with acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1^*:** Patients with major depression **G1†:** Patients with major or minor depression **G2:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** **G1^*:** 17 **G1†:** 19 **G2:** 47 **N at conclusion:** **G1^*:** 17 **G1†:** 19 **G2:** 47 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions:** Personal history of psychiatric disorder, %: **G1^:** 71 **G1*:** 24 **G1†:** 68 **G2†^:** 37 **G2*:** 13 Personal history of alcohol or drug abuse, n (%):* **G1:** 8 (47) **G2:** 11 (23) **N with prior TBI:** NR **Age, median yrs (IQR):†** **G1:** 25 (8) **G2:** 27 (13.5) Age, yrs ± SD: **G1^*:** 26.8 ± 5.8 **G2^:** 29.5 ± 10.7 **G2*:** 30.1 ± 10.8	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation at 1 month post-TBI with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAM-D); Present State Examination (PSE) 5 DSM-III-R symptoms significantly different between depressed and non depressed patients and used for discriminatory analysis: suicidal ideation, inappropriate guilt, anergia, psychomotor agitation, weight loss/poor appetite **Other co-morbidities:** PTSD: NR Other anxiety disorder: PSE, DSM-III-R Irritability: DSM-III-R Aggression: NR Suicidality: DSM-III-R Substance use: Patients queried regarding personal history of alcohol and other substance abuse Other psychiatric diagnoses: patients queried regarding personal history of psychiatric disorder	**Depression, %:** Initial evaluation: Mood:† 19 Major:^* 17 Minor:^* 2 3 months: Mood:† 16 Major:^* 12 Minor:^* 4 6 months: Mood:† 12 Major:^* 10 Minor:^* 1 12 months: Mood:† 11 Major:^* 8 Minor:^* 3 Depression, incidence, n (%): 3 months: Major: 4/38 (10) Minor: 3/38 (8) 6 months: Major: 4/27 (15) Minor: 0/27 (0) 12 months: Major: 3/25 (12) Minor: 1/25 (4) DSM-III-R symptoms, median (IQR):^* Initial evaluation: **G1:** 3 (3-3.25) **G2:** 0 (0-1) 3 months: **G1:** 4 (3-5) **G2:** 0 (0-1) 6 months: **G1:** 4 (3-4) **G2:** 0 (0-1) 12 months: **G1:** 4 (3.5-4) **G2:** 0 (0-0) HAM-D score, initial evaluation, median (IQR):† **G1:** 13 (5) **G2:** 7 (3) HAM-D score, mean ± SD:*^ Initial evaluation: **G1:** 13.8 ± 3.2 **G2:** 6.8 ± 2.6

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Federoff et al. 1992^ Jorge et al. 1993* Jorge et al. 1993†		**Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:^*** Mild: **G1:** 35 **G2:** 43 Moderate: **G1:** 24 **G2:** 26 Severe: **G1:** 41 **G2:** 32 GCS score, mean ± SD:^* **G1:** 9.2 ± 3.4 **G2:** 10.0 ± 3.4 Abnormal findings on CT, n:^* **G1:** 15 **G2:** 41 **Mechanism/type of injury:** NR **Area of brain injured:*** Diffuse injury: Total: 42 (64) **G1:** 10 (59) **G2:** 32 (67) Focal lesion on CT scan: Total: 24 (36) **Concomitant injuries:** NR	**Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC) Mini-Mental State Exam (MMSE)	3 months: **G1:** 12.9 ± 5.0 **G2:** 4.8 ± 3.4 6 months: **G1:** 12.3 ± 3.2 **G2:** 4.9 ± 2.7 12 months: **G1:** 12 ± 4.2 **G2:** 3.4 ± 2.4 PSE score, initial evaluation, median (IQR):† **G1:** 19 (7) **G2:** 7 (4) PSE score, mean ± SD:*^ Initial evaluation: **G1:** 19.6 ± 4.2 **G2:** 6.8 ± 3.6 3 months: **G1:** 24.2 ± 9.1 **G2:** 5.8 ± 4.1 6 months: **G1:** 22.6 ± 5.9 **G2:** 5.7 ± 5.1 12 months: **G1:** 19.5 ± 7.8 **G2:** 2.8 ± 2.6 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder:† Autonomic anxiety: Initial evaluation: 42 3 months: 31 6 months: 33 12 months: 9 Anxious foreboding: Initial evaluation: 21 3 months: 31 6 months: 25 12 months: 9 Irritability: Initial evaluation: 58 3 months: 69 6 months: 83 12 months: 60

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Federoff et al. 1992^				Aggression: NR
Jorge et al. 1993*				Suicidality:† Initial evaluation: 16 3 months: 25 6 months: 21 12 months: 25
Jorge et al. 1993†				Substance use, %:^* Personal history of drug or alcohol abuse, %: Initial evaluation: **G1:** 47 **G2:** 24 3 months: **G1:** 42 **G2:** 26 6 months: **G1:** 36 **G2:** 28 12 months: **G1:** 38 **G2:** 19
				Health related QoL or functional status: MMSE score, initial evaluation, median (IQR):† **G1:** 26.5 (3.1) **G2:** 27 (4)
				MMSE score, mean ± SD:*^ Initial evaluation: **G1:** 27.5 ± 2.3 **G2:** 26.5 ± 3.1 3 months: **G1:** 26.9 ± 2.5 **G2:** 27.6 ± 2.7 6 months: **G1:** 28.1 ± 1.6 **G2:** 27.3 ± 3.5 12 months: **G1:** 27.9 ± 1.6 **G2:** 26.1 ± 3.2
				JHFI score, initial evaluation, median (IQR):† **G1:** 1 (3) **G2:** 1 (2)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Federoff et al. 1992^ Jorge et al. 1993* Jorge et al. 1993†				JHFI score, mean ± SD:*^ Initial evaluation: **G1:** 2.2 ± 3.3 **G2:** 1.4 ± 1.8 3 months: **G1:** 1.25 ± 1.4 **G2:** 0.88 ± 1.1 6 months: **G1:** 2.0 ± 2.4 **G2:** 0.5 ± 0.9 12 months: **G1:** 0.5 ± 1.1 **G2:** 0.4 ± 1.0 STC score, initial evaluation, median (IQR):† **G1:** 4 (1) **G2:** 3(2) STC score, mean ± SD:*^ Initial evaluation: **G1:** 4.2 ± 1.2 **G2:** 3.6 ± 1.5 3 months: **G1:** 4.6 ± 1.1 **G2:** 3.6 ± 1.7 6 months: **G1:** 5.2 ± 1.8 **G2:** 3.7 ± 1.5 12 months: **G1:** 4.3 ± 1.8 **G2:** 3.8 ± 1.9 SFE score, initial evaluation, median (IQR):† **G1:** 140 (136) **G2:** 90 (124) SFE score, mean ± SD:*^ Initial evaluation: **G1:** 0.19 ± 0.16 **G2:** 0.11 ± 0.10 3 months: **G1:** 0.201 ± 0.127 **G2:** 0.122 ± 0.088 6 months: **G1:** 0.290 ± 0.130 **G2:** 0.114 ± 0.087 12 months: **G1:** 0.217 ± 0.067 **G2:** 0.110 ± 0.097

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Felde et al., 2006 **Country, Setting:** US, psychiatric/ specialty center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** DSM III-R, BDI, HAM-D	**Inclusion criteria:** • Voluntary, sequential adult patients enrolled in a university substance abuse program **Exclusion criteria:** See inclusion criteria **TBI Def:** A trained research associate at the master's level made an assessment regarding the presence or absence of TBI with unconsciousness during adulthood, asking "As an adult, have you ever been unconscious as the result of a head injury?"	**Group(s):** **G1:** Patients with prior TBI **G2:** Patients without prior TBI **N screened:** 550 **N eligible:** 550 **N included:** **G1:** 218 **G2:** 332 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** **G1:** 218 **G2:** 0 **Age, yrs ± SD:** **G1:** 30.2 ± 8.7 **G2:** 31.8 ± 11.1 **Age ≥16, n (%):** 550 (100) **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** DSM III-R: NR BDI: NR HAM-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A Irritability: NR Aggression: NR Suicidality: BPRS Substance use: MN-SAPS (clinician-rated scale) MAST/AD (self-rated scale) Other psychiatric diagnoses: BPRS **Health related QoL or functional status:** NR	**Depression, n (%):** Depressive disorder: **G1:** 34 (16) **G2:** 55 (17) **G1/G2:** *P* = 0.854 BDI score, mean ± SD: **G1:** 19.9 ± 11.8 **G2:** 18.1 ± 12.2 **G1/G2:** *P* = 0.106 HAM-D score, mean ± SD: **G1:** 18.3 ± 11.2 **G2:** 15.8 ± 10.8 **G1/G2:** *P* = 0.009 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder, n (%): **G1:** 12 (6) **G2:** 20 (6) **G1/G2:** *P* = 0.954 HAM-A score, mean ± SD: **G1:** 14.6 ± 9.2 **G2:** 12.9 ± 8.8 **G1/G2:** *P* = 0.032 Irritability: NR Aggression: NR Suicidality: Suicide Attempt Ever: **G1:** 101 (48) **G2:** 120 (37) **G1/G2:** *P* = 0.019 Substance abuse diagnosis, n (%): **G1:** 217 (100) **G2:** 331 (100) Substance abuse severity rating scale, MAST/AD, mean ± SD: **G1:** 30.1 ± 12.6 **G2:** 25.6 ± 13.1 **G1/G2:** *P* < 0.001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Felde et al., 2006				Substance abuse severity rating scale, MN-SAPS, mean ± SD: **G1:** 31.4 ± 11.4 **G2:** 27.7 ± 11.7 **G1/G2:** *P* < 0.001 Other psychiatric diagnoses, n (%): Organic mental syndrome: **G1:** 10 (5) **G2:** 6 (2) **G1/G2:** *P* = 0.101 Bipolar disorder: **G1:** 10 (5) **G2:** 15 (5) **G1/G2:** *P* = NS Psychotic disorder: **G1:** 10 (5) **G2:** 18 (5) **G1/G2:** *P* = NS Antisocial personality disorder: **G1:** 24 (13) **G2:** 17 (6) **G1/G2:** *P* = 0.017 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Franulic et al., 2004 **Country, Setting:** Chile, trauma center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 2-10 years **Length of follow up:** NA **Dep. Scale/Tool:** HAM-D	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Concomitant pathologies (paraplegia after spinal cord injury, amputations, etc.) • Living outside the hospital catchment area **TBI Def:** NR^	**Group(s):** **G1:** TBI patients 2 years postinjury **G2:** TBI patients 5 years postinjury **G3:** TBI patients 10 years postinjury **N screened:** NR **N eligible:** NR **N included:** **G1:** 71 **G2:** 73 **G3:** 58 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean*:** **G1:** 37.9 **G2:** 41.8 **G3:** 37.2 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Mild TBI: **G1:** 71.4 **G2:** 59.1 **G3:** NR	**Depression:** HAM-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Employed vs. unemployed NRS-R	**Depression, HAM-D score, mean ± SD†:** **G1:** 12.0 ± 6.1 **G2:** 14.0 ± 7.5 **G3:** 14.6 ± 8.9 Depressive symptoms, %: **G1:** 42.3 **G2:** NR **G3:** 59.3 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A score, mean ± SD†: **G1:** 19.7 ± 8.5 **G2:** 20.5 ± 9.2 **G3:** 18.1 ± 9.7 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Employed, %: **G1:** 53.5 **G2:** 55.6 **G3:** 69 NRS-R score, mean ± SD: **G1:** 47.0 ± 9.1 **G2:** 25.3 ± 9.1 **G3:** 49.2 ± 11.6

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Franulic et al., 2004		GCS score, mean ± SD: **G1:** 12.5 ± 3 (n=56) **G2:** 12 ± 4 (n=49) **G3:** NR (n=15) **Mechanism/type of injury, n (%):** MVA: **G1:** 45 (63.4) **G2:** 47 (64.4) **G3:** 41 (70.7) Workplace: **G1:** 26 (36.6) **G2:** 26 (35.6) **G3:** 17 (29.3) **Area of brain injured, %:** Frontal: 30 Multiple involvement: 70 **Concomitant injuries:** NR		

^ GCS scores recorded for a subset of participants
* Statistic calculated by reviewer
† The (increasing) relationship between GCS score and the HAM-A and HAM-D scales was statistically significant in the 2-year post-TBI group (G1) when comparing according to severity (*P* =0.013 for HAM-A and *P* = 0.017 for HAM-D).

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Frenisy et al., 2006 **Country, Setting:** France, tertiary care center **Enrollment Period:** 1998 to 2000 **Design:** Cross-sectional **Time from injury, yrs ± SD:** **G1:** 1.02 ± 0.39 **G2:** 0.93 ± 0.41 **Length of follow up:** NA **Dep. Scale/Tool:** NRS-R, SCL 90-R	**Inclusion criteria:** • Admitted patients were selected in alphabetical order • G1: Aged 18 to 40 years and a severe, isolated BI with a rated GCS score ≤ 8 and/or have undergone brain surgery within the first 6 hours without any serious associated lesions, or minor lesions associated without long-term extra cranial consequences • G2: Aged between 18 and 50 years and had to exhibit a multiple trauma with no associated severe or moderate BI **Exclusion criteria:** • Patients with severe or incapacitating pathologies with psychiatric antecedents • Patients whose injuries were self-inflicted • Patients who exhibited medullar lesions **TBI Def:** NR*	**Group(s):** **G1:** Patients with severe brain injuries **G2:** Patients with multiple trauma **N screened:** **G1:** 486 **G2:** 111 **N eligible:** **G1:** 486 **G2:** 111 **N included:** **G1:** 25 **G2:** 25 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 26.07 ± 9.58 **G2:** 33.78 ± 10.42 **Age ≥16, n (%):** 50 (100) **Global injury severity, ISS score, mean ± SD:** **G1:** 25.36 ± 10.80 **G2:** 22.04 ± 10.06 **Severity of TBI, GCS score, mean ± SD:** **G1:** 6.64 ± 1.22 **G2:**14.16 ± 2.17 **Mechanism/type of injury, %:** MVA: **G1:** 56 **G2:** 64	**Depression:** NRS-R: NR SCL 90-R: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NRS-R SCL 90-R Spielberger's State-Trait Anxiety Scale Irritability: NRS-R Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NRS-R SCL 90-R **Health related QoL or functional status:** NR	**Depression, NRS-R, n (%):** **G1:** 19 (76) **G2:** 19 (76) SCL 90-R, depression score, mean ± SD: **G1:** 9.72 ± 9.05 **G2:** 9.42 ± 7.83 **Taking depression medications, n (%):** **G1:** 2 (8) **G2:** 0 **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety NRS-R, n (%): **G1:** 17 (68) **G2:** 21 (84) SCL 90-R, anxiety score, mean ± SD: **G1:** 5.16 ± 7.44 **G2:** 4.67 ± 4.59 Spielberger's State score, mean ± SD: **G1:** 39.4 ± 16.8 **G2:** 37.67 ± 13.2 Spielberger's Trait score, mean ± SD: **G1:**44.9 ± 15.4 **G2:**41.79 ± 12.3 Irritability, n (%): **G1:** 20 (80) **G2:** 13 (52) Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NRS-R, n (%): Mood Swings: **G1:** 8 (32) **G2:** 10 (40)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Frenisy et al., 2006		**Area of brain injured:** NR **Concomitant injuries:** NR		Hyperactivity-agitation: **G1:** 1 (4) **G2:** 0 Excitation: **G1: 4 (**16) **G2:** 0 Hostility: **G1:** 1 (4) **G2:** 1 (4) Suspicion: **G1:** 9 (36) **G2:** 12 (48) Withdrawal: **G1:** 14 (56) **G2:** 7 (28) SCL90-R, hostility score, mean ± SD: **G1:** 5.12 ± 6.04 **G2:** 2.83 ± 2.73 SCL90-R, phobias score, mean ± SD: **G1:** 2.12 ± 3.14 **G2:** 2.00 ± 2.45 SCL90-R, paranoid traits score, mean ± SD: **G1:** 4.96 ± 5.09 **G2:** 3.67 ± 3.41 SCL90-R, psychotic traits score, mean ± SD: **G1:** 4.40 ± 5.25 **G2:** 2.83 ± 3.64 **Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gagnon et al., 2006 **Country, Setting:** Canada, rehabilitation center **Enrollment Period:** 1986 to 2000 **Design:** Cross-sectional **Time from injury, yrs ± SD:** **G1:** 3.3 ± 3.15 **G2:** NA **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • TBI occurring at or above the age of 16 • Younger than 60 yrs old at time of study • Moderate or severe TBI diagnosis • TBI occurred at least 1 year prior to the study in order to ensure that post-TBI behavioral changes were stable • Subjects had to show sufficient motor, language, perceptual and memory skills to allow for valid testing • Subjects had to be living in the community (none were hospitalized) **Exclusion criteria:** • Pre-TBI neurological or psychiatric history of an axis II personality disorder in the medical records • A severe mental or intellectual incapacity preventing a full consent as revealed by the presence of a psychosis, mental retardation or protective supervision mentioned in the medical record **TBI Def:** NR*	**Group(s):** **G1:** Participants with TBI **G2:** Participants matched by gender, age, and education **N screened:** 169 **N eligible:** 83 **N included:** **G1:** 30 **G2:** 30 **N at conclusion:** NA **Depression:** Prior to injury: **G1:** 4 (13) **G2:** NR At time of injury: NR **Other preexisting psychiatric conditions:** **G1:** 3 (10) **G2:** 4 (13) **N with prior TBI:** **G1:** 0 **G2:** 0 **Age, yrs ± SD:** **G1:** 36.3 ± 13.1 **G2:** 36.3 ± 13.3 **Age ≥16, n (%):** 60 (100) **Global injury severity:** NR **Severity of TBI, n (%)** Severe: **G1:** 17 (56.7) Moderate: **G1:** 14 (43.3)	**Depression:** BDI: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Diagnostic Interview for Borderlines (DIB) Irritability: NR Aggression: NR Suicidality: NR Substance use: DIB Other psychiatric diagnoses: NR **Health related QoL or functional status:** Interpersonal features: DIB	**Depression, n (%):** Severe: **G1:** 1 (3) Moderate-severe: **G1:** 4 (13) Mild-moderate: **G1:** 2 (7) Minimal: **G1:** 6 (20) BDI score, mean ± SD: **G1:** 10.47 ± 8.01 **G2:** 2.67 ± 4.01 **G1/G2:** *P* < 0.001 DIB-R, chronic major depression, n (%): **G1:** 15 (50) **G2:** 1 (3.3) **G1/G2:** *P* < 0.0001 DIBR/BDI, correlation coefficient: DT: **G1:** 0.60 (*P* = 0.001) **G2:** 0.54 (*P* = 0.01) DA: **G1:** 0.45 (*P* = 0.01) **G2:** 0.07(*P* = NS) DC: **G1:** 0.18 (*P* = NS) **G2:** 0.15 (*P* = NS) DI: **G1:** 0.39 (*P* = 0.05) **G2:** 0.73 (*P* = 0.001) DR: **G1:** 0.47 (*P* = 0.01) **G2:** 0.43 (*P* = 0.05) **Taking depression medications during testing, n (%):** Anti-convulsive or anti-depressive: 19 (63.3) **Other co-morbidities, n (%):** PTSD: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gagnon et al. 2006		GCS score, mean (range): **G1:** 8.15 3-13) **G2:** 15 (15) **Mechanism/type of injury, n (%):** MVA: 14 (47) Falls: 9 (30) Pedestrian or bicycle: 4 (13) Assault: 3 (10) **Area of brain injured, n (%):** 2 or more areas injured: 23 (77) Frontal lobe involvement: 20 (67) 1 area of brain injured: 7 (23) Temporal lobe damage: 4 (13) Right cerebrovascular accident: 1 (3.3) **Concomitant injuries:** NR		Other anxiety disorder: Chronic Anxiety: DIB-R: **G1:**12 (40) **G2:** 5 (16.7) **G1/G2:** *P* < 0.084 Irritability: NR Aggression: NR Suicidality: NR Substance abuse: **G1:** 2 (6.7) **G2:** 5 (16.7) **G1/G2:** *P* = NS Other psychiatric diagnoses: NR **Health related QoL or functional status, Interpersonal features, n (%):** Intolerance of aloneness: **G1:** 6 (20) **G2:** 6 (20) **G1/G2:** *P* = NS Abandonment, engulfment, annihilation concerns: **G1:** 7 (23.3) **G2:** 3 (10) **G1/G2:** *P* = NS Counterdependency -serious conflict over help/care: **G1:** 6 (20) **G2:** 7 (23.2) **G1/G2:** *P* = NS Stormy relationships: **G1:** 4 (13.3) **G2:** 3 (10) **G1/G2:** *P* = NS Dependency-masochism: **G1:** 4 (13.3) **G2:** 1 (3.3) **G1/G2:** *P* = NS

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gagnon et al. 2006				Devaluation-manipulation-sadism: **G1:** 2 (6.7) **G2:** 1 (3.3) **G1/G2:** *P* = NS Demandingness/ entitlement: **G1:** 4 (13.3) **G2:** 0 **G1/G2:** *P* = NS Treatment regressions: **G1:** 1 (3.3) **G2:** 0 **G1/G2:** *P* = NS Countertransference problems: **G1:** 3 (10) **G2:** 0 **G1/G2:** *P* = NS

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gass et al., 1991 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 1.1 ± 1.3 **Length of follow up:** NA **Dep. Scale/Tool:** MMPI	**Inclusion criteria:** • No history of substance abuse or emotional disturbance • Within 5 years of injury **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Males with closed head trauma **N screened:** NR **N eligible:** NR **N included:** 58 **N at conclusion:** NA **Depression:** Prior to injury: None (see inclusion criteria) At time of injury: None (see inclusion criteria) **Other preexisting psychiatric conditions:** None (see inclusion criteria) **N with prior TBI:** NR **Age, yrs ± SD:** 34.9 ± 13.7 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, LOC, %:** > 1 week: 17 1-7 days: 11 < 24 hrs: 72 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression**: MMPI: depression (D) scale > 69 Harris-Lingoes subjective depression (D1) subscale > 69 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: MMPI subscale **Health related QoL or functional status:** NR	**Depression, MMPI, %:** Original profile: 53 Adjusted profile: 36 Depression, Harris-Lingoes (D1) subscale, %: 22 MMPI depression (D) score, mean ± SD: Original profile: 70.8 ± 14.5 Adjusted profile: 63.8 ± 13.5 Harris-Lingoes subjective depression (D1) score, mean ± SD: 59.1 ± 13.0 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Schizophrenia, MMPI, %: Original profile: 43 Adjusted profile: 12 MMPI schizophrenia score, mean ± SD: Original profile: 68.3 ± 15.0 Adjusted profile: 57.8 ± 10.3 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ghaffar et al., 2006 **Country, Setting:** Canada, tertiary care centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** GHQ, RPCQ	**Inclusion criteria:** • 16 to 60 yrs of age **Exclusion criteria:** • Major medical illness such as cardiac or cerebrovascular disease **TBI Def:** According to ACRM criteria	**Group(s):** **G1:** Patients with mTBI randomly assigned for assessment and treatment 1 week post-injury **G2:** Patients with TBI not offered follow up and treatment **Ga:** Depressed patients (GHQ ≥ 1) **Gb:** Nondepressed patients (GHQ = 0) **N screened:** NR **N eligible:** NR **N included:** **G1:** 86 **G2:** 84 **Ga:** 35 **Gb:** 87 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** Psychiatric illness: 22.9 **N with prior TBI, n (%):** 52/170 (30.6) **Age, yrs ± SD:** **G1:** 30.7 ± 10.9 (n=97) **G2:** 33.3± 12.4 (n=94) **Age ≥16, n (%):** 191 (100)	**Depression:** GHQ: depression subscale ≥ 1 RPCQ: depression questions **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognitive testing (Stroop Color-Word test, Symbol-Digit Modalities test, The Paced Visual Serial Addition Task, Simple Reaction time, Choice Reaction time, Hopkins Verbal-Learning test, The Vocabulary subset and Letter-Number Sequencing, The Matrix-Reasoning subset of the WAIS-III) RFQ GHQ: social dysfunction subscale and somatic concern subscale	**Depression, GHQ, n (%):** 35/122 (28.7) GHQ total score*, mean ± SD: **G1:** 6.6 ± 7.6 **G2:** 6.8 ± 7.9 RPCQ total score*, mean ± SD: **G1:** 17 ± 18 **G2:** 16.3 ± 15.9 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: GHQ: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** RFQ total score, mean ± SD: **G1:** 10.9 ± 11.5 **G2:** 10.6 ± 12.0 Stroop Symbol-Digit Modalities, seconds ± SD: **Ga:** 12.4 ± 3.5 **Gb:** 10.5 ± 1.8 **Ga/Gb:** *P* = 0.01 Stroop Color-Word Test, seconds ± SD: **Ga:** 14.7 ± 3.6 **Gb:** 11.9 ± 1.9 **Ga/Gb:** *P* = 0.0001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Ghaffar et al., 2006		**Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI (GCS):** Mild: 191 (100) **GCS score, mean ± SD:** **G1:** 14.9 ± 0.4 **G2:** 14.8 ± 0.4 PTA: < 1 hour: **G1:** 79 **G2:** 83 1- 24 hours: **G1:** 18 **G2:** 11 LOC: Altered level: **G1:** 48 **G2:** 50 <30 minutes **G1:** 28 **G2:** 28 Duration unclear: **G1:** 21 **G2:** 16 **Mechanism/type of injury:** MVA: **G1:** 50 **G2:** 47 **Area of brain injured:** NR **Concomitant injuries:** **G1:** 41 **G2:** 43		Simple Reaction Time, ms seconds ± SD: **Ga:** 334.7 ± 101.9 **Gb:** 455.3 ± 202.5 **Ga/Gb:** *P* = 0.0001 Choice reaction time, ms ± SD: **Ga:** 386.5 ± 106.9 **Gb:** 519.0 ± 211.8 **Ga/Gb:** *P* = 0 .0001

*There were no differences in the depressive subscales of the RPCQ or the GHQ between groups G1 and G2 at 6 months.

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gomez-Hernandez et al., 1997 **Country, Setting:** Spain, tertiary care center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury to first assesment, median days (IQR):** 31 (32) **Length of follow up:** 12 months **Dep. Scale/Tool:** DSM-IV	**Inclusion criteria:** • Older than 18 years • Predominant injury involving head trauma • Closed head injury **Exclusion criteria:** • Penetrating head injuries • Associated spinal cord injury • Multiple non-CNS involvement which would have influenced the course of their recovery (e.g., multiple fractures) or would have led to significant secondary brain damage as a result of severe hypotension or hypoxia (e.g., intra-abdominal hemorrhages, collapsed lungs, etc) • A decreased level of consciousness, disorientation or deliriousness, or had aphasic disorders that would interfere with the psychiatric interview **TBI Def:** NR*	**Group(s):** **G1:** Depressed patients with TBI **G2:** Non-depressed patients with TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 23 **G2:** 42 **N at conclusion:** **G1:** 10 **G2:** 27 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** History of alcohol or drug abuse: 30 (46.1) History of psychiatric disorder without alcohol or drug abuse: 9 (13.8) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 27.30 ± 8.4 **G2:** 29.26 ± 10.30 **Age ≥16, n (%):** 65 (100) **Global injury severity:** NR **Severity of TBI, GCS score, %:** 13 to 15: 29.2 9 to 12: 32.3 3 to 8: 38.4 **Mechanism/type of injury:** NR	**Depression:** DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Social Functioning Exam (SFE): A semi-structured clinical interview that assesses the patient's satisfaction with his or her social functioning. It consists of 28-items that are rated at 0=normal functioning, 1=moderate impairment, 2=severe impairment.	**Depression, initial evaluation, n (%):** Major depression: 19/65 (29) Minor depression: 4/65 (6) Depression, 3 months, n (%): Major depression: 10/48 (21) Minor depression: 8/48 (15) Depression, 6 months, n (%): Major depression: 12/42 (28) Minor depression: 4/42 (9) Depression, 9 months, n (%): Major depression: 5/43 (12) Minor depression: 9/43 (21) Depression, 1 year, n (%): Major depression: 8/37 (22) Minor depression: 2/37 (5) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Substance use: NR Irritability: NR Aggression: NR Suicidality: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gomez-Hernandez et al., 1997		**Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** SFE, initial evaluation, mean z-score ± SD: **G1:** 0.334 ± 1.214 **G2:** -0.183 ± 0.819 *P* = 0.0452 SFE, 3 months, mean z-score ± SD: **G1:** 0.254 ± 1.153 **G2:** -0.152 ± 0.880 *P* = 0.1742 SFE, 6 months, mean z-score ± SD: **G1:** 0.795 ± 1.028 **G2:** -0.489 ± 0.592 *P* < 0.0001 SFE, 9 months, mean z-score ± SD: **G1:** 0.691 ± 1.096 **G2:** -0.333 ± 0.766 *P* = 0.0010 SFE, 1 year, mean z-score ± SD: **G1:** 0.529 ± 1.248 **G2:** -0.196 ± 0.835 *P* = 0.0485

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gordon, Brown et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** 1993 to 1997 **Design:** Cross-sectional **Time from injury, yrs ± SD:** **G1:** 14.7 ± 9.3 **G2:** 7.9 ± 7.9 **G3:** 14.2 ± 11.8 **G4:** NA **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • 18 to 65 yrs old • Reside in a noninstitutional community setting • At least 1 year postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** Hidden TBI: A blow to the head that, at a minimum, resulted in a dazed and confused state, but is not used as an explanatory principle in an individual's life (i.e. the individual does not identify themselves as a person with TBI)	**Group(s):** **G1:** Participants with hidden TBI **G2:** Participants with mild TBI **G3:** Participants with head trauma **G4:** Participants with no disability **N screened:** **G1:** 143 **G2-G4:** 430 **N eligible:** **G1:** 21 **G2-G4:** 430 **N included:** **G1:** 21 **G2:** 21 **G3:** 21 **G4:** 21 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 37.6 ± 11.8 **G2:** 38.3 ± 11.2 **G3:** 37.4 ± 12.1 **G4:** 37.9 ± 12.1 **Age ≥16, n (%):** 451 (100) **Global injury severity:** NR	**Depression:** BDI > 15 **Other co-morbidities:** PTSD: NR Other anxiety disorder: Subjective self reported feeling of anxiousness Irritability: Subjective self reported feeling of irritability Aggression: NR Suicidality: NR Substance use: Bigelow Quality of Life Questionnaire: negative consumption of alcohol and drugs Reported use of Alcoholics Anonymous or other 12-step program Other psychiatric diagnoses: NR **Health related QoL or functional status:** Bigelow quality of life questionnaire Community Integration Questionnaire (CIQ) Craig Handicap Assessment Capacity Technique (CHART)	**Depression, %:** G1: 23.8 G2: 28.6 G3: 4.8 G4: 0 BDI score, mean ± SD: **G1:** 10.2 ± 6.1 **G2:** 11.5 ± 10.1 **G3:** 3.4 ± 5.1 **G4:** 2.19 ± 2.82 **G2/G4:** *P* < 0.003 **Taking depression medications:** NR **Other co-morbidities:** NR PTSD: NR Other anxiety disorder: **G1:** 57.1 **G2:** NR **G3:** NR **G4:** 0 Irritability: **G1:** 57.1 **G2:** NR **G3:** NR **G4:** 0 Aggression: NR Suicidality: NR Substance use: Bigelow quality of life questionnaire, mean score ± SD: Negative consumption alcohol: **G1:** 53.1 ± 3.8 **G2:** 55.0 ± 0 **G3:** 54.4 ± 1.8 **G4:** 55.0 ± 0 Negative consumption drugs: **G1:** 74.5 ± 14.2 **G2:** 78.9 ± 9.8 **G3:** 79.1 ± 7.3 **G4:** 81.4 ± 3.5

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998		**Severity of TBI, LOC, %:** Dazed and Confused: **G1:** 66.7 **G2:** 47.8 **G3:** 71.4 LOC < 20 minutes: **G1:** 23.8 **G2:** 42.9 **G3:** 19.0 LOC < 1 day: **G1:** 9.5 **G2:** 9.5 **G3:** 9.5 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Reported use of Alcoholics Anonymous or other 12-step program, %: **G1:** 9.5 **G2:** 9.5 **G3:** 9.5 **G4:** 0 Other psychiatric diagnoses: NR **Health related QoL or functional status:** Bigelow quality of life questionnaire, mean score ± SD: Psychological distress: **G1:** 43.5 ± 10.4 **G2:** 47.0 ± 13.4 **G3:** 56.7 ± 9.0 **G4:** 57.2 ± 8.4 **G2/G4:** *P* < 0.02 Psychological well-being: **G1:** 41.2 ± 9.3 **G2:** 43.2 ± 12.1 **G3:** 48.6 ± 8.6 **G4:** 53.0 ± 9.0 **G2/G4:** *P* < 0.01 Total needs satisfied: **G1:** 44.9 ± 11.3 **G2:** 42.9 ± 12.6 **G3:** 52.2 ± 9.1 **G4:** 53.7 ± 7.9 **G2/G4:** *P* < 0.01 Independence: **G1:** 40.6 ± 9.6 **G2:** 40.7 ± 13.6 **G3:** 47.4 ± 11.4 **G4:** 52.7 ± 7.3 **G2/G4:** *P* < 0.01 Employability: **G1:** 53.0 ± 12.0 **G2:** 44.4 ± 13.8 **G3:** 58.0 ± 8.0 **G4:** 57.6 ± 10.4 **G2/G4:** *P* < 0.0001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998				CIQ score, mean ± SD: Total: **G1:** 19.1 ± 3.6 **G2:** 16.7 ± 5.1 **G3:** 19.7 ± 3.2 **G4:** 19.1 ± 4.1 Social Integration: **G1:** 7.4 ± 1.7 **G2:** 7.1 ± 1.8 **G3:** 7.7 ± 1.6 **G4:** 7.2 ± 2.2 Home Integration: **G1:** 6.5 ± 3.4 **G2:** 5.7 ± 3.6 **G3:** 6.7 ± 2.7 **G4:** 6.6 ± 3.3 Productive Activity: **G1:** 5.2 ± 0.5 **G2:** 3.9 ± 1.6 **G3:** 5.2 ± 0.8 **G4:** 5.3 ± 1.2 **G2/G4:** *P* < 0.001 CHART score, mean ± SD: Social integration: **G1:** 63.0 ± 24.2 **G2:** 55.7 ± 23.3 **G3:** 70.5 ± 15.9 **G4:** 73.9 ± 18.4 **G2/G4:** *P* < 0.01 Physical independence: **G1:** 98.9 ± 5.2 **G2:** 97.1 ± 7.4 **G3:** 100.0 ± 0 **G4:** 99.7 ± 1.3 **G2/G4:** *P* = NS Occupation: **G1:** 61.1 ± 32.4 **G2:** 36.3 ± 28.3 **G3:** 42.3 ± 22.5 **G4:** 48.3 ± 35.6 **G2/G4:** *P* = NS Mobility: **G1:** 85.3 ± 8.8 **G2:** 78.8 ± 12.4 **G3:** 84.4 ± 8.2 **G4:** 85.8 ± 8.7 **G2/G4:** *P* < 0.05

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Gordon, Sliwinski et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** 1993 to 1997 **Design:** Cross-sectional **Time from injury (yrs):** **G1:** 11.2 **G2:** 9.1 **G3:** NA **G4:** NA **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • 18 to 65 yrs old • Reside in non-institutional community setting • At least 1 year postinjury • Exercise (jogging, swimming, biking) for at least 30 mins three times a week for at least the preceding 6 months **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** TBI exercise group **G2:** TBI non-exercise group **G3:** Non-TBI exercise group **G4:** Non-TBI non-exercise group **N screened:** **G1+G2:** 430 **G3+G4:** 287 **N eligible:** **G1:** 64 **G2:** 176 **G3:** 66 **G4:** 73 **N included:** **G1:** 64 **G2:** 176 **G3:** 66 **G4:** 73 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 37.8 ± 10.3 **G2:** 37.1 ± 10.0 **G3:** 38.3 ± 12.7 **G4:** 39.0 ± 11.3 **Age ≥16, n (%):** 379 (100) **Global injury severity:** NR	**Depression:** BDI > 15 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** TIRR SF-36	**Depression, %:** **G1:** 12.5 **G2:** 33.7 **G3:** 6.1 **G4:** 6.8 **G1+G2/G3+G4:** *P* < 0.0001 **G1+G3/G2+G4:** *P* < 0.01 BDI score, mean ± SD: Total: **G1:** 7.83 ± 7.122 **G2:** 13.91 ± 10.56 **G3:** 4.05 ± 5.34 **G4:** 5.37 ± 5.58 Somatic items: **G1:** 2.87 ± 2.72 **G2:** 4.99 ± 3.88 **G3:** 1.31 ± 2.15 **G4:** 1.97 ± 2.08 Non-somatic items: **G1:** 5.35 ± 5.25 **G2:** 8.84 ± 7.21 **G3:** 2.70 ± 4.17 **G4:** 3.41 ± 4.31 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** TIRR, mean ± SD: **G1:** 15.7 ± 12.1 **G2:** 24 ± 17.5 **G3:** 3.6 ± 6.3 **G4:** 3.4 ± 7.0 **G1+G2/G3+G4:** *P* < 0.0001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998		**Severity of TBI, LOC, %:** < 20 minutes: **G1:** 14.1 **G2:** 30.9 > 20 min, < 1 day: **G1:** 9.4 **G2:** 13.1 > 1 day: **G1:** 76.6 **G2:** 55.9 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		SF-36, mean ± SD: Physical function: **G1:** 52.40 ± 16.44 **G2:** 44.11 ± 19.49 **G3:** 65.56 ± 4.02 **G4:** 62.99 ± 8.81 Physical role: **G1:** 30.66 ± 19.41 **G2:** 22.56 ± 21.10 **G3:** 46.21 ± 11.39 **G4:** 46.61 ± 11.57 Bodily pain: **G1:** 55.27 ± 25.41 **G2:** 50.58 ± 24.37 **G3:** 72.29 ± 11.62 **G4:** 68.73 ± 17.58 General Health: **G1:** 57.60 ± 19.08 **G2:** 45.88 ± 20.69 **G3:** 68.51 ± 12.52 **G4:** 60.76 ± 15.54 Vitality: **G1:** 47.98 ± 19.23 **G2:** 36.53 ± 19.82 **G3:** 57.93 ± 14.89 **G4:** 54.45 ± 15.49 Emotional role: **G1:** 37.76 ± 17.88 **G2:** 27.84 ± 21.44 **G3:** 47.22 ± 9.05 **G4:** 47.74 ± 7.86 Mental health: **G1:** 61.13 ± 14.96 **G2:** 51.21 ± 19.59 **G3:** 67.93 ± 11.90 **G4:** 64.90 ± 16.45 Social Function: **G1:** 60.47 ± 21.19 **G2:** 47.07 ± 28.35 **G3:** 76.52 ± 7.54 **G4:** 74.66 ± 15.58 CIQ, mean ± SD: Total: **G1:** 16.54 ± 3.77 **G2:** 15.38 ± 5.01 **G3:** 19.59 ± 3.51 **G4:** 18.52 ± 3.77 Social integration: **G1:** 6.79 ± 1.84 **G2:** 6.50 ± 2.0 **G3:** 7.75 ± 1.37 **G4:** 7.23 ± 1.97

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Gordon et al., 1998				Home integration: **G1:** 5.30 ± 3.26 **G2:** 5.22 ± 1.75 **G3:** 6.63 ± 2.97 **G4:** 6.07 ± 3.00 Productive activity: **G1:** 4.37 ± 1.18 **G2:** 3.66 ± 1.75 **G3:** 5.20 ± 1.03 **G4:** 5.19 ± 1.09 CHART, mean ± SD: Social integration: **G1:** 58.53 ± 23.88 **G2:** 53.72 ± 23.76 **G3:** 74.47 ± 15.67 **G4:** 69.04 ± 19.51 Physical independence: **G1:** 96.48 ± 11.80 **G2:** 93.19 ± 19.60 **G3:** 100.0 ± 0 **G4:** 99.81 ± 1.16 Occupation: **G1:** 40.11 ± 27.75 **G2:** 35.01 ± 30.37 **G3:** 48.94 ± 28.81 **G4:** 48.93 ± 33.92 Mobility: **G1:** 81.32 ± 9.94 **G2:** 74.65 ± 14.10 **G3:** 80.05 ± 7.33 **G4:** 85.26 ± 7.94

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hawley and Joseph, 2008 **Setting:** UK, rehabilitation centers **Enrollment Period:** 1991 to 1997 **Design:** Prospective cohort **Time from injury, months ± SD:** **G1:** 4.65 ± 4.63 **G2:** 13.67 ± 17.92 **G3:** 19.83 ± 26.22 **Length of follow up:** 10 years **Dep. Scale/Tool:** HADS, structured questionnaire	**Inclusion criteria:** • 16 to 65 yrs old • Traumatic brain injury **Exclusion criteria:** • Non-traumatic brain injury, including subarachnoid hemorrhage **TBI Def:** Mild BI: LOC for 15 minutes or less and/or a GCS of 13 to15 Moderate BI: LOC for more than 15 minutes but less than 6 hours or a PTA of less than 24 hours and/or GCS of 9 to 12 Severe BI: LOC for 6 hours or more or a PTA of 24 hours or more and/or GCS of 6 to 8 Very severe BI: LOC for 48 hours or more or a PTA of 7 days or more and/or GCS of 3 to 5	**Group(s):** **G1:** Patients with mild TBI **G2:** Patients with moderate TBI **G3:** Patients with severe TBI **N screened:** NR **N eligible:** 563 **N included:** **G1:** 38 **G2:** 24 **G3:** 103 **N at conclusion:** **G1:** 38 **G2:** 24 **G3:** 103 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, 10 year follow up, yrs ± SD (range):** 45.5 ± 13.57 (26-79) **Age ≥16, n (%):** 165 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: 23 Moderate: 14.5 Severe: 62.4	**Depression:** HADS: 11-21: cases 8-10: borderline 0-7: non-cases 10 year questionnaire: Frequent Occasional None **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOSE FIM + FAM COS CiOP	**Depression, HADS, 6 months, n (%):** Cases: **G1:** 3/8 (37.5) **G2:** 3/12 (25) **G3:** 10/58 (17.2) Borderline: **G1:** 0/8 (37.5) **G2:** 0/12 (25) **G3:** 17/58 (29.3) Depression, 10 years, n (%): Frequent: **G1:** 6/38 (15.8) **G2:** 10/24 (41.7) **G3:** 22/103 (21.4) Occasional: **G1:** 20/38 (52.6) **G2:** 9/24 (37.5) **G3:** 44/103 (42.7) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Anxiety, HADS, 6 months: Cases: **G1:** 2/8 (25) **G2:** 4/12 (33.3) **G3:** 19/58 (32.8) Borderline: **G1:** 2/8 (25) **G2:** 1/12 (8.3) **G3:** 10/58 (17.2) Anxiety, HADS, 10 years: Frequent: **G1:** 8/38 (21.1) **G2:** 6/24 (25) **G3:** 21/99 (21.2) Occasional: **G1:** 17/38 (44.7) **G2:** 12/24 (50) **G3:** 38/99 (38.4) Irritability: NR Aggression: NR Suicidality: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hawley and Joseph, 2008		**Mechanism/type, n (%):** RTA: 96 (58.5) Fall: 3 (20.1) Assault :14 (8.5) Sporting: 7 (4.2) Industrial/occupa-tional: 4 (2.4) Other: 11 (6.7) **Area of brain injured:** NR (CT, MRI done) **Concomitant injuries, 10 years, n (%):** Other injuries: 100 (60.6)		Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, n (%):** GOSE, 6 months: Severe disability: **G1:** 5/38 (13.2) **G2:** 8/24 (33.3) **G3:** 63/103 (61.2) Moderate disability: **G1:** 23/38 (60.5) **G2:** 14/24 (58.3) **G3:** 39/103 (37.9) Good recovery: **G1:** 10/38 (26.3) **G2:** 2/24 (8.3) **G3:** 1/103 (1) GOSE, 10 years: Severe disability: **G1:** 5/38 (13.2) **G2:** 5/24 (20.8) **G3:** 33/103 (32) Moderate disability: **G1:** 17/38 (44.7) **G2:** 11/24 (45.8) **G3:** 44/103 (42.7) Good recovery: **G1:** 16/38 (42.1) **G2:** 8/24 (33.3) **G3:** 26/103 (25.2) FIM score, 6 months, mean ± SD: **G1:** 6.17 ± 1.7 **G2:** 6.24 ± 0.7 **G3:** 5.32 ± 1.62 FAM score, 6 months, mean ± SD: **G1:** 6.83 ± 0.58 **G2:** 6.90 ± 0.30 **G3:** 6.20 ± 1.44 COS score, 6 months, mean ± SD: **G1:** 3.09 ± 1.79 **G2:** 2.75 ± 1.43 **G3:** 3.36 ± 1.29

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hawley and Joseph, 2008				GOSE score, 10 years, mean ± SD: **G1:** 6.16 ± 1.24 **G2:** 5.88 ± 1.33 **G3:** 5.29 ± 1.28 General health, 10 years, mean ± SD: **G1:** 6.7 ± 2.18 **G2:** 6.48 ± 2.31 **G3:** 6.84 ± 1.95 CiOP score, mean ± SD: 4.02 ±1.0 CiOP score ≥ 4, %: Total: 52

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hibbard et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, years:** 7.6 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 65 yrs old • At least 1 year post-TBI • Resident of New York state and living within the community **Exclusion criteria:** • Non-traumatic brain injuries (brain tumors, stroke, etc.) **TBI Def:** NR	**Group(s):** Patients with TBI **G1:** Patients with pre-TBI Axis I diagnosis **G2:** Patients with no pre-TBI Axis I diagnosis **N screened:** 431 **N eligible:** 100 **N included:** **G1:** 51 **G2:** 49 **N at conclusion:** NA **Depression:** Prior to injury, n (%): 17 (17) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Dysthymia: 1 (1) PTSD: 6 (6) OCD: 1 (1) Panic disorder: 4 (4) Phobias: 4 (4) Substance use disorder: 40 (40) One Axis 1 disorder: 34 (34) Two or more Axis 1 disorders: 17 (17) **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs:** 39.8 ± 10.2 **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: SCID Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, post-TBI, n (%):** MDD: 61 (61) MDD with psychotic features: 14 (14) Dysthymia: 3 (3) Depression, onset post-TBI, n (% resolved): MDD: **G1:** 16 (69) **G2:** 32 (59) Dysthymia: **G1:** 1 (0) **G2:** 1 (0) **Taking depression medications (%):** NR **Other co-morbidities, onset post-TBI, n (% resolved):** PTSD: **G1:** 8 (38) **G2:** 9 (44) Other anxiety disorder: MDD and anxiety: **G1:** 7 (43) **G2:** 18 (39) Panic disorder: **G1:** 4 (75) **G2:** 7 (57) GAD: **G1:** 4 (0) **G2:** 4 (0) Phobias: **G1:** 4 (25) **G2:** 3 (33) Irritability: NR Aggression: NR Suicidality: NR Substance use: **G1:** 3 (66) **G2:** 9 (56) Substance use and MDD and/or anxiety disorder: **G1:** 2 (0) **G2:** 6 (83)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hibbard et al., 1998		**Severity of TBI, %:** Dazed/confused <20 minutes: 30 >20 min but <1 day: 9 >1 day to <1 week: 20 1-4 weeks: 17 > 1 month: 24 **Mechanism/type of injury, %:** MVA: 62 Assault: 8 Pedestrian accident: 8 Fall: 6 Sports related: 6 Hit by falling/flying object: 5 Gunshot wound: 2 Other: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		Other psychiatric diagnoses: Bipolar: **G1:** 2 (50) **G2:** 0 (0) OCD: **G1:** 7 (29) **G2:** 7 (43) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hibbard et al., 2004 See Ashman et al., 2004 **Country, Setting:** US, tertiary care center **Enrollment Period:** March 1995 to December 2000 **Design:** Prospective cohort **Time from injury, yrs ± SD:** **G1:** 2.51 ± 1.3 **G2:** 2.63 ± 1.3 **G3:** 2.52 ± 1.2 **G4:** 2.16 ± 0.5 **Length of follow up:** 1 year **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • Between the ages of 18 and 87 • Self-identified TBI • Between 3 months and 4 years postinjury • Residents of the United States living within the community • Capable of giving informed consent for participation and answering interviews independently **Exclusion criteria:** • The presence of an acquired brain injury (e.g., cerebrovascular accident, aneurysm) • A preexisting neurocognitive disorder • Any preexisting psychotic disorder (e.g., schizophrenia, psychoses not otherwise specified, depression with psychotic features) **TBI Def:** According to ACRM criteria^	**Group(s):** **G1:** Patients experiencing no depression after TBI **G2:** Patients with resolved depression after TBI **G3:** Patients with late-onset depression after TBI **G4:** Patients with chronic depression after TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 91 **G2:** 52* **G3:** 19 **G4:** 27 **N at conclusion:** **G1:** 91 **G2:** 52* **G3:** 19 **G4:** 27 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** Mood disorders: 24 Substance abuse: 22 Anxiety: 9 Eating disorders: 1 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 43.8 ± 16.7 **G2:** 43.1 ± 14.7 **G3:** 38.5 ± 17.9 **G4:** 44.8 ± 10.0 **Age ≥16, %:** 100	**Depression:** SCID: No depression: Did not meet DSM-IV criteria for major mood disorder at either T1 (time 1=initial screening) or T2 (time 2= 1 year following initial screening). Resolved depression: Diagnosed with major depression at T1 resolved by T2. Late-onset-depression: Not depressed at T1 but met the criteria for DSM-IV diagnoses of major depression at T2. Chronic depression: Met the DSM-IV criteria for major depression at both T1 and T2. BDI: used to measure depression severity at T1 and T2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-IV Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-IV Other psychiatric diagnoses: DSM-IV	**Depression, n:** Chronic depression: 27 Late onset depression: 19 Resolved depression: 52* No depression: 91 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder, %: Initial screening: 19 1 year follow-up: 16 Irritability: NR Aggression: NR Suicidality: NR Substance use, %: Initial screening: 4 1 year follow-up: 6 Other psychiatric diagnoses: Co-occurring psychiatric disorder, initial screening, n (%): **G1:** 47 (52) **G2:** 23 (44) **G3:** 14 (74) **G4:** 7 (26) Co-occurring psychiatric disorder, 1 year follow-up, n (%): **G1:** 48 (53) **G2:** 38 (73) **G3:** 16 (84) **G4:** 25 (93) **Health related QoL or functional status:** No prevalence or incidence reported. Only comparisons made between depression groups

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hibbard et al., 2004		**Global injury severity:** NR **Severity of TBI, LOC, n (%):** Dazed and/or confused: 19 (10) < 20 mins: 34 (18) 21- 60 min: 19 (10) > 1 to < 24 hrs: NR > 1 day to 1 week: 24 (13) 1-4 weeks: 43 (23) > 4 weeks: 32 (17) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Health related QoL or functional status:** Living Life After TBI (LLATBI): Unmet Important Needs (UIN) scale Impact of TBI on Roles and Responsibilities Scale (Impact Scale) Life-3 scale	

*Reported as n=55 and n=52 in publication
^Taken from Ashman et al., 2004

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hoge et al., 2008 **Country, Setting:** US, other **Enrollment Period:** 2006 **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** PHQ-9	**Inclusion criteria:** • Soldiers from two U.S. Army combat infantry brigades returned from a yearlong deployment in Iraq were administered the questionnaire **Exclusion criteria:** • Incompletion of questionnaire • Report of head injury without LOC or altered mental status **TBI Def:** Mild TBI*: Concussion characterized by brief LOC or altered mental status. A soldier was considered to have had a mild traumatic brain injury if any of three questions – regarding "losing consciousness (knocked out)," "being dazed, confused, or 'seeing stars,'" or "not remembering the injury" – elicited a positive response*	**Group(s):** **G1:** TBI with LOC **G2:** TBI with altered mental status (AMS) **G3:** Other injury **G4:** No injury **N screened:** 4,618 **N eligible:** 2,525 **N included:** **G1:** 124 **G2:** 260 **G3:** 435 **G4:** 1,706 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** NR **Age ≥16, n (%):** 2,525 (100) **Global injury severity:** NR **Severity of TBI (GCS), n (%):** Mild with self-reported LOC: 124* (4.9) Mild with AMS (including self-report of being dazed, confused, seeing stars) and no LOC: 260 (10.3)	**Depression:** PHQ: subjects had to meet DSM-IV criteria and report impairment in work, home, or interpersonal functioning at the "very difficult" level **Other co-morbidities:** PTSD: Subjects had to meet DSM-IV criteria (one intrusion symptom, three avoidance symptoms, and two hyperarousal symptoms) and had to have substantial distress, as measured by a total score of at least 50. Other anxiety disorder: NR Irritability: PHQ-9 Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Measures of Physical Health: Measured by the Patient Health Questionnaire 15-item somatic symptom severity scale (PHQ-15)	**Depression:** Major depression, n (%): **G1:** 27 (22.9) **G2:** 21 (8.4) **G3:** 28 (6.6) **G4:** 55 (3.3) **Taking depression medication:** NR **Other co-morbidities:** PTSD, n (%): **G1:** 54 (43.9) **G2:** 71 (27.3) PTSD Checklist score, mean ± SD: **G1:** 46.8 ±19.0 **G2:** 39.8 ±16.3 Other anxiety disorder: NR Substance use: NR Irritability: **G1:** 67 (56.8) **G2:** 118 (47.6) Aggression: NR Suicidality: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Patient Health Questionnaire score ≥15, n (%): **G1:** 30 (24.8) **G2:** 41 (16.1) Post-concussive memory problems, n (%): **G1:** 29/118 (24.6) **G2:** 41/253 (16.2) **G3:** 58/422 (13.7) **G4:** 124/1,680 (7.4)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hoge et al., 2008		**Mechanism/type of injury, n (%):** Blast/explosion: **G1:** 98 (79.0) **G2:** 189 (72.7) Bullet: **G1:** 6 (4.8) **G2:** 2 (0.8) Fragment/shrapnel: **G1:** 31 (25.0) **G2:** 48 (18.5) Fall : **G1:** 38 (30.6) **G2:** 73 (28.1) MVA: **G1:** 38 (30.6) **G2:** 47 (18.1) Other: **G1:** 16 (12.9) **G2:** 23 (8.8) **Area of brain injured:** NR **Concomitant injuries, n (%):** Other injury: Total: 435 (17.2)	Post-concussive symptoms concerning memory, balance, concentration, ringing in ears, and irritability were assessed by five additional questions that were not part of the PHQ-15.	Post-concussive balance problems, n (%): **G1:** 10/120 (8.3) **G2:** 17/254 (6.7) **G3:** 12/424 (2.8) **G4:** 26/1,677 (1.6) Post-concussive ringing in the ears, n (%): **G1:** 28/119 (23.5) **G2:** 45/251 (17.9) **G3:** 59/422 (14.0) **G4:** 99/1,675 (5.9) Post-concussive concentration problems, n (%): **G1:** 37/118 (31.4) **G2:** 65/250 (26.0) **G3:** 76/420 (18.1) **G4:** 170/1,667 (10.2) Post-concussive irritability, n (%): **G1:** 67/118 (56.8) **G2:** 118/248 (47.6) **G3:** 154/419 (36.8) **G4:** 409/1,659 (24.7)

*Adapted from the definitions of the Centers for Disease Control and Prevention and the World Health Organization by the Defense and Veterans Brain Injury Center working group for military-wide use

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Holsinger et al., 2002 **Country, Setting:** US, other **Enrollment Period:** 1996 to 1997 **Design:** Cross-sectional **Time from injury:** Approximately 50 years **Length of follow up:** NA **Dep. Scale/Tool:** DSM-IV	**Inclusion criteria:** • World War II US Navy or Marine Corps male veterans who were on active duty during 1944-1945 and hospitalized during their military service with a diagnosis of head injury, pneumonia, or laceration, puncture, or incision wounds • Head trauma that was documented in the military medical records, occurred during military service, and produced LOC, PTA, or nondepressed skull fracture **Exclusion criteria:** • Head trauma that penetrated the duramater or resulted in significant cognitive impairment or neurological sequelae (likely to cause substantial limitation in ADLs) more than 3 months after trauma • Dementia • Head injury prior to enlistment	**Group(s):** **G1:** Veterans with recorded HI **G2:** Veterans with no recorded HI **N screened:** 5,444 **N eligible:** **G1:** 578 **G2:** 1,198 **N included:** **G1:** 528 **G2:** 1,198 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 73.2 ± 3.4 **G2:** 72.5 ± 3.8 **Age ≥16, n (%):** 1,718 (100) **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury, %:** MVC: 26 Blast concussion: 17 Fights with peers: 7 Falls: 19 Sports injuries: 12 Miscellaneous other war time happenings: 19	**Depression:** Major depression: 5 symptoms which included depressed mood or loss of interest/ pleasure Minor depression: 2 symptoms, at least one of which had to be depressed mood or loss of interest/ pleasure Lifetime depression: 2 wks of any of the following: Depressed, sad, or blue mood Loss of interest/ pleasure Irritability **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: CAGE interview questionnaire ≥ 2 positive responses, indicative of possible alcohol abuse Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, lifetime, %:** Major depression: **G1:** 18.5 **G2:** 13.4 Minor depression: **G1:** 7.1 **G2:** 5.3 Depression, life-time, HI severity, OR vs. no HI: Severe: 1.99 Moderate:1.40 Mild: 1.49 Major depression, current, %: **G1:** 11.2 **G2:** 8.5 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use, n: **G1:** 409 **G2:** NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Holsinger et al., 2002	**TBI Def:** Mild injury: LOC or PTA < 30 minutes with no skull fracture Moderate injury: LOC or PTA > 30 minutes but less than 24 hours and/or a skull fracture Severe injury: LOC or PTA for 24 hours or longer	**Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hoofien et al., 2001 **Country, Setting:** Israel, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 14.1 ± 5.5 **Length of follow up:** NA **Dep. Scale/Tool:** SCL-90-R	**Inclusion criteria:** • Medically documented TBI occurring at least 5 yrs prior to the study **Exclusion criteria:** • Severe psychiatric problems • Substance abuse **TBI Def:** NR	**Group(s):** Patients with severe TBI **N screened:** 321 **N eligible:** 198 **N included:** 76 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 24.9 ± 7.6 **Age ≥16, n (%):** 76 (100) **Global injury severity:** NR **Severity of TBI, duration of coma, n (%):** No coma: 5 (6.6) < 24 hrs: 9 (11.8) 1-7 days: 13 (17.1) 8-30 days: 26 (34.2) ≥ 30 days: 21 (27.6) **Mechanism/type of injury, n (%):** MVC: 48 (64) Combat: 19 (25) Work accident: 9 (11) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCL-90-R > 95th percentile of normative data **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90-R > 95th percentile Irritability: NR Aggression: SCL-90-R > 95th percentile Suicidality: NR Substance use: NR Other psychiatric diagnoses: SCL-90-R > 95th percentile **Health related QoL or functional status:** GSI Acceptance of Disability Questionnaire Extended ADL: social activities, home activities, and independence in mobility subscales	**Depression, %:** 45.3 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety, %: 43.8 Irritability: NR Aggression: Elevated SCL-90-R hostility score, %: 51.6 Suicidality: NR Substance use: NR Other psychiatric diagnoses, %: Psychoticism: 35.6 Obsessive-compulsive: 29.7 Phobic-ideation: 27.7 Paranoid ideation: 7.9 Interpersonal: 6.5 **Health related QoL or functional status:** GSI score, mean ± SD: 5.5 ± 0.71 Correlation between acceptance of disability and GSI and SCL-90-R subscales: GSI score: -0.65 Somatization: -0.65 Obsessive-compulsive: -0.59 Interpersonal sensitivity: -0.51 Depression: -0.70 Anxiety: -0.53 Anger-hostility: -0.47 Phobic ideation: -0.48 Paranoid ideation: -0.52 Psychoticism: -0.55

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hoofien et al. 2001				Correlation between behavior evaluation checklist (n=34 family members) and GSI and SCL-90-R subscales: GSI score: 0.49 Somatization: 0.42 Obsessive-compulsive: 0.40 Interpersonal sensitivity: 0.34 Depression: 0.45 Anxiety: 0.51 Anger-hostility: 0.51 Phobic ideation: 0.43 Paranoid ideation: 0.40 Psychoticism: 0.46 IQ score, mean ± SD: Verbal: 94.42 ± 14.02 Performance: 86.05 ± 12.17 Full-Scale: 90.10 ± 12.61 WMS-R logical memory score, mean ± SD: Immediate: 21.62 ± 8.33 Delayed trial: 6:17 ± 8.21 WMS-R visual reproduction score, mean ± SD: Immediate: 30.74 ± 7.13 Delayed trial: 24.09 ± 10.03 Rey AVLT total learning score mean± SD: 39.05 ± 9.07

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hoofien et al. 2001				Extended ADL subscale score, mean ± SD: Social activities: 2.17 ± 0.93 Home activities: 3.02 ± 1.07 Independence in mobility: 2.98 ± 0.77

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Huang et al., 2005 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 1 year **Length of follow up:** NA **Dep. Scale/Tool:** SCID, ZDS	**Inclusion criteria:** • TBI patients with closed head injuries **Exclusion criteria:** • Open head injuries • Penetrating head injuries (e.g., stab wounds and missile wounds) • Non-traumatic brain injuries (e.g., stroke, malignancy and anoxic brain injuries) • Past or present disabling injuries in addition to brain trauma (e.g., patients with spinal cord and brain injuries) • Pre-existing or current DSM-IV Axis I and II psychiatric disorders as determined by a psychiatrist at the institution **TBI Def:** Mild: GCS score of 13 to 15 Moderate: GCS score of 9 to 12 Severe: GCS score of 3 to 8	**Group(s):** **G1:** Patients with mild TBI **G2:** Patients with moderate TBI **G3:** Patients with severe TBI **N screened:** 70 **N eligible:** 61 **N included:** **G1:** 22 **G2:** 20 **G3:** 17 **N at conclusion:** NA **Depression:** Prior to injury: None (see exclusion criteria) At time of injury: None (see exclusion criteria) **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 45.5 ± 8.2 **G2:** 45.9 ± 7.7 **G3:** 41.7 ± 6.7 **Age ≥16, n (%):** 59 (100) **Global injury severity:** NR **Severity of TBI, n:** Severe: 17 Moderate: 20 Mild: 22	**Depression:** SCID: DSM-IV criteria ZDS cutoff: 55 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, SCID, n (%):** **G1:** 0 **G2:** 1 (5) **G3:** 7 (41) MDD, ZDS, n (%): **G1:** 0 **G2:** 0 **G3:** 10 (59) ZDS score, mean ± SD: **G1:** 24.9 ± 2.1 **G2:** 42.8 ± 3.5 **G3:** 54.7 ± 4.8 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Huang et al., 2005		**Mechanism/type of injury:** Closed head injury **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Arndt, Forrester et al., 1993 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NA **Length of follow up:** 12 months **Dep. Scale/Tool:**, DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Shock trauma admissions with acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1:** Patients with acute-onset major depression **G2:** Patients with delayed-onset major depression **G3:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** **G1:** 17 **G2:** 11 **G3:** 32 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** History of psychiatric disorder: **G1:** 12 (70.6) **G2:** 9 (81.8) **G3:** 6 (19.3) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 26.8 ± 5.8 **G2:** 28.9 ± 6.4 **G3:** 29.5 ± 11.7 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAM-D); Present State Examination (PSE) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC)	**Depression, n (%):** Initial evaluation: MDD: 17/66 (25.8) Minor depression: 2/66 (3.0) Delayed onset: MDD: 11/66 (16.7) Minor depression: 4/66 (6.1) HAM-D score, mean ± SD: **G1:** 13.8 ± 3.2 **G2:** 11.0 ± 1.3 **G3:** 5.5 ± 2.4 **Taking depression medications, n:** ≥ 2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** JHFI score, mean ± SD: **G1:** 2.2 ± 3.3 **G2:** 0.4 ± 0.8 **G3:** 1.0 ± 0.9 **G1/G2:** $P < 0.05$ STC score, mean ± SD: **G1:** 4.2 ± 1.2 **G2:** 4.3 ± 1.6 **G3:** 3.6 ± 1.1 **G1/G3:** $P < 0.05$ **G2/G3:** $P < 0.05$

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 1993		**Severity of TBI, %:** Severe: **G1:** 26 **G2:** 13 **G3:** 20 Moderate: **G1:** 32 **G2:** 53 **G3:** 34 Mild: **G1:** 42 **G2:** 43 **G3:** 46 GCS score, mean ± SD: **G1:** 9.0 ± 3.3 **G2:** 8.3 ± 3.0 **G3:** 10.6 ± 3.3 **Mechanism/type of injury:** NR **Area of brain injured, %:** Diffuse: 47 Mass lesions: 36 **Concomitant injuries:** NR		SFE score, mean ± SD: **G1:** 0.190 ± 0.160 **G2:** 0.248 ± 0.120 **G3:** 0.091 ± 0.060 **G1/G3:** $P < 0.05$ **G2/G1:** $P < 0.05$ **G2/G3:** $P < 0.05$

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Starkstein, and Arndt, 1994 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days, median (IQR):** 31 (32) **Length of follow up:** 12 months **Dep. Scale/Tool:** DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1:** Patients with major depression **G2:** Patients with major depression and anxiety **G3:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** **G1:** 10 **G2:** 7 **G3:** 47 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** Psychiatric disorder: **G1:** 2 (20) **G2:** 2 (29) **G3:** 11 (24) Personal history of alcohol abuse, %: **G1:** 40 **G2:** 14 **G3:** 17 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 29.4 ± 6.2 **G2:** 25 ± 5.0 **G3:** 30.1 ± 10.8 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAMD-D); Present State Examination (PSE) **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-III R criteria for Anxiety & depression PSE for mood & anxiety disorders Irritability: NR Aggression: NR Suicidality: NR Substance use: Other psychiatric diagnoses: **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI)	**Depression, n (%):** MDD: 17/66 (25.8) HAM-D score, mean ± SD: **G1:** 12.6 ± 2.9 **G2:** 15.4 ± 2.9 **G3:** 6.7 ± 2.6 **Taking depression medications, n:** Benzodiazepines: **G1+G2:** 16 Antidepressants: **G1+G2:** 0 **Other co-morbidities:** PTSD: NR Other anxiety disorder: PSE score, mean ± SD: **G1:** 18.1 ± 3.7 **G2:** 21.8 ±4.2 **G3:** 7.2 ± 4.6 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, JHFI score, mean ± SD:** **G1:** 2.1 ± 2.0 **G2:** 0.86 ± 1.1 **G3:** 1.5 ± 2.8

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 1994		**Severity of TBI, %:** Severe: **G1:** 33 **G2:** 33 **G3:** 13 Moderate: **G1:** 56 **G2:** 50 **G3:** 64 Mild: **G1:** 11 **G2:** 17 **G3:** 23 GCS score, median (IQR): **G1:** 8.3 (3) **G2:** 10.5 (7) **G3:** 9 (6.75) **Mechanism/type of injury:** NR **Area of brain injured, CT scan, %:*** Focal injuries: **G1:** 30 **G2:** 57 **Concomitant injuries:** NR		

* Anxious depressions were associated with the presence of right hemisphere lesions (*P*=0.007), whereas depression alone was associated with left anterior lesion location (*P*= 0.003). In addition, the presence of frontal lesions (right, left, or bilateral) was associated with a decreased probability of developing anxious depressions (*P*= 0.02).

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Starkstein, and Arndt, 1994 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, n:** 3 months: 52 6 months: 43 12 months: 43 **Length of follow up:** 12 months **Dep. Scale/Tool:** Modified version of the PSE using DSM-III-R criteria	**Inclusion criteria:** • Acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** 52* **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions:** Unable to determine **N with prior TBI:** NR **Age, yrs ± SD:** NR **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: 17 Moderate: 68 Mild: 15 GCS score, median (IQR): 10 (6) **Mechanism/type of injury:** MVA: “Most” **Area of brain injured:** Reported but unable to determine from data presented **Concomitant injuries:** NR	**Depression:** DSM-III-R criteria **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC)	**Depression, n (%):** MDD: 13 (25) Minor depression: 1 (2) **Taking depression medications:** NR **Other co-morbidities, n:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Bipolar disorder: 1/52 Secondary mania (elevated mood): 5/52 **Health related QoL or functional status:** Poor psychosocial outcome, n: Long-lasting MDD: 4/6 No affective disorder: 3/19 *P* = 0.03 Poor ADL’s outcome, n: Long-lasting MDD: 2/4 No affective disorder: 0/10 *P* = 0.03

* Completed at least 3 of 4 follow-up evaluations

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge et al., 2004 See Tateno et al., 2003 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 12 months **Dep. Scale/Tool:** SCID	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Penetrating head injuries • Clinical or radiological findings suggesting spinal cord injury • Patients with severe comprehension deficits (i.e., those who were unable to complete part II of the Token Test) that precluded a thorough neuropsychiatric evaluation **TBI Def:** Mild TBI: GCS score between 13 and 15 Moderate TBI: GCS score between 9 and 12, or GCS score of 12 to 15 with intracranial surgical procedures or with focal lesions greater than 15 mL Severe TBI: GCS score between 3 and 8	**Group(s):** **G1:** Patients with TBI **G2:** Trauma patients without central nervous system damage **N screened:** NR **N eligible:** NR **N included:** **G1:** 91 **G2:** 27 **N at conclusion:** **G1:** 74 **G2:** 27 **Depression, n (%):** Prior to injury: **G1:** 18 (19.8) **G2:** 4 (14.8) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 36.4 ± 15.7 **G2:** 35.7 ± 14.1 **Age ≥16, n (%):** NR **Global injury severity, AIS score, mean:** 16.8 **Severity of TBI, %:** Mild: 44.3 Moderate: 32.5 Severe: 23.2 **Mechanism/type of injury, %:** MVA: 74.7 Fall: 17.6 Assault: 3.3 Other (sports): 4.4	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: see below Other anxiety disorder: SCID: PTSD, GAD, panic Irritability: NR Aggression: Overt Aggression Scale (OAS) Suicidality: NR Substance use: NR Other psychiatric diagnoses: **Health related QoL or functional status:** FIM RAVLT WCST Trail Making Test Stroop Color-Word Interference Test Multilingual Asphasia Examination	**Depression, n (%):** 30 (33) **Taking depression medications, n (%):** 8 (33) **Other co-morbidities, %:** PTSD: See below Other anxiety Disorder (includes PTSD): 43.2 Irritability: NR Aggression: 36.5 Suicidality: NR Substance use: Concurrent alcohol abuse, patients with TBI and major depression: 6.7 Concurrent other drug abuse, patients with TBI and major depression: 6.7 Other psychiatric diagnoses: NR **Health related QoL or functional status:** FIM score, mean: 62.7 RAVLT score, mean ± SD: 8.33 ± 2.77 WCST Perseverative score, mean ± SD: 13.92 ± 11.09 Categories achieved, mean ± SD: 2.25 ± 1.60 Trail Making Test score, mean ± SD: 37.08 ± 15.18

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 2004		**Area of brain injured, %:** Diffuse lesions: 72.1 Focal pattern of injury: 27.9 **Concomitant injuries:** NR		Stroop Color-Word Interference Test score, mean ± SD: 31.83 ± 10.30 Multilingual Asphasia Examination score, mean ± SD: 34.08 ± 12.06

*See Appendix X for standard definitions of depression tools

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kant et al., 1998 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** DSM-III-R, BDI	**Inclusion criteria:** • Closed head injury (CHI) **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS 13 to15 and/or LOC < 20 min Moderate TBI: GCS 9 to12 and/or LOC > 20 min but < 24 hrs Severe TBI: GCS < 8 and/or LOC > 24 hrs	**Group(s):** **G1:** CHI with apathy and no depression **G2:** CHI with depression and no apathy **G3:** CHI with apathy and depression **G4:** CHI with neither apathy nor depression **N screened:** NR **N eligible:** NR **N included:** **G1:** 9 **G2:** 9 **G3:** 50 **G4:**15 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** History of psychiatric treatment: 10 (12) **N with prior TBI (%):** 8 (9.6) **Age, yrs ± SD:** **G1:** 29.00 ± 11.88 **G2:** 41.77 ± 12.94 **G3:** 38.12 ± 11.46 **G4:** 42.13 ± 12.93 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** DSM-III-R criteria BDI > 11 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Apathy Evaluation Scale **Health related QoL or functional status:** NR	**Depression, n (%):** 59 (71.1) BDI score, mean ± SD: **G1:** 7.33 ± 2.5 **G2:** 18.00 ± 5.26 **G3:** 23.52 ± 8.58 **G4:** 6.2 ± 2.42 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Apathy, AES, n (%): 59 (71.1) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kant et al., 1998		**Severity of TBI, n (%):** Severe: **G1:** 3/9 (33.3) **G2:** 1/9 (11.1) **G3:** 1/50 (2.0) **G4:** 4/15 (26.7) Moderate: **G1:** 0/9 **G2:** 0/9 **G3:** 6/50 (12) **G4:** 2/15 (13.3) Mild: **G1:** 6/9 (66.7) **G2:** 8/9 (89.9) **G3:** 40/50 (80.0) **G4:** 8/15 (53.3) Unknown: **G1:** 0/9 **G2:** 0/9 **G3:** 3/50 (6.0) **G4:** 1 (6.7) Mechanism/type of injury: NR **Area of brain injured:** NR **Concomitant injuries, n (%):** History of multiple head injuries: 8/83 (9.6)		

*See Appendix X for standard depression definitions

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kashluba et al., 2006 **Country, Setting:** Canada, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury days ± SD:** **G1:** 12.09 ± 5.84 **Length of follow up:** 3 months **Dep. Scale/Tool:** ICD-10	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • History of inpatient treatment for any psychiatric disorder • Diagnosis of mental retardation • Inability to read fluently in English based on self-report • History of TBI more severe than MTBI at any point in their life • MTBI within 1 year prior to participation in the MTBI study • Any ongoing central nervous system disorder • Concurrent pregnancy **TBI Def:** According to ACRM criteria	**Group(s):** **G1:** Participants with TBI **G2:** Uninjured participants matched by age, sex, and years of education **N screened:** NR **N eligible:** NR **N included:** **G1:** 110 **G2:** 118 **N at conclusion:** **G1:** 110 **G2:** 118 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 33.06 ± 12.03 **G2:** 30.44 ± 11.68 **Age ≥16, n (%):** 228 (100) **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** Problem Checklist from the New York Head Injury Family Interview ICD-10 definition for PCS **Other co-morbidities:** PTSD: NR Other anxiety disorder: Problem Checklist from the New York Head Injury Family Interview ICD-10 definition for PCS Irritability: ICD-10 definition for PCS Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** PCS symptoms using ICD-10 definition for PCS: fatiguing quickly, dizziness/vertigo, poor concentration, being forgetful, headaches, sleep disturbances, irritability	**Depression, 1 month, %:** **G1:** 40 **G2:** 33 **G1/G2:** *P* = NS Depression, 3 months, %: **G1:** 39 **G2:** 37 **G1/G2:** *P* = NS **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Anxiety/tension,1 month: **G1:** 63 **G2:** 60 **G1/G2:** *P* = NS Anxiety/tension, 3 months: **G1:** 51 **G2:** 58 **G1/G2:** *P* = NS Irritability, 1 month: **G1:** 61 **G2:** 47 **G1/G2:** *P* < 0.05 Irritability, 3 months: **G1:** 56 **G2:** 47 **G1/G2:** *P* = NS Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kashluba et al. 2006				**Health related QoL or functional status, %:** Fatiguing quickly, 1 month: **G1:** 90 **G2:** 33 **G1/G2:** *P* < 0.05 Fatiguing quickly, 3 months: **G1:** 59 **G2:** 36 **G1/G2:** *P* < 0.05 Dizziness/vertigo, 1 month: **G1:** 59 **G2:** 22 **G1/G2:** *P* < 0.05 Dizziness/vertigo, 3 months: **G1:** 27 **G2:** 16 **G1/G2:** *P* < 0.05 Poor concentration, 1 month: **G1:** 63 **G2:** 35 **G1/G2:** *P* < 0.05 Poor concentration, 3 months: **G1:** 42 **G2:** 37 **G1/G2:** *P* = NS Being forgetful, 1 month: **G1:** 74 **G2:** 47 **G1/G2:** *P* < 0.05 Being forgetful, 3 months: **G1:** 48 **G2:** 50 **G1/G2:** *P* = NS Headaches, 1 month: **G1:** 76 **G2:** 58 **G1/G2:** *P* < 0.05

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kashluba et al. 2006				Headaches, 3 months: **G1:** 58 **G2:** 59 **G1/G2:** *P* = NS Sleep disturbances, 1 month: **G1:** 72 **G2:** 47 **G1/G2:** *P* < 0.05 Sleep disturbances, 3 months: **G1:** 50 **G2:** 40 **G1/G2:** *P* = NS

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Keiski et al., 2007 **Country, Setting:** Canada, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, months ± SD:** 17.8 ± 16.8 **Length of follow up:** NA **Dep. Scale/Tool:** PAI	**Inclusion criteria:** • 18 to 49 years of age • At least a mild TBI **Exclusion criteria:** • Injury received prior to age 15 years • Diagnosis of a condition unrelated to the brain injury (e.g., schizophrenia, developmental disability) that would grossly affect subject performance • Any deficits preventing a subject from completing a substantial portion of a comprehensive neuropsychological evaluation (e.g., aphasia, sensory impairment) **TBI Def:** Mild TBI: Head injury resulting in any period of loss of consciousness, any loss of memory (whether retrograde or anterograde), any alteration in mental state, or focal neurological deficits (based on ACRM criteria)	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 53* **N at conclusion:** NA **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 33.7 ± 10.1 **Age ≥16, n (%):** 53 (100)* **Global injury severity:** NR **Severity of TBI, n (%):** Moderate: 16 (30.1) Mild: 37 (69.8) **Mechanism/type of injury:** Most were MVA **Area of brain injured:** NR **Concomitant injuries:** NR **Baseline depression status:** NR	**Depression:** PAI > 70 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, n (%):** 24/43 (55.8) * **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

* Study does not account for difference between group size and total N included

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kennedy et al., 2005 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 76 ± 94 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • At least 18 yrs old • At least 3 months postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** Damage to brain tissue caused by an external mechanical force, as evidenced by LOC due to head trauma, PTA, skull fracture, or objective neurological findings Mild TBI: GCS score of 13 to 15 Moderate TBI: GCS score of 9 to 12 Severe TBI: GCS score of 3 to 8	**Group(s):** Participants with TBI **N screened:** NR **N eligible:** NR **N included:** 78 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD (range):** 38 ± 12.2 (18-69) **Age ≥16, n (%):** 78 (100) **Global injury severity:** NR **Severity of TBI, GCS score, %:*** Severe: 43 Moderate: 12 Mild: 45 GCS score, mean ± SD: 9.33 ± 4.8 **Mechanism/type of injury, %:** MVC: 77 Assault: 12 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria for MDD or depression due to general medical condition (GMC) **Other co-morbidities:** PTSD: Other anxiety disorder: Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, SCID-I, %:** Total depressive disorder: 50 MDD: 14 Current MDD with/ without a GMC at evaluation, %: 30 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

* GCS unavailable for 37% of participants

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kersel et al., 2001 See Marsh and Kersel, 2006 **Country, Setting:** New Zealand, tertiary care center **Enrollment Period:** April 1993 to August 1996 **Design:** Prospective cohort **Time from injury, days ± SD (range):** 201 ± 23 (153-277); 387 ± 33 (345-497) **Length of follow up:** 12 months **Dep. Scale/Tool:** BDI short form, HIBS	**Inclusion criteria:** • 16 to 60 yrs old • Consent obtained from next-of-kin to participate in the study • Severe TBI as indicated by a GCS score of < 9 obtained prior to intubation and within 24 hours of the injury • The patient was required to be ventilated on clinical grounds for > 24 hours, where the ventilation was, at least in part, required for the treatment of the TBI • English-speaking **Exclusion criteria:** • Previous psychiatric history • Prior significant TBI requiring hospitalization **TBI Def:** Severe TBI: GCS score of < 9	**Group(s):** Patients with TBI **N screened:** 123 **N eligible:** 123 **N included:** 123 **N at conclusion:** 58 **Depression:** Prior to injury: None, see inclusion criteria At time of injury: None, see inclusion criteria **Other preexisting psychiatric conditions:** None, see inclusion criteria **N with prior TBI:** NR **Age, yrs ± SD:** 28 ± 11 **Age ≥16, n (%):** 123 (100) **Global injury severity:** NR **Severity of TBI, %:** Severe: 100 **Mechanism/type of injury, n (%):** Road traffic crash: 49 (75) Fall: 7 (11) Assault: 5 (8) Other causes (including sports injuries): 4 (6) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** BDI short form: NR HIBS, patient version: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HIBS Irritability: HIBS Aggression: HIBS Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** HIBS describes other characteristics in addition to depression and anxiety Glasgow outcome scale (GOS): Severely disabled, moderately disabled & good recovery	**Depression (BDI), 6 mos, n (%):** Severe depression: 9 (16) Mild depression: 5 (9) Total clinically depressed: 14 (24) BDI score, 6 mos, mean ± SD: 3.54 ± 4.39 Depression (HIBS), 6 mos, n (%): 25 (42) Depression (BDI), 12 mos, n (%): Severe depression: 6 (10)* Mild depression: 8 (14)* Total clinically depressed: 14 (24) BDI score, 12 mos, mean ± SD: 3.61 ± 4.64. Depression (HIBS), 12 mos, n (%): 28 (47) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: 6 mos: 23 (39) 12 mos: 26 (44) Irritability: 6 mos: 29 (49) 12 mos: 26 (44) Aggression: 6 mos: 8 (14) 12 mos: 9 (15) Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kersel et al., 2001				**Health related QoL or functional status (HIBS), n (%):** Impatient: 6 mos: 30 (51) 12 mos: 38 (64) Argumentative: 6 mos: 26 (44) 12 mos: 21 (36) Anger: 6 mos: 25 (42) 12 mos: 26 (44) Lack of Interest: 6 mos: 24 (41) 12 mos: 19 (32) Loss of Motivation: 6 mos: 21 (36) 12 mos: 16 (27) Overly sensitive: 6 mos: 19 (32) 12 mos: 20 (34) Impulsive: 6 mos: 17 (29) 12 mos: 23 (39) Mood changes: 6 mos: 15 (25) 12 mos: 15 (25) Dependent: 6 mos: 15 (25) 12 mos: 13 (22) Poor insight: 6 mos: 13 (22) 12 mos: 13 (22) Childish: 6 mos: 13 (22) 12 mos: 13 (22) Poor decision making: 6 mos: 10 (17) 12 mos: 14 (24) Complaining: 6 mos: 10 (17) 12 mos: 13 (22) Social Behavior: 6 mos: 9 (15) 12 mos: 9 (15)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kersel et al., 2001				Irresponsible: 6 mos: 7 (12) 12 mos: 2 (3) Lack of initiative: 6 mos: 5 (8) 12 mos: 7 (12) Leisure Activities, n (%): Socially active: Pre-injury: 60 (95) 6 mos: 39 (62) 12 mos: 44 (70) GOS, 6 mos, n (%): Severely disabled: 20 (31) Moderately disabled: 19 (29) Good recovery: 26 (40) GOS, 12 mos, n (%): Severely disabled: 19 (29) Moderately disabled: 13 (20) Good recovery: 33 (51)

* 7 patients (3 mild and 4 severely depressed) experienced same level of depression at both 6 months and 1 year post injury.

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kinsella et al., 1988 **Country, Setting:** Australia, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury mos, n (%):** **G1:** <6: 12 (30.7) 7-12: 11 (28.2) 13-18: 8 (20.5) 19-24: 8 (20.5) **G2:** NA **Length of follow up:** NA **Dep. Scale/Tool:** Leeds Scales for Anxiety and Depression, VAS-D	**Inclusion criteria:** • 16 to 60 yrs old • Within 2 yrs of injury • "Close others" had frequent and personal contact with the head injured patients over a variety of situations during the last 2-3 months **Exclusion criteria:** • Premorbid history of serious brain impairment **TBI Def:** Severe CHI: Brain damage without skull penetration, and had been unconscious and incurred a PTA of greater than 24 hrs	**Group(s):** **G1:** Patients with CHI **G2:** "Close others" to CHI patients **N screened:** NR **N eligible:** NR **N included:** **G1:** 39 **G2:** 35 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean:** **G1:** 27.8 **G2:** NR **Age ≥16, n (%):** **G1:** 39 (100) **G2:** NR **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n (%):** Duration of LOC: <24 hours: 3 (7.7) 1-7 days: 9 (23.1) 1-4 weeks: 14 (35.9) >4 weeks: 10 (25.6) Unknown: 3 (7.7) Duration of PTA: 1-7 days: 1 (2.6) 1-4 weeks: 9 (23.1) >4 weeks: 29 (74.4) **Mechanism/type of injury:** The cause of injury for all but three subjects was due to motor vehicle accidents	**Depression:** Leeds Scale for Depression: 15-items that describe common symptoms of depression and cut-off points used were the recommended 6/7 Visual Analogue Scale for Depression: The distance (measured in mm), from the non-depressed ends of the scale to where the subjects mark the scale indicates the severity of depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: Leeds Scale for Anxiety, Visual Analogue Scale for Anxiety, Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: GHQ: **Health related QoL or functional status:** Physical disability: According to the classification system, physical independence is rated between zero and eight; a continuous scale measures between 'fully independent' and 'intensive dependence'	**Depression, n (%)*:** Leeds Scale for Depression: **G1:** 13 (33.3) VAS-D: **G1/G2:** ρ= 0.5090 **Taking depression medications:** NR **Other co-morbidities, n (%)*:** PTSD: NR Other anxiety disorder: Leeds: **G1:** 10 (25.6) VAS-A: **G1/G2:** ρ= 0.5265 Irritability :NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: GHQ minor non-psychotic psychiatric disorders: **G1:** 23 (59.0) **Health related QoL or functional status:** Physical Disability: A high score on the GHQ was best predicted by physical handicap (accounting for 12% of the variance)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kinsella et al., 1988		**Area of brain injured:** NR **Concomitant injuries:** NR		

* N calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Koponen et al., 2002* Koponen et al., 2004^ See Koponen et al., 2005; Koponen et al., 2006 **Country, Setting:** Finland, tertiary center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 31.4 ± 4.4 **Length of follow up:** NA **Dep. Scale/Tool:** SCAN	**Inclusion criteria:** • Head trauma severe enough to cause TBI and neurological symptoms (including headache and nausea) lasting at least 1 week • At least one of the following: LOC ≥ 1 minute, PTA ≥ t 30 minutes, neurological symptoms (excluding headache and nausea) during the first 3 days after the injury, or neuroradiological findings suggesting TBI (e.g., skull fracture, intracerebral hemorrhage) **Exclusion criteria:** • Neurological illness before the brain injury • Clinical symptoms of a nontraumatic neurological illness that developed after the TBI (excluding dementia) • Insufficient cooperation • Unavailability of medical records	**Group(s):** **G1:** Patients with TBI and positive for the APOE-ε4 allele **G2:** Patients with TBI and negative for the APOE-ε4 allele **N screened:** NR **N eligible:** 210 **N included:** Total*: 60 **G1^:** 19 **G2^:** 41 **N at conclusion:** Total*: 60 **G1^:** 19 **G2^:** 41 **Depression, n:** Prior to injury: 0 At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Schizoaffective disorder: 1 (1.7) Delusional disorder: 0 Psychotic disorder not otherwise specified: 0 Bipolar II disorder: 0 Panic disorder: 0 Specific phobia: 5 (8.3) Social phobia: 3 (5) Generalized anxiety disorder: 0 Dissociative amnesia: 0 Alcohol dependence: 3 (5) Alcohol abuse: 2 (3.3) Dementia not otherwise specified: 0	**Depression:** SCAN: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID: DSM-III-R criteria Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID: DSM-III-R criteria Other psychiatric conditions: SCID: DSM-III-R criteria* **Health related QoL or functional status:** NR	**Depression, n:** Total: 16 **G1:** 6 **G2:** 10 Depression, onset post-TBI, n (%): < 1 year: 6 (10) 1-10 years: 0 > 10 years: 10 (16.7) Depression, current, n (%): 6 (10) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety disorder, n:^ Total: 11 **G1:** 3 **G2:** 8 Generalized anxiety disorder, onset post-TBI, n (%):* < 1 year: 0 1-10 years: 1 (1.7) > 10 years: 0 Generalized anxiety disorder, current: 1 (1.7) Substance use: Alcohol abuse or dependence, n:^ Total: 7 **G1:** 2 **G2:** 5 Alcohol dependence, onset post-TBI, n (%):* < 1 year: 1 (1.7) 1-10 years: 0 > 10 years: 0 Alcohol dependence, current, n (%): 2 (3.3)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Koponen et al. 2002* (#524) Koponen et al. 2004^ (#382)	**TBI Def:** Mild TBI: PTA < 1 hour Moderate TBI: PTA 1-24 hours Severe TBI: PTA 1-7 days Very Severe TBI: PTA > 7 days	**N with prior TBI:** NR **Age, yrs ± SD:** 60.8 ± 10.3 **Age ≥16, n (%):** 60 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Very severe: 19 (31.7) Severe: 11 (18.3) Moderate: 15 (25) Mild: 15 (25) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Alcohol abuse, onset post-TBI, n (%): < 1 year: 0 1-10 years: 3 (5.0) > 10 years: 3 (5) Alcohol abuse, current, n (%): 3 (5) Irritability: NR Aggression: NR Suicidality: NR Other psychiatric conditions: Psychotic disorder, n:^ Total: 4 **G1:** 2 **G2:** 2 Schizoaffective disorder, onset post-TBI, n:* < 1 year: 0 1-10 years: 0 > 10 years: 0 Schizoaffective disorder, current, n (%): 1 (1.7) Psychotic disorder NOS, onset post-TBI, n (%): < 1 year: 1 (1.7) 1-10 years: 0 > 10 years: 0 Psychotic disorder NOS, current, n (%): 1 (1.7) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Koponen et al., 2005 See Koponen et al., 2002 & Koponen et al., 2004 **Country, Setting:** Finland, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, median yrs (range):** 29.7 (26-47) **Length of follow up:** NA **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • A head trauma severe enough to cause TBI and neurological symptoms (including headache and nausea) lasting at least 1 week • At least one of the following: LOC ≥ 1 min, PTA ≥ 30 min, neurological symptoms (excluding headache and nausea) during the first 3 days after injury, or neuroradiological findings suggesting TBI (e.g., skull fracture, intracerebral hemorrhage) **Exclusion criteria:** • Neurological illness before TBI • Clinical symptoms of a non-traumatic neurological illness that developed after TBI (excluding dementia) • Insufficient cooperation • Unavailability of medical records **TBI Def:** Mild TBI: PTA < 1 hour Moderate TBI: PTA 1 to 24 hours Severe TBI: PTA 1 to 7 days Very Severe TBI: PTA > 7 days	**Group(s):** **G1:** Patients referred for neuropsychological evaluation due to a recent TBI or with significant disability after an earlier TBI **G2:** Participants matched for gender, age, and severity of depression **N screened:** 210 **N eligible:** 118 **N included:** **G1:** 54 **G2:** 54 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, median (range):** **G1:** 58.8 (44-80) **G2:** 59.0 (44-64) **Age ≥16, n (%):** 108 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Very severe: 18 (33.3) Severe: 8 (14.8) Moderate: 13 (24.1) Mild: 15 (27.8)	**Depression:** SCID: DSM-IV criteria BDI-13: ≥ 16: Severe 8-15: Moderate 5-7: Mild 0-4: None/ minimal **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, SCID, n (%):** MDD: **G1:** 3/54 (5.6) Depression, BDI-13, n (%): Severe: **G1:** 3/52 (5.8) **G2:** 3/54 (5.6) Moderate: **G1:** 14/52 (26.9) **G2:** 14/54 (25.9) Mild: **G1:** 8/52 (15.4) **G2:** 6/54 (14.8) None/minimal: **G1:** 27/52 (51.9) **G2:** 29/54 (53.7) BDI-13 score, median (range): **G1:** 3.5 (0-26) **G2:** 4.0 (0-19) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety Disorder: **G1:** 10/54 (18.5) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol abuse/ dependence: **G1:** 4/54 (7.4) Other psychiatric diagnoses: Alexithymia: **G1:** 17/54 (31.5) **G2:** 8/54 (14.8) Any axis I disorder: **G1:** 18/54 (33.3) Psychotic disorder: **G1:** 3/54 (5.6)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Koponen et al., 2005		**Mechanism/type of injury, n (%):** MVA: 34 (63.0) Fall: 10 (18.5) Falling object: 4 (7.4) Other: 6 (11.1) **Area of brain injured, MRI, n:** Bilateral contusions: 8 Exclusively right hemisphere contusions: 3 Exclusively left hemisphere contusions: 3 **Concomitant injuries:** NR		Bipolar II disorder: **G1:** 1/54 (1.9) Any axis II disorder: **G1:** 17/54 (31.5) Personality disorder: Total: **G1:** 13/54 (24.1) Cluster A: **G1:** 7/54 (13.0) Cluster B: **G1:** 2/54 (3.7) Cluster C: **G1:** 8/54 (14.8) Organic personality syndrome: Total: **G1:** 9/54 (16.7) Labile: **G1:** 5/54 (9.3) Disinhibited: **G1:** 6/54 (11.1) Apathetic: **G1:** 1/54 (1.9) Paranoid: **G1:** 2/54 (3.7) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Koponen et al., 2006 See Koponen et al., 2002 & Koponen et al., 2004 **Country, Setting:** Finland, tertiary care center **Enrollment Period:** January 1998 to April 1999 **Design:** Cross-sectional **Time from injury, yrs ± SD:** 31.5 ± 4.5 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • A head trauma severe enough to cause TBI and neurological symptoms (including headache and nausea) lasting at least 1 week • At least one of the following: LOC ≥ 1 min, PTA ≥ 30 min, neurological symptoms (excluding headache and nausea) during the first 3 days after injury, or neuroradiological findings suggesting TBI (e.g., skull fracture, intracerebral hemorrhage) **Exclusion criteria:** • Neurological illness before TBI • Clinical symptoms of a non-traumatic neurological illness that developed after TBI (excluding dementia) • Insufficient cooperation • Unavailability of medical records **TBI Def:** Mild TBI: PTA less than 1 hour Moderate TBI: PTA 1 to 24 hours Severe TBI: PTA 1 to 7 days Very severe TBI: PTA greater than 7 days	**Group(s):** Patients with TBI **N screened:** 210 **N eligible:** 118 **N included:** 58 **N at conclusion:** NA **Depression:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** Anxiety disorders: 6 (10.3) Schizoaffective disorder: 1 (1.7) **N with prior TBI:** NR **Age, yrs ± SD:** 60.7 ± 10.2 **Age ≥16, n (%):** 58 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Mild: 15 (25.9) Moderate: 15 (25.9) Severe: 9 (15.5) Very severe: 19 (32.8) **Mechanism/type of injury, n (%):** MVA: 35 (60.3) Fall: 13 (22.4) Falling object: 4 (6.9) Other: 6 (10.3)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-IV criteria Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-IV criteria Other psychiatric diagnoses: DSM-IV criteria **Health related QoL or functional status:** NR	**Depression:** Major depression, n (%): Total: 14 (24.1) Patients with contusions: 3/17 (17.6) Patients without contusions: 11/41 (26.8) *P* = 0.52 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Anxiety disorders: 10 (17.2) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol abuse or dependence: 7 (12.1) Other psychiatric diagnoses: Any Axis I: 27 (46.6) Delusional: 3 (5.2) Psychotic: 1 (1.7) Bipolar II: 1 (1.7) Dissociative amnesia: 1 (1.7) Dementia: 3 (5.2) Any Axis II disorder, n (%): 17 (29.3) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Koponen et al., 2006		**Area of brain injured, patients with contusions on MRI, n (%):** Bilateral: 10/17 (58.8) Right hemisphere only: 4/17 (23.5) Left hemisphere only: 3/17 (17.6) Orbital frontal: 14/17 (82.4) Mesial frontal: 9/17 (52.9) Lateral frontal: 11/17 (64.7) Temporal: 12/17 (70.6) Parietal: 3/17 (17.6) Occipital: 0 **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kreuter et al., 1998 Kreuter et al., 1998^ **Country, Setting:** Sweden, tertiary care center **Enrollment Period:** **G1:** 1971 to 1990 **G2:** November 1982 to July 1991 **G3:** NR **Design:** Cross-sectional **Time from injury, median yrs (range):** **G1:** 9 (1-20) **G2:** 5 (1-9) **G3:** NA **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • 16 to 60 yrs old at time of injury (G1) • Over 18 yrs old at time of study **Exclusion criteria:** • Older than 70 at time of study, commotio cerebri injury, severe injuries precluding participation, or heavy alcohol abuse (G1) • Psychiatric illness (G2) **TBI Def:** NR	**Group(s):** **G1:** Patients with TBI **G2:** Patients with spinal cord injuries **G3:** Healthy participants **N screened:** **G1:** 152 **G2:** 252 **G3:** 334 **N eligible:** **G1:** 116 **G2:** 167 **G3:** 334 **N included:** **G1:** 92 **G2:** 167 **G3:** 264 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 40.5 ± 11.1 **G2:** 38.9 ± 15.7 **G3:** 36.9 ± 15.4 **Age ≥16, n (%):** 523 (100) **Global injury severity:** Patients required an operation due to their intracranial injuries, %:^ **G1:** 45	**Depression:** Six items from the HADS scale **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS Anxiety Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Global quality of life: recorded on a visual analogue scale (VAS) and endpoints were labeled 'very low' and 'very high'. For G2 and G3 participants, a 0-100 scale was applied while the TBI patients were examined with the aid of an earlier scale version linearly transformed to match the current scale. The higher score the better. Functional limitations: SIP GOS: Severe disability Moderate disability Good Recovery	**Depression, %:^** Morbid depression: **G1:** 10 Borderline depression: **G1:** 16 HADS depression score, mean ± SD: **G1^:** 5.4 ± 4.3 **G1:** 4.7 ± 4.0 **G2:** 4.7 ± 3.8 **G3:** 2.7 ± 2.6 **G1/G2:** *P* = NS **G1/G3:** *P* < 0.001 **G2/G3:** *P* < 0.001 **Taking depression medications, %:** **G1^:** 10 **G2:** NR **G3:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder:^ Morbid anxiety: **G1:** 12 Borderline anxiety: **G1:** 18 HADS anxiety score, mean ± SD: **G1^:** 5.8 ± 4.9 **G2:** NR **G3:** NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Kreuter et al., 1998 Kreuter et al., 1998^		**Severity of TBI. PTA, %:^** < 24 hours: **G1:** 3 2-7 days: **G1:** 10 8-14 days: **G1:** 7 15-30 days: **G1:** 21 31-60 days: **G1:** 26 61-90 days: **G1:** 9 > 90 days: **G1:** 24 **Mechanism of injury:^** MVA: **G1:** 60 Falls: **G1:** 20 Acts of violence: **G1:** 11 Other: **G1:** 9 Type of injury, %: Intracerebral haematomas:^ **G1:** 16 Subdural or/and epidural bleeding: **G1:** 38 Contusio cerebri: **G1:** 26 Fractures and intracranial damage: **G1:** 20 Some remaining paresis of either the left or the right side: **G1:** 77 **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** Global QoL score, mean ± SD: **G1:** 63.5 ± 24.3 **G2**: 57.2 ± 28.1 **3:** 69.8 ± 21.3 **G1/G2:** *P* = NS **G1/G3:** *P* = NS **G2/G3:** *P* < 0.001 Functional limitations, mean ± SD: **G1:** 24.6 ± 24.6 **G2:** 30.2 ± 20.2 **G3:** NA QoL and HADS depression, correlation: **G1:** -0.56 (*P* < 0.001) **G2:** -0.69 (*P* < 0.001) **G3:** -0.67 (*P* < 0.001) GOS category, %: Severe disability: **G1:** 11 Moderate Disability: **G1:** 66 Good Recovery: **G1:** 23 QoL and GOS, correlation: **G1:** 0.48 (*P* < 0.001)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Kreutzer et al., 2001 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 2.5 ± 3.5 **Length of follow up:** NR **Dep. Scale/Tool:** SCID, NFI	**Inclusion criteria:** • Patients with brain injury referred for outpatient assessment **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Outpatients with TBI **N screened:** NR **N eligible:** NR **N included:** 722 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 36.0 ± 12.1 **Age ≥16, n (%):** 722 (100) **Global injury severity:** NR **Severity of TBI, LOC, days ± SD (range):** 10.0 ± 27.6 (0-210) **Mechanism/type of injury, %:** MVA: 76 Assault: 8 Falls: 7 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria NFI scales grouped with DSM-IV symptom domains to examine the value of the NFI as a diagnostic instrument **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: DSM-IV Aggression: NR Suicidality: NFI Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, %:** MDD: 42 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: NR Irritability: Jumpy or irritable: 25 Aggression: NR Suicidality: Threaten to hurt themselves: Sometimes: 13 Often or always: 3 Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Levin et al., 2001 See McCauley et al., 2001 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD :** **G1:** 3.20 ± 1.45 **G2:** 3.25 ± 1.59 **Length of follow up:** NA **Dep. Scale/Tool:** SCID, CES-D, VAS-D	**Inclusion criteria:** • 16 years or older • Residence within Harris County (the catchment area for the trauma center) **Exclusion criteria:** • Penetrating missile injury of the brain • History of diagnosed schizophrenia • Mental deficiency • Hospitalization for previous TBI • History of treatment for recent substance abuse • Blood alcohol level exceeding 200 mg/dL when examined in the EC **TBI Def:** Mild TBI: A closed head injury producing a period of unconsciousness no longer than 20 min in duration, lowest postresuscitation GCS score of 13 to 15, no extracranial injury that necessitated surgical repair under general anesthesia, and CT findings within 24 hr after injury indicating normal intracranial findings or a brain lesion that did not require surgical evacuation	**Group(s):** **G1:** Patients with mild/moderate TBI **G1a:** Patients with mild TBI **G1b:** Patients with moderate TBI **G2:** Patients with general trauma **N screened:** NR **N eligible:** NR **N included:** **G1:** 69 **G2:** 52 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 35.06 ± 14.69 **G2:** 36.26 ± 13.39 **Age ≥16, n (%):** 121 (100) **Global injury severity (ISS), mean (range):** **G1:** 5.87 (0-26) **G2:** 4.15 (0-17) **Severity of TBI, n:** Mild: **G1a:** 60 Moderate: **G1b:** 9 **GCS score, mean (range):** **G1:** 14.41 (9-15) **G2:** 15 (NR)	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD: PTSD Checklist Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Outcomes not reported separately for TBI (only for both groups combined) based on depression status	**Depression, SCID, n :** **G1a:** 11 **G1b:** 1 MDD, n (%): **G1:** 12 (17) **G2:** 3 (6) **G1/G2:** *P* = 0.09 CES-D score, mean ± SD: **G1:** 22.14 ± 15.18 **G2:** 17.19 ± 14.57 VAS-D score, mean ± SD: **G1:** 40.79 ± 36.72 **G2:** 23.79 ± 32.80 **Taking depression medications:** NR **Other co-morbidities:** PTSD, n (%): **G1a:** 8 (13) **G1b:** 0 PTSD checklist, mean ± SD: **G1:** 25.53 ± 17.31 **G2:** 17.19 ± 15.46 PTSD and MDD: **G1:** 4 Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Outcomes not reported separately for TBI (only for both groups combined) based on depression status

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Levin et al., 2001	Moderate TBI: lowest postresuscitation GCS score was 9 to 12 with or without evidence of lesion on CT	**Mechanism/type of injury, n (%):** MVA: **G1:** 44 (64) Fall/jump: **G1:** 3 (4) Assault/fight: **G1:** 15 (22) MVA vs. pedestrian: **G1:** 5 (7) Other: **G1:** 2 (3) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Levin et al., 2005 See McCauley et al., 2005 **Country, Setting:** US, trauma center **Enrollment Period:** August 2001 to April 2003 **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 12 weeks **Dep. Scale/Tool:** SCID, CES-D	**Inclusion criteria:** • Arrival to the hospital within 24 hours of injury • Blood alcohol level less than 200 mg/dL • Age 16 years and older • Fluent in English or Spanish • Residing in the hospital catchment area (Harris County, Texas) • Diagnosis of non-penetrating TBI • Lowest post-resuscitation GCS > 8 • CT scan of the brain performed within 24 hours of arrival **Exclusion criteria:** • Undocumented alien, incarcerated, homeless, or on active military service • Spinal cord injury • Previous TBI requiring hospitalization • History of substance dependence, mental retardation, major psychiatric disorders, or other central nervous system disturbance (including patients who were clinically depressed at the time of their injury)	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 239 **N at conclusion:** 129 **Depression:** Prior to injury: None (see exclusion criteria) At time of injury: None (see exclusion criteria) **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI:** NR **Age at conclusion, yrs ± SD:** 31.5 ± 12.8 **Age ≥16, n (%):** 129 (100) **Global injury severity, ISS score, mean ± SD:** 3.1 ± 4.1 GCS score, mean ± SD: 14.8 ± 0.5 **Mechanism/type of injury, n (%):** Car accident: 87 (67.4) Assault: 27 (20.9) Fall/jump: 10 (7.8) Other: 5 (3.9)	**Depression:** SCID: DSM-IV criteria Predictors of MDE at 3 months determined by Odds Ratio (OR) Predictive model includes CES-D score, older age, and CT scan results* **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, 3 months, n (%):** MDE: 15 (11.6) MDE with abnormal CT scan (vs. no CT abnormality), OR (95% CI): 7.68 (1.36-43.48) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Levin et al., 2005	• Other preexisting condition preventing standard administration and interpretation of the outcome measures (e.g., deafness, blindness) • Surgery under general anesthesia during the hospital admission • Positive illicit drug screen results on ER admission • Receiving antidepressant therapy at the time of head injury Participants were screened for illicit drugs at one week and dropped from further participation if testing positive **TBI Def:** Mild TBI: A closed head injury producing a GCS of 13 to 15 on arrival to the hospital with no later deterioration to GCS < 13	**Area of brain injured, CT scan, n (%):** Diffuse injury I (no pathologic features): 115 (89.1) Diffuse Injury II (no lesion > 25 cm^3 with midline shift < 5 mm): 14 (10.8) Lesion location, CT scan, n (%): Left: 3 (21.4) Right: 10 (71.4) Bilateral: 1 (7.2) **Concomitant injuries:** NR		

*Predictive model showed 93% sensitivity and 62% specificity of identifying MDE

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Lima et al., 2008 **Country, Setting:** Brazil, tertiary care center **Enrollment Period:** September 2004 to October 2004 **Design:** Cross-sectional **Time from injury:** At least 18 months **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • GCS score between 13 and 15 with at least one of the following symptoms on hospital admission: headache, vertigo, amnesia, nausea, vomiting or LOC for less than 15 minutes **Exclusion criteria:** • Any history of head trauma (G2) **TBI Def**: Mild head trauma (MHT): A transient neurological deficit after a trauma resulting from acceleration and deceleration forces that cause impairment or LOC lasting less than 15 min, short retrograde amnesia, change in the level of consciousness without focal neurological deficits and GCS score between 13 and 15 at hospital admission	**Group(s):** **G1:** Patients with MHT **G2:** Participants living in the same household as G1 patients **N screened:** NR **N eligible:** **G1:** 41 **N included:** **G1**: 39 **G2:** 39 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI, %:** **G1**: NR **G2:** 0 (see exclusion criteria) **Age, yrs ± SD:** **G1**: 39 ± 2.87 **G2:** 40 ± 2.14 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS score:** **G1:** 13 to 15 Injury on CT, n: **G1:** 6 No injury on CT, n: **G1:** 35 **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** HADS: 15-21: Abnormal 8-14: Borderline 0-7: Normal **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS, see depression cutoffs Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** SF-36	**Depression, n (%):** Abnormal: **G1:** 9 (25.0) **G2:** 4 (11.1) Borderline: **G1:** 7 (19.4) **G2:** 6 (16.7) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Abnormal: **G1:** 17 (47.2) **G2:** 8 (22.2) Borderline: **G1:** 9 (25.0) **G2:** 10 (27.8) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, SF36 domain scores, mean ± SD:** Functional capacity: **G1:** 77.4 ± 3.6 **G2:** 93.0 ± 2.2 Physical aspects: **G1:** 57.7 ± 6.9 **G2:** 71.6 ± 6.1 Pain: **G1:** 59.2 ± 4.9 **G2:** 73.9 ± 4.1 Overall health condition: **G1:** 58.1 ± 5.1 **G2:** 76.1 ± 4.1 Vitality: **G1:** 48.7 ± 4.4 **G2:** 68.1 ± 3.3 Social aspects: **G1:** 59.6 ± 5.0 **G2:** 78.0 ± 3.8

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Lima et al., 2008		**Concomitant injuries:** NR		Emotional aspects: **G1:** 52.1± 6.9 **G2:** 57.7 ± 6.1 Mental health: **G1:** 52.5 ± 4.2 **G2:** 69.4 ± 3.1 Quality of life (mental health), mean ± SD: Injury on CT: **G1:** 72.67± 9.66 No injury on CT: **G1:** 48.85 ± 4.42

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Linn et al., 1994 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 70.3 ± 65.2 **Length of follow up:** NA **Dep. Scale/Tool:** SCL-90-R	**Inclusion criteria:** • At least 1 year postinjury **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** TBI patients **G2:** Spouses **N screened:** NR **N eligible:** NR **N included:** **G1:** 60 **G2:** 60 **N at conclusion:** **G1:** 60 **G2:** 60 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 40.8 ± 10.4 **G2:** 40.8 ± 9.9 **Age ≥16, n (%):** 120 (100) **Global injury severity:** NR **Severity of TBI, PTA, n:** ≤ 1 week: 9 1-2 weeks: 7 > 2 weeks: 41 LOC, days ± SD: 22.0 ± 41.2 **Mechanism/type of injury, n:** MVA: 33 Bicycle accident: 2 Pedestrian: 2 Fall: 7 Industrial accident: 4 Other: 12	**Depression:** SCL-90 R depression subscale, T-scores: < 60: no elevation 60-69: mild elevation 70-79: moderate elevation > 79: severe elevation **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90 R anxiety sub-scale, T-scores: see depression cutoffs Irritability: NR Aggression: Social aggression scale Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Health and Activity Limitations Survey (HALS), including motor disability and sensory disability subscores	**Depression, %:** Severe: **G1:** 15.3 **G2:** 1.7 Moderate: **G1:** 13.6 **G2:** 26.7 Mild: **G1:** 40.7 **G2:** 45 SCL-90 R depression subscale, T-score, mean ± SD: **G1:** 63.9 ± 13.3 SCL-90 R depression scale score, correlation: Years married: **G1:** -0.37 (*P* < 0.01) Cognitive disability: **G1:** 0.59 (*P* < 0.001) Social aggression: **G1:** 0.65 (*P* < 0.001) Motor disability: **G1:** 0.39 (*P* < 0.01) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Anxiety, %: Severe: **G1:** 8.9 **G2:** 1.7 Moderate: **G1:** 8.9 **G2:** 20 Mild: **G1:** 32.1 **G2:** 33.3 SCL-90 R anxiety subscale, T-score, mean ± SD: **G1:** 62.1 ± 16.9 Irritability: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Linn et al., 1994		**Area of brain injured:** NR **Concomitant injuries:** NR		Aggression: Social aggression predicts depression (r^2 change=0.038) Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Quantitative data NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: MacNiven and Finlayson, 1993 **Country, Setting:** Canada, NR **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 1-2 years **Dep. Scale/Tool:** MMPI	**Inclusion criteria:** • Diagnosis of CHI • Neurocognitive test results indicating competence to complete the MMPI **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** Patients with CHI **N screened:** NR **N eligible:** NR **N included:** 59 **N at conclusion:** 14 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, mean yrs:** Men: 27 (n=42) Women: 22 (n=17) **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** MMPI: elevated score in scale 2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Hypochondriasis: MMPI scale 1 Hysteria: MMPI scale 3 Psychopathic deviate: MMPI scale 4 Paranoia: MMPI scale 6 Psychasthenia: MMPI scale 7 Schizophrenia: MMPI scale 8 Hypomania: MMPI scale 9 Social introversion: MMPI scale 0 T-score ≥ 70: elevated MMPI scale **Health related QoL or functional status:** NR	**Depression, elevated scale 2, (%):** Initial assessment: 40.68 1 year: 40.68 2 years: 42.86 MMPI scale 2, T-score, mean ± SD: Initial assessment: 66.24 ± 14.27 1 year: 65.66 ± 15.37 **Taking depression medications:** NR **Other co-morbidities, T-score, mean ± SD:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Hypochondriasis: Initial assessment: 60.32 ± 19.81 1 year: 60.37 ± 10.24 Hysteria: Initial assessment: 61.76 ± 9.47 1 year: 61.44 ± 12.27 Psychopathic deviate: Initial assessment: 63.22 ± 10.41 1 year: 67.53 ± 12.76 Paranoia: Initial assessment: 58.19 ± 10.24 1 year: 58.64 ± 13.75

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
MacNiven and Finlayson, 1993				Psychasthenia: Initial assessment: 58.92 ± 10.84 1 year: 61.81 ± 12.86 Schizophrenia: Initial assessment: 65.85 ± 12.16 1 year: 69.85 ± 15.41 Hypomania: Initial assessment: 64.54 ± 10.69 1 year: 63.86 ± 11.70 Social introversion: Initial assessment: 53.90 ± 8.71 1 year: 52.25 ± 9.62 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Marsh and Kersel, 2006 See Kersel et al., 2001 **Country, Setting:** New Zealand, tertiary care center **Enrollment Period:** April 1993 to August 1996 **Design:** Cross-sectional **Time from injury, days ± SD:** 386 ± 31 **Length of follow up:** NA **Dep. Scale/Tool:** HIBS	**Inclusion criteria:** • Ventilation on clinical grounds was required for > 24 hours, at least in part, for treatment of TBI • Between 16 and 70 years of age **Exclusion criteria:** • Non-English speaking • Previous hospital admission for TBI or psychiatric illness **TBI Def:** NR*	**Group(s):** Patients with TBI and caregivers nominated by family members **N screened:** NR **N eligible:** 123 **N included:** 62 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 28 ± 11 **Age ≥16, n (%):** 62 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Severe: 50 (81) Moderate: 9 (15) Mild: 3 (5) **Mechanism/type of injury, n (%):** Road traffic crash: 47 (76) Fall: 6 (10) Assault: 5 (8) Other: 4 (7) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** HIBS, self-report and caregiver versions: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HIBS Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: Severe disability, Moderate disability, Good recovery	**Depression, n (%):** Self-report: 32 (52) Caregivers: 32 (52) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Self-report: 28 (45) Caregivers: 32 (52) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOSE, n (%): Severe disability: 15 (24) Moderate disability: 13 (21) Good recovery: 34 (55)

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCauley et al., 2001 See Levin et al., 2001 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days ± SD :** 31.4 ± 8.1; 87.7 ± 21.8 **Length of follow up:** 3 months **Dep. Scale/Tool:** SCID, CES-D, VAS-D	**Inclusion criteria:** • At least 16 years of age • Non-penetrating head injury (G1) • CT scan performed within 24 hrs of injury (G1) • Fluency in English or Spanish **Exclusion criteria:** • Previous hospitalization for head trauma • Preinjury major neuropsychiatric disorder • Preinjury substance dependence (including alcohol) • Pre-existing CNS disturbance (e.g., HIV/AIDS, seizure disorder, strokes, Parkinsonism, etc.) • Associated spinal cord injury • Undocumented resident status • Blood alcohol level (BAL) ≥ 200 mg/dL when the GCS score was obtained without external signs of head trauma and in conjunction with a normal CT scan (G1) • Surgery with general anesthesia for extracranial injuries	**Group(s):** **G1:** Patients with TBI **G1a:** Patients with mild TBI **G1b:** Patients with moderate TBI **G2:** Patients with general trauma **N screened:** NR **N eligible:** NR **N included:** **G1:** 115 **G2:** 85 **N at conclusion:** **G1:** 115 **G2:** 85 **Depression, n (%):** Prior to injury: **G1a:** 7 (7.9) **G1b:** 3 (11.5) **G2:** 7 (8.2) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** NR **Age, time of injury, yrs ± SD:** **G1:** 33.4 ± 13.7 **G2:** 34.5 ± 12.5 **Age ≥16, n (%):** 200 (100) **Global injury severity (ISS), mean ± SD:** **G1:** 4.9 ± 6.1 **G2:** 3.7 ± 4.4 **Severity of TBI, n:** Mild: **G1a:** 95 Moderate: **G1b:** 20	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD: SCID PCL-C Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Outcomes not reported by depression status	**Depression, SCID, n (%):** Current MDD, n (%): **G1a:** 19 (21.4) **G1b:** 6 (23.1) **G2:** 14 (16.5) CES-D score, mean ± SD: **G1:** 22.5 ±14.7 **G2:** 19.1 ± 14.1 VAS-D score, mean ± SD: **G1:** 40.1 ± 34.8 **G2:** 28.8 ± 32.1 Dysthymia, n: Total: 2 **Taking depression medications:** NR **Other co-morbidities:** PTSD, SCID, n (%): **G1a:** 11 (12.4) **G1b:** 4 (15.4) **G2:** 12 (14.1) PCL-C score, mean ± SD: **G1:** 24.3±16.7 **G2:** 20.9 ± 17.2 Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: PCD, n (%): **G1a:** 27 (33.0) **G1b:** 8 (30.8) **G2:** 13 (15.3) MDD among PCD patients, %: 47.9 **Health related QoL or functional status:** Outcomes not reported by depression status

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001	**TBI Def:** Mild TBI: A non-penetrating head injury with a LOC, if present, no greater than 20 min, a lowest postresuscitation GCS score of 13 to 15 and no evidence of brain lesion on CT within 24 hrs postinjury Moderate TBI: A non-penetrating head injury with lowest postresuscitation GCS of 9 to 12 with or without evidence of brain lesion on CT within 24 hrs following injury. TBI patients with trauma-related abnormality on CT within 24 hrs postinjury and lowest postresuscitation GCS of 13 to 15 (complicated mild) were included in the moderate category	**Mechanism/type of injury, n (%):** MVA: **G1:** 87 (75.7) **G2:** 51 (60) Assault: **G1:** 18 (15.7) **G2:** 12 (14.1) Fall: **G1:** 7 (6.0) **G2:** 17 (20) Other: **G1:** 3 (2.6) **G2:** 5 (5.9) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCauley et al., 2001 **Country, Setting:** US, trauma centers **Enrollment Period:** October 1994 to November 1998 **Design:** Prospective cohort **Time from injury, days ± SD:** 94.1 ± 10.2 **Length of follow up:** 6 months **Dep. Scale/Tool:** NRS-R	**Inclusion criteria:** • 15 to 65 yrs old • Abnormal CT within 24 hrs of injury • Postresuscitation GCS motor score of 1 to 5 (total GCS ≤ 8) **Exclusion criteria:** • Evidence of hypotension (systolic BP < 90 mm Hg for ≥ 30 mins after resuscitation) • Hypoxia (saturation < 94%) for 30 minutes after resuscitation • Estimated AIS score of ≥ 4 for any organ system • GCS of 3 with uncreative pupils • Inability to randomize within 6 hours of injury **TBI Def:** NR*	**Group(s):** **G1:** Patients with severe closed HI meeting inclusion criteria **G2:** Patients with severe closed HI not meeting inclusion criteria **N screened:** 392 **N eligible:** 392 **N included:** **G1:** 315 **G2:** 77 **N at conclusion:** **G1:** 210 **G2:** 77 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 29.5 ± 11.0 **G2:** 35.4 ± 13.4 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, GCS score, mean ± SD:** **G1:** 6.0 ± 1.2 **G2:** 5.4 ± 1.3 Pupil response Normal, n (%): **G1:** 146 (70.5) **G2:** 45 (58.4)	**Depression:** NRS-R: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NRS-R Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NRS-R **Health related QoL or functional status:** Cognitive battery: (Buschke verbal selective reminding test, immediate and delayed recall trials of the Rey-Osterrieth complex figure, trial making test B, symbol digit modalities, grooved peg board, controlled oral word association test)	**Depression, 6 months, %:** Severe: 0.5 Moderate: 15.7 Mild: 34.8 **Taking depression medications (%):** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Severe: 0 Moderate: 10.0 Mild: 36.7 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Liability of mood: Severe: 0.5 Moderate: 3.3 Mild: 21.9 Unusual thought content: Severe: 0.5 Moderate: 1.0 Mild: 12.4 Disinhibition: Severe: 1.0 Moderate: 4.3 Mild: 12.9 Hyperactivity/ agitation: Severe: 0.5 Moderate: 1.0 Mild: 11.4 Excitement: Severe: 0.5 Moderate: 3.8 Mild: 12.9 Suspiciousness: Severe: 0 Moderate: 1.0 Mild: 7.1

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001		Abnormal unilaterally, n (%): **G1:** 24 (11.6) **G2:** 11 (14.3) Abnormal bilaterally, n (%): **G1:** 37 (17.8) **G2:** 20 (26.0) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Hostility: Severe: 0.5 Moderate: 2.4 Mild: 9.0 Emotional withdrawal: Severe: 0.5 Moderate: 3.3 Mild: 25.7 Blunted affect: Severe: 1.0 Moderate: 6.2 Mild: 22.4 Exaggerated somatic concern: Severe: 0.5 Moderate: 0.5 Mild: 6.2 Irritability: Severe: 1.9 Moderate: 8.1 Mild: 37.1 Mental fatigability: Severe: 1.0 Moderate: 6.7 Mild: 21.4 **Health related QoL or functional status:** Executive/ cognition: Difficultly in planning: Severe: 8.6 Moderate: 26.7 Mild: 30.5 Difficultly in mental flexibility: Severe: 7.6 Moderate: 23.8 Mild: 34.3 Memory difficulties: Severe: 9.0 Moderate: 28.1 Mild: 33.3 Disorientation: Severe: 20.5 Moderate: 10.5 Mild: 6.2

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001				Decreased initiative or motivation: Severe: 5.2 Moderate: 15.2 Mild: 25.7 Self appraisal difficulties: Severe: 11.9 Moderate: 19.0 Mild: 32.4 Conceptual disorganization: Severe: 2.9 Moderate: 26.7 Mild: 48.1 Difficulties in oral comprehension: Severe: 0.5 Moderate: 1.9 Mild: 28.1 Oral/Motor: Difficulties in articulation: Severe: 1.0 Moderate: 6.7 Mild: 13.3 Motor slowing: Severe: 3.8 Moderate: 10.5 Mild: 21.4 Difficulties in oral expression: Severe: 0 Moderate: 5.7 Mild: 27.1 Mental fatigability: Severe: 1.9 Moderate: 6.7 Mild: 21.4 Attention: Severe: 1.9 Moderate: 12.9 Mild: 31.4 Reduces alertness: Severe: 0 Moderate: 0 Mild: 20.5

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2001				Guilt: Severe: 0 Moderate: 1.0 Mild: 28.6 Hallucinations: Severe: 0 Moderate: 1.0 Mild: 7.1 GOS score, 6 months, %: Severe disability: 28.1 Moderate disability: 40 Good recovery: 31.9 DRS score, 6 months, mean ± SD: **G1:** 3.93 ± 3.42 **G2:** 14.36 ± 8.66 **G1/G2:** *P* < 0.0001

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCauley et al., 2005 See Levin et al., 2005 **Country, Setting:** US, trauma center **Enrollment Period:** January 1999 to April 2003 **Design:** Cross-sectional **Time from injury, days ± SD:** 86.4 ± 17.4 **Length of follow up:** NA Dep. Scale/Tool: SCID, CES-D, VAS-D	**Inclusion criteria:** • Arrival to hospital within 24 hours of injury • Blood alcohol level < 200 mg/dL • Age 16 years or older • Fluent in English or Spanish • Residing in the hospital catchment area (Harris County, TX) • Diagnosis of non-penetrating TBI • Lowest post-resuscitation GCS > 8 • CT scan of the brain performed within 24 hours of arrival **Exclusion criteria:** • Undocumented alien, incarcerated, homeless, or on active military service • Spinal cord injury • Previous TBI requiring hospitalization • History of substance dependence, mental retardation, major psychiatric disorders, or other central nervous system disturbance • Mild TBI with surgery under general anesthesia during the admission	**Group(s):** **G1:** Postconcussional disorder, DSM-IV criteria **G2:** No PCD **G3:** Postconcussional syndrome, ICD-10 criteria **G4:** No PCS **N screened:** NR **N eligible:** 854 **N included:** Total: 340 **G1:** 59 **G2:** 281 **G3:** 183 **G4:** 157 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 32.3 ± 13.5* **Age ≥16, n (%):** 340 (100) **Global injury severity, ISS not including head region, mean ± SD:** **G1:** 3.0 ± 4.6 **G2:** 4.6 ± 5.6 **G3:** 4.0 ± 5.3 **G4:** 4.6 ± 5.6	**Depression:** SCID: DSM-IV criteria CES-D: NR VAS-D: NR **Other co-morbidities:** PTSD (PTSD Checklist-Civilian Form; SCID PTSD) and anxiety grouped together Other anxiety disorder: see PTSD Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS-E	**Depression, SCID, current MDE, n (%):** **G1:** 28 (47.5) **G2:** 23 (8.2) **G3:** 48 (26.2) **G4:** 3 (1.9) CES-D score, mean ± SD: **G1:** 33.9 ± 1.7 **G2:** 17.5 ± 0.9 **G3:** 26.1 ± 1.0 **G4:** 11.2 ± 1.1 VAS-D score, mean ± SD: **G1:** 57.5 ± 4.2 **G2:** 29.1 ± 2.4 **G3:** 45.8 ± 2.5 **G4:** 15.9 ± 2.8 **Taking depression medications:** NR **Other co-morbidities:** PTSD/Anxiety: SCID-PTSD, n (%): **G1:** 21 (35.6) **G2:** 18 (6.4) **G3:** 33 (18.0) **G4:** 6 (3.8) PCL-C score, mean ± SD: **G1:** 38.2 ± 1.9 **G2:** 17.1 ± 1.1 **G3:** 29.1 ± 1.1 **G4:** 9.5 ± 1.2 Other anxiety disorder: see PTSD Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCauley et al., 2005	• Other pre-existing conditions preventing standard administration and interpretation of the outcome measures (deafness, blindness, and so forth) **TBI Def:** Mild TBI: A closed head injury producing a GCS score of 13 to 15 upon arrival to the hospital with no later deterioration of GCS < 13 Moderate TBI: A GCS score of 9 to 12 upon arrival with no later deterioration of GCS < 9	**Severity of TBI, n (%):** Moderate: 21 (6.2) Mild: 319 (93.8) GCS score, mean ± SD: **G1:** 14.7 ± 1.0 **G2:** 14.6 ± 1.1 **G3:** 14.6 ± 1.2 **G4:** 14.6 ± 1.1 **Mechanism/type of injury, n (%):** MVA: **G1:** 45 (76.3) **G2:** 194 (69.0) **G3:** 133 (72.7) **G4:** 106 (67.5) Assault: **G1:** 9 (15.2) **G2:** 50 (17.8) **G3:** 28 (15.3) **G4:** 31 (19.8) Fall/jump: **G1:** 4 (6.8) **G2:** 25 (8.9) **G3:** 18 (9.8) **G4:** 11 (7.0) Other: **G1:** 1 (1.7) **G2:** 12 (4.3) **G3:** 4 (2.2) **G4:** 9 (5.7) **Area of brain injured:** CT scan positive, n (%): **G1:** 8 (13.6) **G2:** 22 (7.8) **G3:** 19 (10.4) **G4:** 11 (7.0) **Concomitant injuries:** NR		**Health related QoL or functional status:** GOS-E, n (%): Good recovery: **G1:** 23 (39.0) **G2:** 209 (74.4) **G3:** 96 (52.4) **G4:** 136(86.6) Moderate recovery: **G1:** 36 (61) **G2:** 72 (25.6) **G3:** 87 (47.6) **G4:** 21 (13.4)

*Calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: McCleary et al., 1998 See Satz et al., 1998 & Satz et al., 1998 **Country, Setting:** US, tertiary care centers **Enrollment Period:** 1991 to 1995 **Design:** Prospective cohort **Time from injury:** 12 months **Length of follow up:** 12 months **Dep. Scale/Tool:** SCL-90-R, NRS	**Inclusion criteria:** • At least 16 yrs old • Moderate to severe TBI (G1) • GCS score of 12 or less, or GCS score of 13 or higher if abnormalities noted on the admission CT scan, or if the condition deteriorated to below 13 on the GCS prior to discharge (G1) • Bodily injuries other than to the head (G2) **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** **G1:** Patients with TBI **G2:** Other injury patients matched by age, gender, and AIS score **N screened:** NR **N eligible:** NR **N included:** **G1:** 105 **G2:** 40 **N at conclusion:** **G1:** 66 **G2:** 25 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 31.14 ± 13.17^ **G2:** 34.10 ± 11.70 **Age ≥16, n (%):** 145 (100) **Global injury severity:** NR **Severity of TBI (GCS):** All patients had moderate to severe injury **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** SCL-90-R: > 2 SD above the mean NRS: scores of 4-7 on item 13 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Based on GOS: ≥ 3 Severe disability Moderate disability Good recovery	**Depression, n (%):** SCL-90-R and NRS, 6 mos: **G1:** 44/105 (41.9) **G2:** 8/40 (20) SCL-90-R and NRS, 12 mos: **G1:** 24/66 (36.3) **G2:** 8/26 (30.8) SCL-90-R, 6 mos: **G1:** 23/94 (24.4) **G2:** 5/33 (15.2) SCL-90-R, 12 mos: **G1:** 11/55 (20) **G2:** 3/21 (14.3) NRS, 6 mos: **G1:** 34/103 (33) **G2:** 4/40 (10) NRS, 12 mos: **G1:** 22/66 (33.3) **G2:** 7/26 (26.9) Depressed at both 6 and 12 months, n (%): **G1:** 17/24 (70.8)* **G2:** 3/6 (50) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
McCleary et al., 1998		**Concomitant injuries, n:** Bodily injury other than head: 40		**Health related QoL or functional status:** Severe disability **G1:** 22 Moderate disability: **G1:** 44 Good recovery: **G1:** 39

*GCS scores recorded
^Statistic calculated by reviewer

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Mobayed and Dinan, 1990 **Country, Setting:** Ireland, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 11 to 13 months **Length of follow up:** NA **Dep. Scale/Tool:** DSM-III, Leeds Scales for Anxiety and Depression	**Inclusion criteria:** • 18 to 65 yrs old • Negative neurological exam on admission and discharge • No medical complications • Closed mild head injury (MHI) **Exclusion criteria:** See inclusion criteria **TBI Def:** MHI: LOC for < 20 mins, and hospitalization for < 3 days	**Group(s):** Patients with MHI **N screened:** 70 **N eligible:** 55 **N included:** 55 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** History of affective disorder: 0 Family history of affective disorder, epilepsy, cognitive impairment, alcohol abuse or significant social stresses: 0 **N with prior TBI:** NR **Age, yrs ± SD:** Patients with depression: 30.63 ± 2.39 (n=11) Patients without depression: 32.75 ± 2.27 (n=8) **Age ≥16, n (%):** 55 (100) **Global injury severity:** NR **Severity of TBI, n (%):** MHI: 55 (100)	**Depression:** DSM-III criteria Leeds self-rating questionnaire : Cutoff score of 6-7 for anxiety and depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, DSM-III, n (%):** MDD: 11/32 (34.4) Affective disorder, Leeds, n (%): 16/55 (29.1) **Taking depression medications, n (%):** 1 (1.8)(diazepam, anti-anxiety) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Mobayed and Dinan, 1990		**Mechanism/type of injury, n (%):** Road traffic accident: 13/19 (68.4) Falls: 3/19 (15.8) Industrial: 2/19 (10.5) Assault: 1/19 (5.3) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Mooney et al., 2001 See Mooney et al., 2005 **Country, Setting:** US, TBI rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, weeks (median):** 24.50 **Length of follow up:** NA **Dep. Scale/Tool:** DSM-IV	**Inclusion criteria:** • Mild TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** According to ACRM criteria	**Group(s):** Patients with actual or suspected mild TBI **N screened:** NR **N eligible:** NR **N included:** 80 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 12 (15) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Anxiety: 2 (3) Other psychiatric condition: 9 (11) Alcohol an injury related factor: (NR) 11 **N with prior TBI:** NR **Age, yrs ± SD:** 31.11 ± 13.42 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** DSM-IV criteria **Other co-morbidities:** PTSD: Impact of event scale Other anxiety disorder: BSQ Fear survey Irritability: NR Aggression: NR Suicidality: NR Substance use: Self-report / presence of positive blood alcohol levels noted in the clinical record Other psychiatric diagnoses: MMPI DES **Health related QoL or functional status:** POMS Post-concussion symptom check-list Complex partial seizure check list Cognitive function (WAIS-R, WMS-R, Auditory verbal learning test, Trail making test)	**Depression, n (%):** 35 (44) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder, n (%): 19 (24) Irritability: NR Aggression: NR Suicidality: NR Substance use: Diagnosis, n (%): TBI only: 17 (21) Psychiatric condition only: 13 (16) TBI and psychiatric condition: 48 (60) No diagnosis: 2 (3) Other psychiatric diagnoses, n (%): MMPI: 6 (8) DES score, mean ± SD: 13.8 ± 12.62 DES score, poor recovery group, mean: 20.14 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Mooney et al., 2001		**Severity of TBI, %:** LOC: 33 Amnesia for the accident: 61 PTA: 69 Retrograde amnesia: 29 Abnormal neuroradiological exam: 38 Abnormal early neurological exams: 45 Abnormal neuropsychological exam: 63 Post concussive syndrome (≥ 3 PCS symptoms): 85 **Mechanism/type of injury, %:** Traffic accidents: 74 Falls, industrial accidents & assaults: 26 **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Mooney et al., 2005 See Mooney et al., 2001 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, median:** 15 months **Length of follow up:** NA **Dep. Scale/Tool:** DSM-IV, BDI-II	**Inclusion criteria:** • Outpatient of mild TBI clinic of the tertiary care center **Exclusion criteria:** See inclusion criteria **TBI Def:** According to ACRM criteria	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 67 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 21 (34) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Lifetime history of prior mental health problems: 36 (54) Anxiety disorder: 6 (9) **N with prior TBI (%):** 17 (25) **Age, yrs ± SD:** 41.36 ± 13.26 **Age ≥16, n (%):** 67 (100) **Global injury severity:** NR **Severity of TBI, n (%):** LOC: 4 (6) Amnesia: 47 (70) Dazed/confused at time of injury: 16 (24) **Mechanism/type of injury, n (%):** Traffic accident: 35 (52) Industrial accidents, falls, sports, assaults: 32 (48) **Area of brain injured:** NR	**Depression:** DSM-IV criteria BDI-II; participant and/or family member interview used to determine depression status pre-TBI **Other co-morbidities:** PTSD: NR Other anxiety disorder: participant and/or family member interview used to determine anxiety status pre-TBI Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: participant and/or family member interview used to determine mental health history pre-TBI **Health related QoL or functional status:** NR	**Depression, MDD, %:** 61 BDI-II score, mean ± SD: Total: 22.03 ± 12.36 Disabled: 22.24 ± NR (n=47) Non-disabled: 16.61± NR (n=19) *P* = 0.03 Correlation with BDI-II scores: Headache: 0.23 (*P* = 0.07) Non-cephalic pain: 0.26 (*P* = 0.05) PCS checklist scores: 0.58 (*P* < 0.001) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses, moderate-severe, %: Headache: 72 Non-cephalic pain: 64 Dizziness: 32 Vertigo: 15 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Mooney et al., 2005		**Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Parcell et al., 2006 See Curran et al., 2000 **Country, Setting:** Australia, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean:** **G1:** 230 days **G2:** NA **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • 16 to 65 yrs old • Sufficient English language ability to complete the questionnaires **Exclusion criteria:** • Transmeridian travel across more than 1 time zone in the preceding 3 months and no shift work in the previous 12 months • Preinjury sleep disorder, as indicated by significant other's responses on a screening checklist for classic symptoms of periodic limb movement disorder, sleep apnea, or insomnia • Taking benzodiazepines or other sleeping medications • Previous head injury, neurologic disorder, or major psychiatric disorder **TBI Def:** NR*	**Group(s):** **G1:** Participants with TBI **G2:** Age and sex matched uninjured participants **N screened:** NR **N eligible:** NR **N included:** **G1:** 63 **G2:** 63 **N at conclusion:** **G1:** 63 **G2:** 63 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** None (see exclusion criteria) **Age, yrs ± SD:** **G1:** 32.5 ± 1.7 **G2:** 30.5 ± 1.21 **Age ≥16, n (%):** 126 (100) **Global injury severity:** NR **Severity of TBI, PTA, n (%):** Very severe: **G1:** 14 (22) Severe: **G1:** 27 (44) Moderate: **G1:** 13 (21) Mild: **G1:** 8 (13) Not recorded: **G1:** 1 (2)	**Depression:** HADS: 15-21: Severe 11-14: Moderate 8-10: Mild **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS, see depression scale for cutoffs Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, %:** Severe: **G1:** 5 **G2:** 0 Moderate: **G1:** 6 **G2:** 0 Mild: **G1:** 27 **G2:** 2 HADS score, mean ± SD: **G1:** 5.84 ± 0.54 **G2:** 2.13 ± 0.27 **G1/G2:** $P < 0.01$ Depression and GCS, correlation: 0.19 $P = 0.15$ **Taking depression medications (%):** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Anxiety: Severe anxiety: **G1:** 3 **G2:** 3 Moderate anxiety: **G1:** 19 **G2:** 5 Mild anxiety: **G1:** 18 **G2:** 18 HADS, anxiety score, mean ± SD: **G1:** 6.73 ± 0.55 **G2:** 5.74 ± 0.46 **G1/G2:** $P = 0.17$ Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Parcell et al., 2006		GCS score, mean ± SD: **G1:** 9.58 ± 0.57 **Mechanism/type of injury, %:** MVA: 60 Cycling: 16 Pedestrian: 9.5 Falls: 8 Assault: 3 Falling objects: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Perlesz et al., 2000 See Curran et al., 2000 **Country, Setting:** Australia, multicenter **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 1 to 5 years **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • At least 16 yrs old • 1 to 5 years postinjury • Discharged to home care following acute rehabilitation **Exclusion criteria:** • No interest in participating (36, 22.4%) • Minor head injury and discussion with researcher leading to decision that participation was not relevant (17, 10.6%) • Anger with rehabilitation system and refusal to participate (5, 3.1%) • Failure to return questionnaires (24, 14.9%) **TBI Def:** Mild: PTA 5-59 minutes Moderate: PTA 1-23 hours Severe: PTA 1-6 days Very Severe: PTA 1-4 weeks Extremely severe: PTA 1-3 months Profoundly severe: PTA > 3 months	**Group(s):** **G1:** Patients with TBI **G2:** Relatives **N screened:** 223 families of TBI patients **N eligible:** 161 families **N included:** **G1:** 65 **G2:** 147 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** **G1:** 7 (11) **G2:** NR **Age, yrs ± SD:** **G1:** 33.8 ± 14.95 **G2:** NR **Age ≥16, n (%):** 212 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Profoundly severe: 5 (7.7) Extremely severe: 18 (27.7) Very severe: 27 (41.5) Severe: 9 (13.8) Moderate: 2 (3.1) Mild: 0 (0) Not Known: 4 (6.2)	**Depression:** BDI: score > 10 indicates borderline or clinical depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: STAI > 80th percentile Irritability: NR Aggression: NR Suicidality: NR Substance use: data gathered on Head Injury Family Interview (HI-FI) demo-graphic and pre-injury form Other psychiatric diagnoses: POMS: score ≥ 73 indicates a clinical level of mood disturbance **Health related QoL or functional status:** Family Satisfaction Scale (FSS): midpoint of 32.5 indicates dissatisfaction with the family	**Depression, n (%):** 37/62 (59.7%) **Taking depression medications:** NR* **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: 31/62 (50) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol: Severe: 0 (0) Moderate: 5 (7.7) Drugs : Severe: 0 (0) Moderate: 6 (9.2) Other psychiatric diagnoses: POMS: Anger: 35/61 (57.4) Fatigue: 35/61 (57.4) **Health related QoL or functional status:** Family dissatisfaction, n (%): 10/41 (24.4)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Perlesz et al., 2000		**Mechanism/type of injury, n (%):** Car accident: 34 (52.3) Car/pedestrian accident: 9 (13.8) Motorcycle: 9 (13.8) Bicycle: 1 (1.5) Blow to the head: 3 (4.6) Fall: 8 (12.3) Other: 1 (1.5) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Popovic et al., 2004 **Country, Setting:** Serbia, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 3.8 ± 0.7 **Length of follow up:** NA **Dep. Scale/Tool:** ZDS, SCL-90-R	**Inclusion criteria:** • Moderate-to-severe TBI • At least 1 year after hospitalization • Not treated with glucocorticoids while in the ICU **Exclusion criteria:** See inclusion criteria **TBI Def:** Moderate TBI: GCS of 9 to 13 Severe TBI: GCS of < 8	**Group(s):** **G1:** Patients with moderate-to-severe TBI **G2:** Healthy participants **N screened:** NR **N eligible:** NR **N included:** **G1:** 67 **G2:** 78 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 37.5 ± 1.8 **G2:** 37.2 ± 1.4 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, n (%):** Moderate to severe: **G1:** 67 (100) **Mechanism/type of injury:** NR	**Depression:** ZDS > 39 SCL-90-R: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90-R Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, ZDS, n (%):** Total: 19/41 (46.3) Strong intensity of depression: 8/41 (19.5) Mild to moderate depression: 11/41 (26.8) ZDS score, mean: 41.2 SCL-90-R, depression dimension, T-score: 0.51 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCL-90-R, phobic anxiety dimension, T-score: 0.57 SCL-90-R, psychoticism dimension, T-score: 0.53 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Popovic et al., 2004		**Area of brain injured, %:** Skull fracture: 56.1 Linear skull fracture: 32.7 Impressive skull fracture: 2.4 Basilar skull fracture: 22 **Concomitant injuries, %:** Focal neurological deficits: 31.7 Hemiparesis: 31.7 Hemihypesthsia: 5 Anosmia: 2.4 Post-traumatic epilepsy: 12.2		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Powell et al., 2002 **Country, Setting:** UK, tertiary care center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, yrs ± SD:** **G1:** 4.0 ± 4.9 **G2:** 2.7 ± 3.6 **Length of follow up:** 18 to 40 months **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • 16 to 65 yrs old • TBI as verified by hospital or general practitioner records • No concurrent neurological diagnoses • Living within 1 hour travel time of the hospital • Long term treatment goals agreed within the team as being amenable in principle to intervention **Exclusion criteria:** See inclusion criteria **TBI Def:** NR	**Group(s):** **G1:** Outreach group **G2:** Information group **N screened:** 166 **N eligible:** 110 **N included:** **G1:** 54 **G2:** 56 **N at conclusion:** **G1:** 48 **G2:** 46 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 34 ± 11 (n=48) **G2:** 35 ± 10 (n=46) **Age ≥16, n (%):** 110 (100) **Global injury severity:** NR	**Depression:** HADS > 10 **Other co-morbidities:** PTSD: NR Other anxiety disorder: HADS > 10 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** FIM+FAM Unmodified Barthel Index 20: Physical independence Brain Injury Community Rehabilitation Outcome-39 scales (BICRO-39)	**Depression, %:** Total: 35 HADS > 13: 15 HADS score, intake, mean ± SD: **G1:** 7.7 ± 4.2 **G2:** 8.5 ± 5.0 HADS, follow-up, mean change ± SD: **G1:** 0 ± 4.2 **G2:** 0.4 ± 4.0 HADS, improved at follow-up, n (%): **G1:** 10/20 (50) **G2:** 14/26 (53.8) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder, %: Total: 29 HADS > 13: 15 HADS score, intake, mean ± SD: **G1:** 8.7 ± 4.1 **G2:** 8.3 ± 4.8 HADS, follow-up, mean change ± SD: **G1:** 0.5 ± 4.1 **G2:** -0.6 ± 3.8 HADS, improved at follow-up, n (%): **G1:** 10/20 (50) **G2:** 9/26 (34.6) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Powell et al. 2002		**Severity of TBI, PTA duration, n (%):** < 1 hour: **G1:** 1/48 (2.1) **G2:** 0 1-24 hours: **G1:** 0 **G2:** 0 1-7 days: **G1:** 1/48 (2.1) **G2:** 4/46 (8.7) 7-31 days **G1:** 9/48 (18.8) **G2:** 10/46 (21.7) > 1 month: **G1:** 37/48 (77.1) **G2:** 30/46 (65.2) Unknown: **G1:** 0 **G2:** 2/46 (4.3) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		**Health related QoL or functional status:** FIM+FAM, intake, median (range): **G1:** 28.4 (6.9-34.2) **G2:** 29.3 (12.0-33.7) FIM+FAM, follow-up, median change (range): **G1:** 2.8 (-2.1,19.1) **G2:** 2.5 (-1.9,18.9) FIM+FAM, improved at follow-up, n (%): **G1:** 41 (85.4) **G2:** 40 (88.9) Barthel Index, intake, median (range): **G1:** 20 (6-20) **G2:** 20 (4-20) Barthel Index, follow-up, median change (range): **G1:** 0 (-5,5) **G2:** 0 (-5,4) Barthel Index, improved at follow-up, n (%): **G1:** 17 (35.4) **G2:** 9 (19.6) BICRO-39, intake, median (range): **G1:** 15.3 (8-22.3) **G2:** 12.9 (8.8-25.7) BICRO-39, follow-up, median change (range): **G1:** 2.5 (-1.7,6.2) **G2:** 0.9 (-4.1,6.8) BICRO-39, improved at follow-up, n (%): **G1:** 28/35 (80) **G2:** 28/40 (70)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rao et al., 2008 **Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, range:** 0 to 3 months **Length of follow up:** 1 to 3 months **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Ability to provide informed or personal consent • At least 18 years of age **Exclusion criteria:** • Prior TBI • Open-head injury • History of brain illness • No admission to hospital • Absence of clear history of LOC **TBI Def:** At least one of following: (a) admitted to the hospital with clear history of loss of consciousness; (b) Glasgow Coma Score 15 or less; and/or (c) evidence of trauma on computerized tomography (CT) scans done as part of clinical workup Mild TBI: GCS 13 to 15 Moderate TBI: GCS 9 to 12 Severe TBI: GSC ≤ 8	**Group(s):** Patients with TBI **N screened:** ~1,000 **N eligible:** NR **N included:** 54 **N at conclusion:** 54 **Depression, n (%):** Prior to injury: 5 (9) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Anxiety disorder: 4 (7) **N with prior TBI:** None, see exclusion criteria **Age, yrs ± SD:** 43.2 ± 17.7 **Age ≥16, n (%):** 54 (100) **Global injury severity:** NR **Severity of TBI, GCS, %:** Mild: 65 Moderate: 11 Severe: 19 Unknown: 5.5 **Mechanism / type of injury, %:** MVA: 52 Assault: 24 Falls: 22 UNK: 2 **Area of brain injured:** NR **Concomitant injuries, n (%):** Body trauma: 29 (52)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** MOS	**Depression, n (%):** Major depressive-like episode: 7 (13) **Taking medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: General anxiety: 6 (11) Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, MOS, mean ± SD:** Sleep disturbance: Pre-TBI: 17.5 ± 15.9 Post-TBI: 27.7 ± 24.1 *P* = 0.018 Snoring: Pre-TBI: 18.4 ± 30.2 Post-TBI: 14.5 ± 26.9 *P* = 0.4 SOB/HA: Pre-TBI: 0.39 ± 2.8 Post-TBI: 14.1 ± 27.5 *P* = 0.001 Sleep adequacy: Pre-TBI: 26.7 ± 28.2 Post-TBI: 38.6 ± 31.1 *P* = 0.023 Daytime sleepiness: Pre-TBI: 17.3 ± 17.5 Post-TBI: 31.8 ± 26.9 *P* = 0.002

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rao et al., 2008				Sleep problem index 1: Pre-TBI: 14.4 ± 14.0 Post-TBI: 28.0 ± 22.3 *P* < 0.001 Sleep problem index 2: Pre-TBI: 17.2 ± 12.7 Post-TBI: 29.3 ± 20.5 *P* = 0.001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2002 **Country, Setting:** Canada, tertiary care centers **Enrollment Period:** October 1994 to November 1998 (severe TBI); January 1998 to October 2000 (mild and moderate TBI) **Design:** Cross-sectional **Time from injury, days ± SD:** **G1:** 77.95 ± 21.8 **G2:** 79.66 ± 24.4 **G3:** 93.80 ± 9.7 **Length of follow up:** NA **Dep. Scale/Tool:** NRS-R	**Inclusion criteria:** • Abnormal CT scan obtained within 24 hours of injury • Postresuscitation GCS motor score of 1–5 (total GCS <8) **Exclusion criteria:** • Evidence of hypotension (systolic BP < 90 mm Hg for > 30 minutes after resuscitation) • Hypoxia (saturation < 94%) for 30 minutes after resuscitation • Estimated AIS score > 4 for any organ system • GCS of 3 with unreactive pupils • Inability to randomize within 6 hours of injury • Prior admission for TBI **TBI Def:** Mild TBI: LOC for less than 20 minutes, a GCS of 13 or above, and PTA for less than 24 hours (based on ACRM criteria) Moderate TBI: GCS of 9-12 or a GCS of ≥ 13 with intracerebral complication on CT scan Severe TBI: NR	**Group(s):** **G1:** Patients with mild TBI **G2:** Patients with moderate TBI **G3:** Patients with severe TBI **N screened:** 870 **N eligible:** 323 **N included:** **G1:** 102 **G2:** 41 **G3:** 139 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 32.30 ± 11.8 **G2:** 32.31 ± 12.5 **G3:** 31.86 ± 10.6 **Age ≥16, n (%):** NR **Global injury severity, ISS score, mean ± SD:** **G1:** 15.36 ± 10.3 (n=83) **G2:** 17.4 ± 9.8 (n=34) **G3:** 25.62 ± 7.4 **Severity of TBI, %:** Severe: 49.3 Moderate:14.5 Mild: 36.2	**Depression:** NRS-R: classified as not present, mild, moderate, or severe **Other co-morbidities:** PTSD: NR Other anxiety disorder: NRS-R Irritability: NRS-R Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: severe disability, moderate disability, good recovery	**Depression, %:** Severe: **G1:** 0 **G2:** 0 **G3:** 0.7 Moderate: **G1:** 9.8 **G2:** 17.1 **G3:** 11.5 Mild: **G1:** 22.5 **G2:** 22.0 **G3:** 36.7 Not present: **G1:** 64.7 **G2:** 61.0 **G3:** 51.1 **Taking depression medications:** NR **Other co-morbidities, %:** PTSD: NR Other anxiety disorder: Severe **G1:** 2.0 **G2:** 0 **G3:** 0.7 Moderate **G1:** 9.8 **G2:** 22.0 **G3:** 10.1 Mild **G1:** 35.3 **G2:** 19.5 **G3:** 45.3 Not present **G1:** 52.9 **G2:** 58.5 **G3:** 43.9

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2002		**Mechanism/type of injury, n (%):** MVA: **G1:** 66 (64.7) **G2:** 23 (56.1) **G3:** 95 (68.3) Pedestrian: **G1:** 13 (12.7) **G2:** 5 (12.2) **G3:** 8 (5.8) Fall: **G1:** 7 (6.9) **G2:** 5 (12.2) **G3:** 17 (12.2) Assault: **G1:** 2 (2.0) **G2:** 2 (4.9) **G3:** 12 (8.6) Other: **G1:** 14 (13.7) **G2:** 6 (14.6) **G3:** 7 (5.0) **Area of brain injured:** NR **Concomitant injuries:** NR		Irritability: Severe: **G1:** 0 **G2:** 0 **G3:** 1.4 Moderate: **G1:** 12.7 **G2:** 9.8 **G3:** 7.9 Mild: **G1:** 41.2 **G2:** 41.5 **G3:** 34.5 Not present: **G1:** 46.1 **G2:** 48.8 **G3:** 56.1 Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NRS-R score, mean ± SD: **G1:** 33.77 ± 4.3 **G2:** 34.71 ± 5.2 **G3:** 43.20 ± 10.4 **G1/G3:** $P < 0.001$ **G2/G3:** $P < 0.001$ NRS-R score, GOS categories, mean ± SD: Severe disability: 47.46 ± 12.0 Moderate disability: 36.98 ± 6.7 Good recovery: 33.38 ± 4.0

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2003 See Rapoport et al., 2003 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD:** 49.02 ± 30.0 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Non-penetrating, mild TBI **Exclusion criteria:** • Preinjury history of focal brain disease (e.g., stroke, tumor) • Serious acute medical illness (e.g., heart or renal failure , malignancy) • Previous diagnosis of schizophrenia, bipolar disorder, or dementia **TBI Def:** Mild TBI: LOC ≤ 30 min; after 30 mins, an initial GCS of 13-15; PTA ≤ 24 hrs (based on ACRM criteria)	**Group(s):** **G1:** Patients with TBI aged 16 to 59 **G2:** Patients with TBI aged 60 and older **N screened:** 222 **N eligible:** 210 **N included:** **G1:** 146 **G2:** 64 **N at conclusion:** NA **Depression, n (%):** Prior to injury: **G1:** 13 (8.9) **G2:** 16 (25.0) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** **G1:** 42 (28.8) **G2:** 18 (28.1) **Age, yrs ± SD:** **G1:** 36.44 ± 11.4 **G2:** 72.03 ± 8.6 **Age ≥16, n (%):** 210 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n (%):** Mild: 210 (100)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** Per MD records, no tests PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric conditions: NR **Health related QoL or functional status:** MMSE	**Depression, n (%):** Major Depression: **G1:** 31/146 (21.2) **G2:** 4/64 (6.3) **G1/G2:** $P < 0.01$ Depression, OR (95% CI): **G1/G2:** 4.04 (1.36-11.99) Previous history of MD, patients with MD, n (%): 7/35 (20) Depression, logistic regression, OR (SE): Substance abuse: 0.246 (0.659) ($P < 0.05$) Time post-injury: 1.000 (0.001) (P = NS) Gender: 0.497 (0.517) (P = NS) Employment: 0.493 (0.705) (P = NS) Education: 0.518 (0.481) (P = NS) Past Depression: 0.283 (0.667) (P = NS) Family Depression: 1.062 (0.914) (P = NS) Medical History: 1.493 (0.546) (P = NS) Focal CT Abnormalities: 0.773 (0.544) (P = NS) Mechanism: 1.660 (1.620) (P = NS) Age: 0.999 (0.046) (P = NS) Age X Mechanism: 0.995 (0.034) (P = NS) **Taking depression medications:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2003		**Mechanism/type of injury, %:** MVC: 61.4 Falls: 23.3 Sports: 7.1 Assault: 3.8 Other: 4.3 **Area of brain injured:** NR **Concomitant injuries:** NR		**Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use, %: Drug: **G1:** 14.4 **G2:** 1.6 Alcohol: **G1:** 11.6 **G2:** 4.7 Other psychiatric conditions: NR **Health related QoL or functional status:** MMSE score, mean ± SD: Total: 28.93 ± 1.1 **G1:** 28.72 ± 1.23 **G2:** 29.02 ± 1.04 **G1/G2:** *P* = 0.069

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2003 See Rapoport et al., 2003 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days (range):** 48.4 ± 33.6 (1-227) **Length of follow up:** NR **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • Non-penetrating, mild TBI **Exclusion criteria:** • Preinjury history of focal brain disease (e.g., stroke, tumor) • Serious acute medical illness (e.g., heart or renal failure , malignancy) • Previous diagnosis of schizophrenia, bipolar disorder, dementia, or major depressive disorder **TBI Def:** Mild TBI: LOC at time of injury of 30 min or less; after 30 mins, an initial GCS of 13-15; PTA less than 24 hrs (based on ACRM criteria)	**Group(s):** **G1:** Patients with depression post-TBI **G2:** Patients without depression post-TBI **N screened:** 211 **N eligible:** 170 **N included:** **G1:** 26 **G2:** 144 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** History of significant alcohol misuse, n (%): G1: 3 (11.5) G2: 10(6.9) History of significant substance misuse, n (%): G1: 3 (11.5) G2: 13 (9) **N with prior TBI (%):** **G1:** 6 (23.1) **G2:** 33 (22.9) **Age, yrs ± SD:** **G1:** 41.3 ± 17.8 **G2:** 44.8 ± 20.5 Total: 44.2 ± 20.1 **Age ≥16, n (%):** NR **Global injury severity:** NR **Severity of TBI, n (%):** Mild: 170 (100)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: Interview and clinician's judgment Other psychiatric diagnoses: NR **Health related QoL or functional status:** GHQ Riverhead Head Injury Follow-up Questionnaire NRS GOS	**Depression, n (%):** Major depression: 26/170 (15.3) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: General Health Questionnaire, anxiety score, mean ± SD: **G1:** 5.50 ± 2.3 **G2:** 2.61 ± 2.6 **G1/G2:** *P* < 0.0001 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Rivermead Post Concussion Disorder Questionnaire score, mean ± SD: **G1:** 43.41 ± 17.2 **G2:** 19.89 ± 17.3 **G1/G2:** *P* < 0.0001 **Health related QoL or functional status:** General Health Questionnaire, total score, mean ± SD: **G1:** 20.23 ± 6.6 **G2:** 9.57 ± 7.7 **G1/G2:** *P* < 0.0001 Riverhead Head Injury Follow-up Questionnaire score, mean ± SD: **G1:** 27.50 ± 11.8 **G2:** 15.17 ± 12.4 **G1/G2:** *P* < 0.0001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2003		**Mechanism/type of injury, n (%):** MVA: **G1:** 17 (65.4) **G2:** 64 (44.4) **Area of brain injured, CT scan, n (%):** Focal abnormalities: **G1:** 4 (20) **G2:** 23 (20.5) Atrophy: **G1:** 1 (5) **G2:** 10 (8.9) Normal: **G1:** 15 (75) **G2:** 79 (70.5) **Concomitant injuries:** Fractures: **G1:** 9 (34.6) **G2:** 37 (25.7) Soft tissue only: **G1:** 13 (50) **G2:** 75 (52.1)		NRS, total score minus depression item subscore, mean ± SD: **G1:** 38.46 ± 5.3 **G2:** 31.57 ± 3.8 **G1/G2:** *P* < 0.0001 Good outcome (GOS=5), n (%): **G1:** 5 (19.2) **G2:** 53 (36.8) **G1/G2:** *P* < 0.0001

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2005 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD:** **G1:** 214.67 ± 74.1 **G2:** 194.79 ± 34.8 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 65 or younger • Non-penetrating mild or moderate TBI **Exclusion criteria:** • Premorbid history of focal brain disease (e.g., stroke, tumor) • Serious medical illness (e.g., acute heart or renal failure, malignancy) • History of dementia, schizophrenia or bipolar disorder **TBI Def:** Mild TBI: LOC ≤ 30 minutes; after 30 minutes, an initial GCS of 13-15; PTA ≤ 24 hrs (based on ACRM criteria) Moderate TBI: GCS of 9-12 and PTA < 1 week	**Group(s):** Patients with TBI **G1:** Patients with major depression **G2:** Patients without major depression **N screened:** NR **N eligible:** NR **N included:** **G1:** 21 **G2:** 53 **N at conclusion:** NA **Depression, n (%):** Prior to injury: **G1:** 5 (23.8) **G2:** 3 (5.6) At time of injury: NR **Other preexisting psychiatric conditions, %:** Alcohol misuse: 13.5 Substance misuse: 16.2 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 41.38 ± 13.2 **G2:** 32.32 ± 12.2 **Age ≥16, n (%):** 74 (100) **Global injury severity:** NR **Severity of TBI, PTA > 24 hrs, n (%):** **G1:** 12 (60) **G2:** 35 (67.3)	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognitive Measures: Wechsler Adult Intelligence Scale: assessed attention/working memory and processing speed Wechsler Memory Scale: assessed logical memory Wisconsin Card Sorting Test: assessed executive functioning	**Depression, n (%):** Major depression: 21 (28.4) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Wechsler Adult Intelligence Scale, mean ± SD: Working memory: **G1:** 22.62 ± 9.09 **G2:** 30.10 ± 6.44 Processing speed: **G1:** 14.35 ± 4.57 **G2:** 18.86 ± 4.9 Wechsler Memory Scale, mean ± SD: **G1:** 21.81 ± 8.6 **G2:** 29.78 ± 8.2 Wisconsin Card Sorting Test, mean ± SD: **G1:** 3.95 ± 2.2 **G2:** 5.33 ± 1.3

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2005		GCS score, mean ± SD: **G1:** 14.38 ± 0.7 **G2:** 13.92 ± 1.4 (n=52) **Mechanism/type of injury, n (%):** MVA: **G1:** 15 (71.4) **G2:** 32 (60.4) **Area of brain injured, CT scan abnormalities, n (%):** **G1:** 7/18 (38.9) **G2:** 25/45 (55.6) **Concomitant injuries, n (%):** Fractures or other significant injuries: **G1:** 12 (60) **G2:** 35 (67.3)		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport, Herrmann et al., 2006 See Rapoport, Kiss et al., 2006 **Country, Setting:** Canada, rehabilitation center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** 1 year **Length of follow up:** 1 year **Dep. Scale/Tool**: SCID	**Inclusion criteria:** • Age 50 and over and within 2 months of injury (G1) • Non-injured participants matched by age decade, education, and gender (G2) **Exclusion criteria:** • A pre-injury history of neurologic disease, serious acute medical illness, schizophrenia, or bipolar disorder • Preexisting cognitive decline based on history and a score of > 3.38 on the Informant Questionnaire for Cognitive Decline in the Elderly (IQCODE) • Lack of an informant to complete the IQCODE **TBI Def:** Mild TBI: Loss or alteration of consciousness at the time of injury for ≤ 20 minutes, an initial GCS of 13 to 15, and PTA of < 24 hour Complicated Mild TBI: Met criteria for mild TBI but had an intracranial complication of TBI (e.g., contusion) Moderate TBI: A GCS of 9 to 12 and PTA < 1 week	**Group(s):** **G1:** Participants with TBI **G2:** Participants without TBI **N screened:** **G1:** 712 **G2:** 79 **N eligible:** **G1:** 248 **G2:** 79 **N included:** **G1:** 69 **G2:** 69 **N at conclusion:** **G1:** 49 **G2:** 69 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** None (see exclusion criteria) **N with prior TBI (%):** Mild TBI: **G1:** 8 (11.8) **G2:** 5 (6.3) **Age, yrs ± SD:** **G1:** 67.00 ± 7.9 **G2:** 68.04 ± 8.5 **Age ≥16, n (%):** 138 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Moderate: 14 (20.1) Complicated Mild: 18 (26.1) Mild: 37 (53.6) **Mechanism/type of injury, n (%):** Falls: 35 (50.7) MVA:14 (20.3) Other: 20 (29)	**Depression:** SCID: DSM-IV Subsyndromal depression: minimum of three DSM-IV symptoms of a major depressive episode, at least one of which is persistent depressed mood or anhedonia, lasting for two weeks **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Dementia: Mattis Dementia Rating Scale (DRS) and MMSE **Health related QoL or functional status:** Psychologic distress: GHQ Informant ratings: FAQ	**Depression, baseline, n (%):** Major Depression: **G1:** 11/69 (15.9) **G2:** 0 Subsyndromal depression: **G1:** 15/69 (21.7) **G2:** 3/79 (3.8) Depression, 1 year, n (%): Major depression: **G1:** 6*/49 (12.2) **G2:** 1/68 (1.5) Subsyndromal depression: **G1:** 9 (18.8) **G2:** 2 (2.9) **Taking depression medications, n (%):** **G1:** 10 (14.5) **G2:** 3 (4) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Dementia: DRS score, mean: **G1:** 135.38 ± 8.5 **G2:** 139.0 ± 3.7 MMSE, mean: **G1:** 28.19 ± 1.9 **G2:** 29.07 ± 1.2 **Health related QoL or functional status:** GHQ score, 1 year, mean ± SD: **G1:** 4.35 ± 5.8 **G2:** 1.48 ± 3.4

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2006		**Area of brain injured:** CT scan, mild TBI, n (%): No CT scan: 15 (40.5) Negative CT scan: 15 (40.5) General atrophy: 3 (8) Atrophy with incidental white matter changes: 3 (8) Incidental lacunar infarction: 1 (2.7) CT scan, complicated mild TBI", n (%): Subarachnoid hematomas: 2 (11) Subdural hematomas: 5 (27.8) Contusions: 2 (11) Injuries at multiple sites: 7 (38.9) General atrophy: 1 (5.6) Epidural or sphenoid: 1 (5.6) CT scan, moderate TBI, n (%): Negative scan: 1 (7) Contusions: 2 (14.3) Injuries at multiple sites: 8 (57) General atrophy: 2 (14.3) Epidural or sphenoid: 1 (7) hematomas **Concomitant injuries, n (%):** Fractures or intra-abdominal injuries: 38 (55.1)		FAQ score, 1 year, mean ± SD: **G1:** 2.98 ± 4.9 **G2:** 0.38 ± 1.5

* 2 mild TBI and 4 moderate or complicated mild TBI
5 of the 11 patients with TBI with major depression at baseline also met criteria at one year, and conversely, 5 of the 6 patients with TBI with major depression at one year also had major depression at the baseline post-injury visit.
Moderate TBI cases and not mild TBI cases were rated as having poorer IADLS

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport, Kiss et al., 2006 See Rapoport, Herrmann et al. 2006 **Country, Setting:** Canada, rehabilitation center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days ± SD:** 46.9 ± 34 **Length of follow up:** 1 year **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • At least 50 yrs old **Exclusion criteria:** • Pre-injury history of neurological disease • Serious acute medical illness • Schizophrenia or bipolar disorder • Drug abuse **TBI Def:** Mild TBI: According to ACRM criteria Moderate TBI: GCS score of 9 to 12 and PTA < 1 week, or met criteria for mild TBI but had an intracranial complication of TBI (e.g., contusion)	**Group(s):** Patients with mild to moderate TBI **N screened:** NR **N eligible:** 77 **N included:** 77 **N at conclusion:** 46 **Depression, n (%):** Prior to injury: 14 (18.2) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 67.12 ± 8.4 **Age ≥16, n (%):** 77 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n (%):** Mild: 44 (57.1) Moderate: 33 (42.9) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Psychosocial functioning and psychological distress: RHFQ, GHQ Post-concussive symptoms: RPDQ Informant ratings: FAQ	**Depression, n (%):** Baseline: 12 (15.6) 1-year*: 5/9 (55.6) **Taking depression medications, 1 year, n (%):** Antidepressants: 4/5 (80%) **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** RHFQ, baseline, mean ± SD: MDD: 25.00 ± 7.9 (n=12) No MDD: 10.74 ± 10.9 (n=58) RHFQ, 6 months, mean ± SD: MDD: 26.17 ± 8.5 (n=6) No MDD: 9.92 ± 9.9 (n=38) RHFQ, 1 year, mean ± SD: MDD: 16.25 ± 13.0 (n=8) No MDD: 10.16 ± 11.3 (n=37) GHQ, baseline, mean ± SD: MDD: 18.73 ± 7.3 (n=11) No MDD: 6.34 ± 6.3 (n=59)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2006				GHQ, 6 months, mean ± SD: MDD: 15.17 ± 7.1 (n=6) No MDD: 4.13 ± 5.2 (n=38) GHQ, 1 year, mean ± SD: MDD: 9.38 ± 7.9 (n=8) No MDD: 3.29 ± 4.7 (n=38) RPDQ, baseline, mean ± SD: MDD: 37.45 ± 17.3 (n=12) No MDD: 14.88 ± 13.7 (n=59) RPDQ, 6 months, mean ± SD: MDD: 41 ± 13.6 (n=6) No MDD: 14.31 ± 13.1 (n=36) RPDQ, 1 year, mean ± SD: MDD: 27.75 ± 22.6 (n=8) No MDD: 16.27 ± 18.6 (n=37) Informant ratings, FAQ, 1 year, mean ± SD: MDD: 6.38 ± 8.9 (n=8) No MDD: 2.24 ± 3.3 (n=37)

* 9 of the 12 depressed at baseline returned for 1 year follow-up

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rowland et al., 2005 **Country, Setting:** US, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD (range):** 57.3 ± 37.8 (8-148) **Length of follow up:** NA **Dep. Scale/Tool:** BDI-II	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Cognitive or motor abnormalities that precluded the ability to give informed consent or complete standard administrations of the neuropsycho-logical tests • Self-report of previous brain injury or documentation of previous TBI in medical records **TBI Def:** Documented by neuroradiologic scans (e.g., MRI, CT) or indisputable independent evidence (e.g., paramedics at the scene or emergency room personnel observation and documentation of loss of consciousness due to traumatic impact) TBI Severity determined by several cut-offs: time to follow commands (24 hours), length of PTA (24 hours), and duration of coma (6 hours)	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 51 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** None (see exclusion criteria) **Age, yrs ± SD (range):** 40.3 ± 16.0 (18-70) **Age ≥16, n (%):** 51 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Severe: 26 (51) Mild-moderate: 25 (49) **Mechanism/type of injury, n (%):** Car accident: 23 (45.1) Fall: 14 (27.5) Assault: 9 (17.6) Other: 5 (9.8) **Area of brain injured, CT scan:** Frontal or non-frontal (specific numbers for each group NR)	**Depression:** BDI-II ≥ 14 was classified as depressed (severity of depression not identified in this study) BDI-II analyzed to extract factors based on cumulative percent variance: **Negative Self Evaluation:** measures level of person's perception and cognitive view of self **Symptoms of Depression:** measures symptoms largely associated with DSMV-IV criteria for MDE **Vegetative Symptoms of Depression:** symptoms associated with depression, but failed to load under same factor as depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: Determined by self-report (no analysis of co-occurrence with depression)	**Depression, BDI-II, n (%):** Depressed: 13 (25.5)* Total variance for each factor, %: Negative Self Evaluation: 20 Symptoms of Depression: 18* Vegetative Symptoms of Depression: 12 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: 13 (25.5) Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rowland et al., 2005		**Concomitant injuries:** NR	Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	

* In linear regression models, time since injury was the only significant predictor of Total BDI-II score (*P* = 0.004) and a significant predictor of the Symptoms of Depression factor (*P* = 0.018).

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ruocco et al., 2007 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** MCMI-III	**Inclusion criteria:** • At least 18 yrs of age • Referred for neuropsycho-logical evaluation in relation to head trauma • Completion of the MCMI-III as part of a larger neuropsycho-logical battery **Exclusion criteria:** • Suspected dementia (G2) **TBI Def:** According to ACRM criteria	**Group(s):** **G1:** Patients with TBI **G2:** Psychiatric patients **N screened:** NR **N eligible:** NR **N included:** **G1:** 231 **G2:** 231 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age,** yrs ± SD**:** **G1:** 40.6 ± 12.4 **G2:** 40.9 ± 12.1 **Age ≥16, n (%):** 462 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: **G1:** 84 Moderate: **G1:** 16 Reported LOC: **G1:** 43.9	**Depression:** MCMI-III: Base Rate (BR) scores ≥ 75 was used to demark scale elevations that are clinically significant and determine if there were any differences between the TBI sample and the matched group of psychiatric patients. **Other co-morbidities:** PTSD: MCMI-III Other anxiety disorder: MCMI-III Irritability: NR Aggression: MCMI-III Suicidality: NR Substance use: MCMI-III Other psychiatric diagnoses: MCMI-III **Health related QoL or functional status:** NR	**Depression, n (%):** Major depression: **G1:** 70 (30.3) **G2:** 68 (29.4) Depressive: **G1:** 39 (16.9) **G2:** 96 (41.6) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: **G1:** 52 (22.5) Other anxiety disorder: **G1:** 32 (57.1) Irritability: NR Aggression: Aggressive (sadistic): **G1:** 6 (2.6) Suicidality: NR Substance use: Alcohol dependence: **G1:** 3 (1.3) Drug dependence: **G1:** 5 (2.2) Other psychiatric diagnoses: Schizoid: **G1:** 57 (24.7) Avoidant: **G1:** 63 (27.3) Dependent: **G1:** 71 (39.7) Histrionic: **G1:** 37(16.0) Narcissistic: **G1:** 35 (15.2) Antisocial: **G1:** 10 (4.3) Compulsive: **G1:** 47 (29.3) Passive-aggressive: **G1:** 57 (24.7) Masochistic (self-defeating): **G1:** 42 (18.2); Schizotypal: **G1:** 14 (6.1)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Ruocco et al., 2007		**Mechanism/type of injury, %:** MVA: **G1:** 74.8 Falls: **G1:** 11 Blows to the head: **G1:** 10.6 Physical assault: **G1:** 2.2 Aircraft crash: **G1:** 1.3 **Area of brain injured:** NR **Concomitant injuries:** NR		Borderline: **G1:** 30 (13.0) Paranoid: **G1:** 20 (8.7) Anxiety: **G1:** 132 (57.1) Somatoform: **G1:** 76 (32.9) Bipolar (manic) **G1:** 7 (3.0) Dysthymia: **G1:** 110 (47.6) Thought disorder: **G1:** 19 (8.2) Delusional disorder: **G1:** 12 (5.2) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Satz et al., 1998 Satz et al., 1998^ See McCleary et al., 1998 **Country, Setting:** US, academic medical centers **Enrollment Period:** 1991 to 1995 **Design:** Cross-sectional **Time from injury:** Up to 6 months **Length of follow up:** NA **Dep. Scale/Tool:** SCL-90-R, NRS-13	**Inclusion criteria:** • At least 16 yrs of age • Initial GCS score ≤ 12, or initial GCS score of ≥ 13 with abnormalities on admission CT scan • Literate and able to understand either Spanish or English • Bodily injuries other than to the head, admitted to the hospital for 24 hours or more, and AIS severity level comparable to the TBI patients (G2) **Exclusion criteria:** • Less than 6 mos postinjury • Too injured to complete neuropsycho-logical assessments • Severe pre-existing comorbidity, such as chronic heart failure, stroke, chronic severe neurological disease (e.g., Parkinson's disease, AIDS dementia, presenile dementia), or previous severe diminished mental capacity **TBI Def:** NR†	**Group(s):** **G1:** TBI patients with severe disability **G2:** TBI patients with moderate disability **G3:** TBI patients with good recovery **G4:** Other injury comparison group **Ga:** Depressed (SCL-90-R criteria) patients in G1+G2 **Gb:** Nondepressed patients in G1+G2 **Gc:** Nondepressed patients in G3+G4 **N screened:** NR **N eligible:** NR **N included:** **G1:** 21 **G2:** 42 **G2^:** 43 **G3:** 37 **G3^:** 36 **G4:** 30 **Ga^:** 17 **Gb^:** 47 **Gc^:** 64 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR	**Depression:** SCL-90-R: a deviation score of greater than 2 standard deviations adjusted for gender indicates major depression NRS-13: a score greater than 4 indicates moderate to severe depression **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** GOS: standard definitions	**Depression, SCL-90-R, %** **G1:** 24 **G2:** 28 **G3:** 2.7 **G4:** 3.3 Depression, NRS-13, %: **G1:** 52 **G2:** 35 **G3:** 22 **G4:** 17 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:*** AIMS score, mean ± SD: **Ga:** 59.1 ± 8.4 **Gb:** 42.5 ± 10.7 **Gc:** 39.2 ± 12.1 Psychomotor score, mean ± SD: Color trials 1: **Ga:** 64.8 ± 31.4 **Gb:** 68.2 ± 42.6 **Gc:** 43.1 ± 20.3 Color trials 2: **Ga:** 117.2 ± 41.1 **Gb:** 116.4 ± 53.8 **Gc:** 90.4 ± 37.5 Symbol digit, total correct: **Ga:** 33.1 ± 11.7 **Gb:** 35.5 ± 10.4 **Gc:** 47.0 ± 15.5

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Satz et al., 1998 Satz et al., 1998^		**Age, yrs ± SD:** **G1:** 32.4 ± 12.1 **G2:** 32.0 ± 13.6 **G3:** 31.9 ± 15.8 **G4:** 34.0 ± 12.7 **Age ≥16, n (%):** 130 (100) **Global injury severity:** NR **Severity of TBI, initial GCS score, %:** 3: 8 4-5: 12 6-8: 27 9-11: 14 12-13: 7 14-15: 32 GCS score, mean ± SD: **G1:** 7.0 ± 3.9 **G2:** 10.3 ± 4.2 **G3:** 10.3 ± 3.9 **G4:** NA CT diagnoses, mean ± SD: **G1:** 2.1 ± 1.5 **G2:** 1.9 ± 1.6 **G3:** 1.4 ± 1.3 **G4:** NA **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Motor score: Grooved peg (dominant): **Ga:** 89.8 ± 24.5 **Gb:** 98.4 ± 55.3 **Gc:** 71.4 ± 16.1 Grooved peg (non-dominant): **Ga:** 108.4 ± 11.7 **Gb:** 107.8 ± 55.6 **Gc:** 79.7 ± 19.1 Memory score, mean ± SD: RAVLT-1: **Ga:** 5.2 ± 2.8 **Gb:** 5.8 ± 2.1 **Gc:** 6.1 ± 2.0 RAVLT-total: **Ga:** 37.3 ± 6.5 **Gb:** 42.0 ± 13.8 **Gc:** 47.5 ± 10.4 RAVLT-8: **Ga:** 6.8 ± 4.4 **Gb:** 7.6 ± 4.3 **Gc:** 9.4 ± 2.8 Word list, total correct: **Ga:** 14.2 ± 7.1 **Gb:** 16.5 ± 6.9 **Gc:** 20.9 ± 5.7 Prospective memory-other: **Ga:** 12.9 ± 5.7 **Gb:** 11.3 ± 3.4 **Gc:** 9.5 ± 2.9 Retrospective memory-other: **Ga:** 14.9 ± 4.5 **Gb:** 13.1 ± 3.7 **Gc:** 10.7 ± 3.4 Functional score, mean ± SD: Patient competency rating-total: **Ga:** 105.4 ± 21.1 **Gb:** 114.2 ± 21.3 **Gc:** 133.3 ± 11.2 Employability rating-total: **Ga:** 4.2 ± 2.6 **Gb:** 4.7 ± 3.2 **Gc:** 7.5 ± 3.3

*None of the individual contrasts except AIMS revealed a difference between groups Ga and Gb, while significant differences were observed between group Gc and groups Ga and Gb
† GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Schofield et al., 2006 **Country, Setting:** Australia, other **Enrollment Period:** September 2003 to June 2004 **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NR **Dep. Scale/Tool:** RDS	**Inclusion criteria:** • Inmates recruited consecutively or chosen randomly based on prison ID number on days with too many potential new participants to be interviewed **Exclusion criteria:** See inclusion criteria **TBI Def:** Self-report of a blow to the head the causing the participant to become dazed and confused without LOC (TBI without LOC) or unconscious or blacked-out (TBI with LOC) Mild TBI: LOC < 30 minutes	**Group(s):** Inmates examined for TBI history **G1:** No TBI's **G2:** 1 to 3 TBI's **G3:** ≥ 4 TBI's **N screened:** NR **N eligible:** NR **N included:** **G1:** 36 **G2:** 79 **G3:** 85 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 30.6 ± 8.1 **Age ≥16, n (%):** 200 (100) **Global injury severity:** NR **Severity of TBI, n:** TBI with LOC ≥ 30 minutes: 53 TBI with LOC <30 minutes: 77 TBI without LOC: 34 **Mechanism/type of injury:** NR **Area of brain injured:** NR	**Depression:** RDS: score of one or more indicated positive result for lifetime history of major depressive disorder **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: Suicide or self-harm – direct inquiry Substance use: AUDIT score of 8 or more Specific enquiry for illegal drug use in the past 4 weeks Other psychiatric diagnoses: Psychosis: screener from the Australian Low Prevalence Disorders Study: weighted scores of four or more = positive (current or past) ICD personality international personality disorder screener: 3 or more items from either scales for impulsive or dissocial personality **Health related QoL or functional status:** NR	**Depression:** Depression associated with TBI and increased as number of TBI's increased: Depression, n (%): **G1:** 3 (10) **G2:** 14 (19) **G3:** 26 (31) Depression, OR (95% CI): **G2+G3/G1:** 3.55 (0.99, 12.78) **G2/G1:** 2.46 (0.63,9.57) **G3/G1:** 4.70 (1.26, 17.54) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: Suicide or self-harm, n (%): **G1:** 4 (13) **G2:** 11 (14) **G3:** 21 (25) Suicide or self-harm, OR (95% CI): **G2+G3/G1:** 1.73 (0.56, 5.34) **G2/G1:** 1.14 (0.33, 3.95) **G3/G1:** 2.36 (0.73, 7.62) Substance use: Alcohol problems, n (%): **G1:** 13 (36) **G2:** 37 (47) **G3:** 38 (45)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Schofield et al., 2006		**Concomitant injuries:** NR		Alcohol problems, OR (95% CI): **G2+G3/G1:** 1.59 (0.74, 3.38) **G2/G1:** 1.63 (0.72, 3.72) **G3/G1:** 1.54 (0.68, 3.49) Drug use, n (%): **G1:** 11 (31) **G2:** 40 (51) **G3:** 43 (51) Drug use, OR (95% CI): **G2+G3/G1:** 2.42 (1.10, 5.29) **G2/G1:** 2.31 (0.99, 5.39) **G3/G1:** 2.52 (1.09, 5.85) Other psychiatric diagnoses: Psychosis, n (%): **G1:** 5 (14) **G2:** 24 (30) **G3:** 32 (38) Psychosis, OR (95% CI): **G2+G3/G1:** 3.08 (1.12, 8.50) **G2/G1:** 2.64 (0.90, 7.74) **G3/G1:** 3.54 (1.23, 10.21) Impulsive personality, n (%): **G1:** 20 (56) **G2:** 36 (46) **G3:** 55 (65) Impulsive personality, OR (95% CI): **G2+G3/G1:** 0.83 (0.39, 1.77) **G2/G1:** 0.55 (0.24, 1.27) **G3/G1:** 1.22 (0.53, 2.80)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Schofield et al., 2006				Dissocial personality, n (%): **G1:** 15 (42) **G2:** 37 (47) **G3:** 48 (56) Dissocial personality, OR (95% CI): **G2+G3/G1:** 1.37 (0.63, 2.99) **G2/G1:** 1.04 (0.44, 2.44) **G3/G1:** 1.78 (0.77, 4.14) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sebit et al., 1998 **Country, Setting:** Kenya, tertiary care center **Enrollment Period:** 1991 to 1992 **Design:** Cross-sectional **Time from injury:** 6 to 8 months **Length of follow up:** NA **Dep. Scale/Tool:** CIS-R, DSM-III-R	**Inclusion criteria:** • 16 to 65 yrs old • Non-penetrating, closed head injury (CHI) **Exclusion criteria:** • Previous hospital admission due to LOC, associated fractures elsewhere in the body, or undergone major surgical interventions (i.e. elevation of depressed skull fracture) for the fractured lower limb injury group (G2) **TBI Def*:** Mild CHI: Consciousness on admission and throughout the period of hospitalization and absence of neurologic deficits Moderate CHI: Comatose for not more than 24 hrs with possible neurologic deficits Severe CHI: Duration of coma exceeding 24 hours and may have manifested focal neurologic deficits.	**Group(s):** **G1:** Patients with CHI **G2:** Patients with FLLI **N screened:** NR **N eligible:** 100 **N included:** **G1:** 37 **G2:** 39 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 32.2 ± 9.1 **G2:** 30.5 ± 7.9 **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: **G1:** 59.5 Moderate: **G1:** 21.6 Severe: **G1:** 18.6	**Depression:** CIS-R: cutoff for cases of 13 points then correlated with DSM-III-R criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: CIS-R cutoff for cases of 13 points then correlated with DSM-III-R criteria Irritability: NR Aggression: NR Suicidality: NR Substance use: WHO Audit Core and an 8 item procedure for alcohol abuse with a cutoff of 8 points Other psychiatric diagnoses: Psychiatric interview for delusional disorders using DSM-III-R criteria **Health related QoL or functional status:** NR	**Depression, n (%):** **G1:** 20 (54.1) **G2:** 10 (25.6) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: **G1:** 8 (21.6) **G2:** 6 (15.4) Irritability: NR Aggression: NR Suicidality: NR Substance use: **G1:** 2 (5.4) **G2:** 1 (2.6) Other psychiatric diagnoses: Delusional disorder: **G1:** 0 **G2:** 3 (7.7) **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sebit et al., 1998		**Mechanism/type of injury, n (%):** Fall: **G1:** 3 (8.1) **G2:** 21 (53.9) MVA: **G1:** 22 (59.5) **G2:** 8 (20.5) Assault: **G1:** 12 (32.4) **G2:** 8 (20.5) Sports: **G1:** 0 (0) **G2:** 2 (5.1) **Area of brain injured:** NR **Concomitant injuries:** NR		

*Levin, HS and Grossman, RG. Behavioural sequelae of closed head injury. *Arch Neurol.*1978; **35**:720-727

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Seel and Kreutzer, 2003 See Seel et al., 2003 **Country, Setting:** US, rehabilitation center **Enrollment Period:** 1996 to 2000 **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 27.8 ± 43.8 (1-323) **Length of follow up:** NA **Dep. Scale/Tool:**, BDI, NFI-D	**Inclusion criteria:** • Completion of comprehensive evaluations at an outpatient rehabilitation center between 1996 and 2000 **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 172 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 36.5 ± 12.2 **Age ≥16, n (%):** 172 (100) **Global injury severity:** NR **Severity of TBI, GCS score, mean:** 10.51 **Mechanism/type of injury, %:** MVA: 68 Violence: 13 Falls: 12 **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** BDI ≥ 21 NFI ≥ 43 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, BDI, %:** Extreme: 2 Severe: 12 Moderate: 24 BDI score, mean ± SD: 16.90 ± 11.40 Depression, NFI, %: 30 NFI score, mean ± SD: 36.13 ± 11.57 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Seel et al., 2003 See Seel and Kreutzer, 2003 **Country, Setting:** US, rehabilitation centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mos ± SD:** 35.3 ± 26.9 **Length of follow up:** NA **Dep. Scale/Tool:** NFI-R, DSM-IV	**Inclusion criteria:** • Completion of a TBIMS outpatient follow-up evaluation between 1996 and 2000 • Availability of demographic data • Completion of the NFI at annual follow-up intervals **Exclusion criteria:** See inclusion criteria **TBI Def:** Damage to brain tissue caused by an external mechanical force as evidenced by medically documented LOC or PTA due to brain trauma or by objective neurological findings that can be reasonably attributed to TBI on physical examination or mental status examination	**Group(s):** Patients with TBI **G1:** Depressed patients **G2:** Non-depressed patients **N screened:** NR **N eligible:** NR **N included:** Total: 666 **G1:** NR **G2:** NR **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 38.0 ± 14.5 **Age ≥16, n (%):** 666 (100) **Global injury severity:** Acute treatment, days ± SD: 21.2 ± 16.7 Inpatient rehabilitation, days ± SD: 33.7 ± 25.6	**Depression:** Measured using NFI to screen for DSM-IV major depression symptoms. NFI comprised of 70 items measures neurobehavioral problems in TBI patients – contains 6 domains (depression, somatic, memory/attention, communication, aggression, & motor) Respondents responses measured on 5 point Likert scale DSM-IV criteria used to classify depressive symptoms of NFI scale **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, DSM-IV criteria, %:** MDE: 27 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: Threaten to hurt self, %: Total: 7 **G1:** 19 **G2:** 3 Substance use: NR Other psychiatric diagnoses:* NFI criteria, mood symptoms, always/ often, % : Easily angered: 26 Frustrated: 25 Sad, blue: 18 Feel hopeless: Total:12 **G1:** 38 **G2:** 3 Argue: 16 Curse at others: 12 Scream or yell: 9 Hit or push others: 2 Bored: 22 Sit with nothing to do: 19 Lonely: 19 Loss of interest in sex: 16 Difficulty enjoying activities: Total: 13 **G1:** 38 **G2:** 4

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Seel et al., 2003		**Severity of TBI:** GCS score, mean ± SD: 8.6 ± 4.6 LOC, days ± SD: 9.8 ± 21.2 LOC, median days: 3.0 PTA, days ± SD: 31.7 ± 26.2 PTA ≥ 7 days, %: 90 **Mechanism/type of injury, n (%):** Car crash: 360 (54) Violence: 147 (22) Falls: 100 (15) Pedestrian accidents: 47 (7) **Area of brain injured:** NR Concomitant injuries: NR		Uncomfortable around others: 13 No confidence: 14 Feel worthless: Total: 11 **G1:** 37 **G2:** 2 Curse at self: 11 NFI criteria, somatic symptoms, always/often, %: Poor appetite: Total: 8 **G1:** 24 **G2:** 3 Trouble falling asleep: Total: 22 **G1:** 58 **G2:** 9 Move slowly: 24 Restless: Total: 20 **G1:** 55 **G2:** 7 Talk too fast or slow: 13 Tire easily during physical activity: 29 Weak: Total: 14 **G1:** 39 **G2:** 5 NFI criteria, cognitive symptoms, always/ often, %: Easily distracted: 28 Cannot get mind off certain thoughts: 25 Poor concentration: Total:19 **G1:** 56 **G2:** 6 Forget if I have done things: 20 Forget yesterday's events: 19 Forget to do chores or work: 12 Forget or miss appointments: 11 **Health related QoL or functional status:** NR

*Only significant criteria differentiating depressed from non-depressed TBI patients reported by group

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sherer et al., 2007 **Country, Setting:** US, rehabilitation center **Enrollment Period:** February 2003 to August 2005 **Design:** Prospective cohort **Time from injury, days (range):** 82 (23-938) **Length of follow up:** NA **Dep. Scale/Tool:** CES-D	**Inclusion criteria:** • All patients admitted to rehabilitation center and a family member/ significant other • Ability to provide informed consent **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** Patients with TBI **N screened:** 94 **N eligible:** 94 **N included:** 69 **N at conclusion:** 49 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 29.3 ± 13.2 **Age ≥16, n (%):** NR **Global injury severity, acute length of stay, mean ± SD:** 23.1 ± 16.2 **Severity of TBI, GCS score, mean ± SD:** 8.0 ± 3.7 **Mechanism/type of injury, n (%):** MVC: 54 (79) Fall: 6 (9) Assault: 5 (7) Other: 3 (4) **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** CES-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** California Psychotherapy Alliance Scale (CALPAS) Prigatano Alliance Scale (PAS) Awareness Questionnaire (AQ) Disability Rating Scale (DRS) Productivity Status	**Depression:** Severe: 3 Moderate: 6 Mild: 13 CES-D score, mean ± SD: 11.6 ± 8.0 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CALPAS score, mean ± SD: 122.0 (16.5) CALPAS, family member, mean ± SD: 126.2 (10.3) CALPAS score, clinician, mean ± SD: clinician: 112.0(14.4) PAS score, mean ± SD: 11.3 ± (1.1) AQ score, mean ± SD: 49.4 ± 9.1 AQ score, family member, mean ± SD: 35.9 ± 9.7

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sherer et al., 2007				AQ score, clinician, mean ± SD: 32.6 ± 5.7 DRS score, admit-ting, mean ± SD: 4.3 ± 1.5 DRS score, mean ± SD: 2.4 ± 1.4 Productivity (yes), n (%): 43 (62)

*GCS scores recorded

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sherman et al., 2000 **Country, Setting:** Canada, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, yrs ± SD:** 2.52 ± 2.02 **Length of follow up**: NA **Dep. Scale/Tool:** MMPI-2	**Inclusion criteria:** • Availability of information on head injury severity • Complete neuropsychological test data including MMPI-2 • No evidence of symptom exaggeration (i.e. below-chance performance) on a forced-choice symptom validity measure (Victoria Symptom Validity Test) **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild HI: LOC of < 1 hour and PTA of < 24 hours (based on ACRM criteria) Moderate-to-severe HI: LOC > 1 hour and PTA > 24 hours	**Group(s):** **G1:** Mild TBI **G2:** Moderate-to-severe TBI **Ga:** Low Dep score **Gb:** High Dep score **N screened:** NR **N eligible:** 175 **N included:** **G1:** 114 **G2:** 61 **Ga:** 117 **Gb:** 58 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 32.8 ± 12.7 **Age ≥16, n (%):** NR **Global injury severity:** NR **Severity of TBI, n (%):** Mild TBI: 114 (65) Moderate/Severe TBI: 61 (35) **Mechanism/type of injury, n (%):** Car accident: 167 (95) **Area of brain injured:** NR	**Depression:** Measured by Depression content scale (Dep) of MMPI-2 High Dep score (T-score > 65) includes all individuals with symptoms in the clinical range Low Dep score (T-score < 65) includes all individuals with symptoms not in clinical range **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression, high score, n (%)*:** Total: 58 (33) Mild TBI: 36 (32) Moderate/Severe TBI: 22 (36) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Logical memory, test scores in impaired range, %: **Ga:** 19.2 **Gb:** 32.8 **Ga/Gb:** *P* = 0.04 PASAT memory, test scores in impaired range, %: **Ga:** 25.5 **Gb:** 41.9 **Ga/Gb:** *P* = 0.10

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sherman et al., 2000		**Concomitant injuries:** NR		

*Contingency coefficients comparing persons with depression symptoms in clinical range in each TBI severity range not significant – indicates equal distribution of depression symptoms across severity ranges

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Slaughter et al., 2003 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** PRIME-MD	**Inclusion criteria:** • 18 years of age or older • English speaking • Completely sentenced on all current charges (no further pending legal charges) **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI:* A head injury immediately followed by LOC ≤ 30 minutes, alteration of mental status at the time of the accident (e.g. feeling dazed, confused or disoriented), or loss of memory of the time around the injury (based on ACRM criteria) Moderate/severe TBI:* Any injury of greater severity than mild TBI	**Group(s):** **G1:** Inmates with self-reported TBI **G2:** Inmates without self-reported TBI **N screened:** 475 **N eligible:** 91 **N included:** **G1:** 25 **G2:** 25 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, n (%):** 18-29: 30 (43.5) 30-39: 20 (49.0) 40-49: 17 (24.6) 50-59: 2 (2.9) **Age ≥16, N (%):** 69 (100) **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI, n:** Mild: **G1:** 20 Moderate/severe: **G1:** 5 **Mechanism/type of injury:** NR	**Depression:** PRIME-MD: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: PRIME-MD Irritability: NR Aggression: Brief Anger and Aggression Questionnaire (BAAQ) Suicidality: NR Substance use: PRIME-MD Other psychiatric diagnoses: BAAQ, COWAT, WAIS-R Vocabulary, WAIS-R Picture Completion, Trail Making Test A and B, WMS-R **Health related QoL or functional status:** BAAQ, COWAT, WAIS-R Vocabulary, WAIS-R Picture Completion, Trail Making Test A and B, WMS-R	**Depression, n (%):** MDD: **G1:** 13 (52) **G2:** 9 (36) MDD in partial remission: **G1:** 1 (4) **G2:** 1 (4) Dysthymia: **G1:**10 (40) **G2:** 8 (32) Minor depressive disorder: **G1:** 2 (8) **G2:** 3 (12) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: Generalized anxiety disorder, n (%): **G1:** 10 (40) **G2:** 7 (28) Anxiety disorder NOS, n (%): **G1:** 3 (12) **G2:** 2 (8) Irritability: NR Aggression: BAAQ score, mean ± SD: **G1:** 11.6 **G2:** 7.8 **G1/G2:** *P* = 0.05 Suicidality: NR Substance use: Probable alcohol abuse/dependence, n (%): **G1:** 14 (56) **G2:** 13 (52) Other psychiatric diagnoses: COWAT score, mean: **G1:** 32.8 **G2:** 42.0

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Slaughter et al., 2003		**Area of brain injured:** NR Concomitant injuries: NR		WAIS-R Vocabulary score, mean: **G1:** 30.9 **G2:** 30.8 WAIS-R Picture Completion score, mean: **G1:** 13.6 **G2:** 13.8 Trail Making Test A score, mean: **G1:** 30.5 **G2:** 31.6 Trail Making Test B score, mean: **G1:** 74 **G2:** 66.6 WMS-R LM I score, mean: **G1:** 18.4 **G2:** 18.8 WMS-R LM II score, mean: **G1:** 14.0 **G2:** 15.4 **Health related QoL or functional status:** NR

* Self-reported; medical records not obtained or available for use

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Sliwinski et al., 1998 See Hibbard et al., 1998; Gordon, Brown et al., 1998; Gordon, Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean yrs:** 7.6 **Length of follow up:** NR **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • 18 years of age or older at the time of injury • Brain injury of traumatic origin occurring at least 1 year prior to the study • Current age < 65 years • Self-identified as having received a TBI and as having a disability • Able to engage in a 3 to 4-hour interview • Resident of New York state and living in non-institutional settings in the community **Exclusion criteria:** See inclusion criteria **TBI Def:** Self-report	**Group(s):** Patients with TBI **N screened:** 433 **N eligible:** 100 **N included:** 100 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, assessment, yrs ± SD:*** 39.8 ± 10.2 Age, time of injury, mean (range): 32 (18-59) **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR **Severity of TBI, LOC, %:*** Dazed/confused < 20 minutes: 20 > 20 min to < 1 day: 9 > 1 day to < 1 week: 20 1-4 weeks: 17 > 1 month: 24	**Depression:** SICD: DSM-IV criteria BDI: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** TIRR	**Depression, SCID, n (%):** MDD: 23 (23) Dysthymia: 2 (2) BDI score and SCID diagnosis of depression, correlation: 0.30 ($P < 0.05$) **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** BDI score and TIRR Symptom Checklist score, correlation: 0.67 ($P < 0.05$)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Sliwinski et al., 1998		**Mechanism/type of injury:*** MVA: 62 Assault: 8 Pedestrian accident: 8 Fall: 6 Sports related: 6 Hit by falling/flying object: 5 Gunshot wound: 2 Other: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		

*Taken from Hibbard, M. R., S. Uysal, et al. (1998). "Axis I psychopathology in individuals with traumatic brain injury." J Head Trauma Rehabil 13(4): 24-39

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Stalnacke, 2007 **Country, Setting:** Sweden, tertiary care center **Enrollment Period:** 2001 **Design:** Cross-sectional **Time from injury:** 3 years **Length of follow up:** NA **Dep. Scale/Tool:** BDI	**Inclusion criteria:** • Admitted to the ED within 24 hours after the trauma • GCS 13 to 15 on arrival to the ED • Diagnosis of concussion/ commotion cerebri/mild head injury/mild TBI resulting in hospitalization for observation **Exclusion criteria:** See inclusion criteria **TBI Def:** Mild TBI: GCS 13 to 15	**Group(s):** Patients with mild TBI **N screened:** 214 **N eligible:** 201 **N included:** 163 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 7 (4.3) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI (%):** 68 (42) **Age, yrs ± SD:** 30.6 ± 14.4 **Age ≥16, n (%):** 163 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Mild TBI: 163 (100) PTA, minutes ± SD (range): 41 ± 118 (0-720) LOC, minutes ± SD (range): 4.0 ± 7 (0-30)	**Depression:** BDI: 0-9: Asymptomatic 10-18: Mild to moderate depression 19-29: Moderate to severe depression 30-63: Extremely severe depression **Other co-morbidities:** PTSD: IES Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CIQ LiSat-11 RPQ	**Depression, %:** Mild to moderate depression: 25 Moderate to severe depression: 15 BDI score, mean ± SD: 6.88 ± 8.1 **Taking depression medications:** NR **Other co-morbidities:** PTSD: IES score, mean ± SD: 9.6 ± 13 Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CIQ score, mean ± SD: 20.19 ± 4.15 LiSat-11 score, mean ± SD: 46.4 ± 10.7 RPQ score, mean ± SD: 10.7 ± 13.2

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Stalnacke, 2007		**Mechanism/type of injury, n (%):** Falls: 59 (36.2) Bicycle: 25 (15.3) MVA: 37 (22.7) Sports: 23 (14.1) Assault: 9 (5.5) Vehicle related: 37 (22.7) Other: 5 (3.1) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Tateno et al., 2003 See Jorge et al., 2004 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, days ± SD:** **G1a:** 23.9 ± 17.7 **G1b:** 33.4 ± 26.5 **Length of follow up:** NA **Dep. Scale/Tool:** SCID, HAM-D	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Penetrating head injury or spinal cord injury • Severe comprehension deficits that precluded thorough neuropsychiatric evaluation **TBI Def:** Closed head injury followed by PTA ≥ 30 mins Mild TBI: GCS score 13 to 15 Moderate TBI: GCS score from 9 to 12, or a GCS score of 12 to 15 with intracranial surgical procedures or with focal lesions greater than 15 cc Severe TBI: GCS score from 4 to 8	**Group(s):** **G1:** Patients with TBI **G1a:** Patients with TBI and significant aggression **G1b:** Patients with TBI but not significant aggression **G2:** Multiple trauma patients with no HI or spinal cord injury **N screened:** NR **N eligible:** NR **N included:** **G1:** 89 **G1a:** 30 **G1b:** 59 **G2:** 26 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Mood disorder: **G1:** 23 (26.4) **G1a:** 13 (43.3) **G1b:** 10 (17.5) **G2:** 8 (34.8) Anxiety disorder: **G1:** 11 (12.6) **G1a:** 4 (13.3) **G1b:** 7 (12.3) **G2:** 2 (8.7) Aggressive behavior (post- traumatic): **G1:** 30 (33.7) **G2:** 3 (11.5)	**Depression:** SCID: DSM-III-R criteria HAM-D: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A Irritability: NR Aggression: Aggressive Overt Aggression Scale (OAS) ≥ 3 and ≥ 4 episodes of aggressive behavior Suicidality: NR Substance use: NR Other psychiatric conditions: NR **Health related QoL or functional status:** FIM	**Depression, SCID, %:** MDD: **G1a:** 56.7 **G1b:** 28.8 Minor depression: **G1a:** 23.3 **G1b:** 27.1 HAM-D score, mean ± SD: **G1a:** 12.2 ± 6.4 **G1b:** 7.6 ± 5.6 **G1a/G1b:** *P* < 0.01 **Taking depression medications:** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: HAM-A score, mean ± SD: **G1a:** 12.8 ± 6.6 **G1b:** 8.4 ± 5.4 **G1a/G1b:** *P* < 0.01 Irritability: NR Aggression, n (%): **G1:** 30/89 (34) Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** **G1:** 62.7 ± 10.1 **G1a:** 63.2 ± 9.7 **G1b:** 62.5 ± 10.4 **G2:** 59.4 ± 10.9

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Tateno et al., 2003		Alcohol abuse: **G1:** 18 (20.7) **G2:** 5 (21.7) Substance abuse: **G1:** 11 (12.6) **G2:** 6 (26.1) **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 36.1 ± 15.2 **G2:** 36.4 ± 14.3 **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: **G1a:** 20 **G1b:** 22.4 Moderate: **G1a:** 23.3 **G1b:** 20.7 Mild: **G1a:** 56.7 **G1b:** 56.9 GSC score, mean ± SD: **G1a:** 11.7 ± 3.0 **G1b:** 11.7 ± 2.9 **Mechanism/type of injury, %:** MVA: **G1:** 75.3 **G2:** 73.1 **Area of brain injured, %:** Diffuse lesion: **G1a:** 48.3 **G1b:** 40 Left hemisphere: **G1a:** 37.9 **G1b:** 17 Frontal lobe: **G1a:** 41.4 **G1b:** 8 **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Varney et al., 1987 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, mean yrs (range):** 3.4 (2-8) **Length of follow up**: NA **Dep. Scale/Tool:** DSM-III	**Inclusion criteria:** • History of closed head injury • Period of un-consciousness lasting from a few minutes to eight days • At least two yrs postinjury **Exclusion criteria:** • History of head injury (G2) **TBI Def:** NR	**Group(s):** **G1:** Patients with TBI **G2:** Patients with back injury **N screened:** NR **N eligible:** NR **N included:** **G1:** 120 **G2:** 60 **N at conclusion:** **G1:** 120 **G2:** 60 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** **G1:** NR **G2:** None (see exclusion criteria) **Age:** NR **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI:** NR **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** DSM-III criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: DSM-III Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: DSM-III **Health related QoL or functional status:** NR	**Depression, n (%):** MDD: **G1:** 92/120 (76.7) **G2:** 23/60 (38.3) MDD onset, n: Immediately or shortly after TBI: **G1:** 45/92 (48.9) At least six months post TBI: **G1:** 42/92 (45.7) **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability, n (%): Patient report: **G1:** 29/92 (31.5) **G2:** NR Relative report: **G1:** 80/92 (87.0) **G2:** NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses, n (%): Bipolar: **G1:** 4/120 (3.3) **G2:** 0 Schizophrenic: **G1:** 1/120 (0.8) **G2:** 0 **Health related QoL or functional status:** NR

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Vasterling et al., 2000 **Country, Setting:** US, tertiary care center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** NR **Length of follow up:** NA **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • Military veterans with exposure to combat as verified by military records • Completion of the SCID, BDI, Mississippi Scale for Combat-related PTSD, CES, and self report measures of depression, PTSD symp-tommatology, and combat exposure **Exclusion criteria:** See inclusion criteria **TBI Def:** HI: Injuries to the head from blunt or penetrating force sufficient to cause intracranial injury	**Group(s):** **G1:** Veterans with HI **G2:** Veterans with no HI **N screened:** 260 **N eligible:** 171 **N included:** **G1:** 87 **G2:** 84 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 48.33 ± 8.97 **Age ≥16, n (%):** 171 (100) **Global injury severity:** NR **Severity of TBI, n:** LOC: 56 Data missing: 5 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria BDI: 0: None, 59: Severe **Other co-morbidities:** PTSD: SCID Mississippi Scale score Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, n (%):** Lifetime:* **G1:** 61 (70.0) **G2:** 61 (72.6) Current: **G1:** 58 (66.7) **G2:** 48 (57.1) BDI score, mean ± SD: **G1:** 31.77 ± 11.40 **G2:** 27.08 ± 12.33 **G1/G2:** $P < 0.05$ **Taking depression medications:** NR **Other co-morbidities:** PTSD, n (%): Lifetime:* **G1:** 78 (89.7) **G2:** 73 (86.9) Current: **G1:** 76 (87.4%) **G2:** 72 (85.7%) Mississippi Scale score (PTSD), mean ± SD: **G1:** 125.98 ± 22.25 **G2:** 120.24 ± 27.44 Other anxiety disorder, n (%): Lifetime:* **G1:** 20 (23.0) **G2:** 18 (21.4) Current: **G1:** 22 (25.3) **G2:** 18 (21.4) Irritability: NR Aggression: NR Suicidality: NR Substance use: Alcohol use disorder, n (%): Lifetime:* **G1:** 55 (63.2) **G2:** 53 (63.1) Current: **G1:** 5 (17.2) **G2:** 2 (14.3)

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Vasterling et al., 2000				Other substance use disorder, n (%): Lifetime:* **G1:** 30 (34.5) **G2:** 38 (45.2) Current: **G1:** 9 (10.3) **G2:** 5 (5.6) Other psychiatric diagnoses: Bipolar mood disorder (Type I or II), n (%): Lifetime:* **G1:** 3 (3.6) **G2:** 2 (2.3) Current: **G1:** 0 (0.0) **G2:** 0 (0.0) Somatization disorder, current, n (%): **G1:** 7 (8.0) **G2:** 3 (3.6) Eating disorder, n (%): Lifetime:* **G1:** 3 (3.4) **G2:** 0 (0.0) Current: **G1:** 3 (3.4) **G2:** 0 (0.0) Adjustment disorder, current, n (%): **G1:** 0 (0.0) **G2:** 2 (2.4) **Health related QoL or functional status:** NR

* Lifetime was not defined anywhere in the article.
Pearson product moment and point-biserial indicated that extensive combat exposure (0.22, $P < 0.01$), self-report PTSD (0.72, $P < 0.001$), Hx of TBI (0.19, $P < 0.05$) associated with severe depression.

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Wade et al., 1998 **Country, Setting:** UK, rehabilitation center **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury:** 6 months **Length of follow up:** NA **Dep. Scale/Tool:** HADS	**Inclusion criteria:** • Age 16-65 years • Reside in Oxfordshire • Admitted to hospital with head injury of any severity, with or without other injuries **Exclusion criteria:** • Minor head injuries, not requiring admission **TBI Def:** Head injury defined as "any blow to the head causing a clinical diagnosis of head injury to be made" Mild: PTA < 1 hr Moderate: PTA ≥ 1 hr but < 24 hrs Severe: PTA ≥ 24 hrs but ≤ 7 days Very severe: PTA > 7 days	**Group(s):** **G1:** OXHIS **G2:** Usual care **N screened:** 321 **N eligible:** **G1:** 184 **G2:** 130 **N included:** **G1:** 181 **G2:** 122 **N at conclusion:** NA **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 33.53 ± 13.99 **G2:** 32.45 ± 12.23 **Age ≥16, n (%):** 303 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Very severe: **G1:** 10 (8) **G2:** 7 (9) Severe: **G1:** 21 (18) **G2:** 17 (22) Moderate: **G1:** 39 (33) **G2:** 23 (29) Mild: **G1:** 48 (41) **G2:** 31 (40) Unable to estimate: **G1:** 14 **G2:** 8	**Depression:** HADS: NR **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** RHFUQ 0 1-10 11-20 21-30 31-40	**Depression, n (%):** Feeling depressed: **G1:** 33 (25) **G2:** 29 (34) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: NR Irritability: **G1:** 38 (29) **G2:** 36 (42) Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Some disability at follow up, %: 61 RHFUQ score, mean ± SD: **G1:** 5.36 ± 7.81 **G2:** 8.23 ± 8.75 RHFUQ score, %: 0: **G1:** 44 **G2:** 52 1-10: **G1:** 34 **G2:** 32 11-20: **G1:** 16 **G2:** 20 21-30: **G1:** 4 **G2:** 14 31-40: **G1:** 1 **G2:** 1

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Wade et al., 1998		**Mechanism/type of injury, n (%):** RTA including pedestrian: **G1:** 54 (41) **G2:** 36 (42) Cyclist: **G1:** 13 (10) **G2:** 8 (9) Horse riding: **G1:** 3 (2) **G2:** 4 (5) Domestic accident: **G1:** 9 (7) **G2:** 8 (9) Work accident: **G1:** 10 (8) **G2:** 5 (6) Assault: **G1:** 16 (12) **G2:** 10 (12) Sport: **G1:** 7 (5) **G2:** 4 (5) Other: **G1:** 20 (15) **G2:** 11 (13) **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 2. KQ 2 Screening for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Whelan-Goodinson et al., 2008 **Country, Setting:** Australia, tertiary care center **Enrollment Period:** July 2000 to July 2005 **Design:** Cross-sectional **Time from injury, yrs ± SD (range):** 2.98 ± 1.47 (0.5-5.5) **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 17 to 70 years of age at time of injury • Lowest recorded GCS score < 15 • Cognitive capacity for participation as determined by neuropsychologist • Proficient in English • No history of TBI or neurological disorders **Exclusion criteria:** See inclusion criteria **TBI Def:** NR*	**Group(s):** Patients with TBI **N screened:** 720 **N eligible:** 550 **N included:** 100 **N at conclusion:** NA **Depression, n (%):** Prior to injury: 17 (17) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Anxiety disorder: 13 (13) Substance abuse disorder: 41 (41) **N with prior TBI:** 0 (see inclusion criteria) **Age, yrs ± SD:** 37.18 ± 14.19 **Age ≥16, n (%):** Total: 187 (100) **Global injury severity :** PTA, days: 20.77 Length inpatient stay, days: 41.59 **Severity of TBI:** Lowest pre-intubation GCS score, mean: 9.1 **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: AUDIT, DAST Other psychiatric diagnoses: SCID **Health related QoL or functional status:** SPRS	**Depression, n (%):** Major depression: 32 (32) Non-major depression:2 (2) Resolved post-TBI depression: 12 (12) **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: 11 (11) Other anxiety disorder: GAD: 14 (14) Irritability: NR Aggression: NR Suicidality: NR Substance use: Current use: 17 (17) Resolved use: 4 (4) Other psychiatric diagnoses: Specific phobia: 7 (7) Panic disorder: 6 (6) Social phobia: 6 (6) OCD: 1 (1) Agorophobia: 1 (1) Resolved anxiety: 2 (2) **Health related QoL or functional status:** SPRS total score, mean (range): 52.91 (15-72)

*GCS scores recorded

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Bombardier et al., 2006 **Country, Setting:** US, trauma center **Enrollment Period:** May 2001 to January 2003 **Design:** Prospective cohort **Time from injury:** Up to 6 months **Length of follow up:** 6 months **Dep. Scale/Tool:** PHQ-9	**Inclusion criteria:** • At least 18 yrs old • Residing in King, Pierce, Kitsap, or Snohomish counties (WA) • English speaking **Exclusion criteria:** • Uncomplicated MTBI • homelessness, incarceration, a history of schizophrenia, or participation in an investigational drug study **TBI Def:** Radiological evidence of acute brain abnormality or lowest GCS score less than or equal to 12 within the first 24 hours since admission. Complicated mild TBI: GCS > 12 and abnormal CT Uncomplicated MTBI: GCS 13-15 and no CT abnormality Moderate TBI: GCS 9-12 Severe TBI: GCS ≤ 8	**Group(s):** Patients with TBI **G1:** Patients with TBI and PTSD **G2:** Patients with TBI and no PTSD **N screened:** NR **N eligible:** 211 **N included:** 141 **N at conclusion:** **G1:** 14 **G2:** 110 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, n (%):** History of anxiety or depression: 68 (54.8) **N with prior TBI:** NR **Age, yrs ± SD:** 43 ± 18.6 **Age ≥16, %:** 100 **Global injury severity:** NR **Severity of TBI, %:** Comp. Mild: 44 Moderate: 30 Severe: 27 **Mechanism/type of injury, %:** MVC: 49 Falls: 32 Assault: 7 Other: 12 **Area of brain injured:** NR	**Depression:** PHQ-9: NR **Other co-morbidities:** PTSD: PCL-C Criteria F Other anxiety disorder: PHQ Self-history Irritability: NR Aggression: NR Suicidality: NR Substance use: Positive for Toxicology screening test for amphetamines/ Cocaine Other psychiatric diagnoses: NR **Health related QoL or functional status:** Cognistat GHS of SF-36	**Depression, PHQ-9, n (%):** MDD: 27 (21.8)^ MDD, %: **G1:** 71.4 **G2:** 15.5 *P* < 0.001 **Taking depression medications:** NR **Other co-morbidities, n (%):** PTSD: 14 (11.3) PTSD + criteria F: 10 (8*) PTSD + all criteria (A2,B,C,D,F,PCL-C): 7/125 (5.6*) Other anxiety disorder: PHQ, %: **G1:** 21.4 **G2:** 4.5 *P* < 0.046 Other anxiety disorders, %: **G1:** 71.4 **G2:** 18.2 *P* < 0.001 Irritability: NR Aggression: NR Suicidality: NR Substance use: Positive toxicology test for amphetamine/ Cocaine, n (%): **G1:** 4 (3.2) **G2:** 8 (7.3) Other psychiatric diagnoses: NR

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Bombardier et al., 2006		**Concomitant injuries:** NR		**Health related QoL or functional status:** Difficult to function, OR (95% CI): **G1/G2:** 1.28 (1.02-1.61) Fair/Poor health, OR (95% CI): **G1/G2:** 1.34 (0.91-1.81)

^Statistic calculated by reviewer

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Fann et al., 1995 **Country, Setting:** US, TBI rehabilitation center **Enrollment Period:** September 1992 to December 1993 **Design:** Cross-sectional **Time from injury, mos ± SD (range):** 32.5 ± 35.1 (1-128) **Length of follow up:** NA **Dep. Scale/Tool:** DIS Version III-A	**Inclusion criteria:** • Mild or moderate/ severe TBI **Exclusion criteria:** See inclusion criteria **TBI Def:** Based on ACRM criteria for mild and moderate/ severe TBI Mild: 1) LOC <30 mins 2) PTA <24 hrs 3) Focal neurologic deficits when severity does not differ from the following – LOC<30 mins, GCS 13-15 after 30 mins, PTA <24 hrs Moderate/severe: 1) GCS <13 2) LOC >30 mins 3) PTA >24 hrs Head Injury Symptom Checklist includes subscale for patient self perceptions of injury	**Group(s):** **G1:** Current major depression **G2:** Current generalized anxiety disorder **G3:** Current non-depressed, non-anxious **N screened:** NR **N eligible:** 50 **N included:** **G1:** 13 **G2:** 12 **G3:** 29 **N at conclusion:** NA **Depression, n (%):** Major depression, prior to injury: 6 (12) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Psychiatric disorder: 25 (50) **N with prior TBI:** NR **Age, yrs ± SD:** **G1+G2:** 40.8 ± 13.5 **G3:** 35.9 ± 12.5 **Total:** 38.0 ± 13.0 **Age ≥16:** NR **Global injury severity (ISS, RTS, etc.):** NR **Severity of TBI (GCS), n (%):** Mild TBI: **G1+G2:** 15 (71.4) **G3:** 14 (48.3) Moderate/severe: **G1+G2:** 6 (28.6) **G3:** 15 (51.7)	**Depression:** DIS: DSM-III-R criteria **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-III-R Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-III-R Other psychiatric diagnoses: DSM-III-R **Health related QoL or functional status:** Medical outcomes health survey: (scored 0-100) Physical functioning: degree to which health limits physical activities Role functioning (physical): degree to which physical health limits work/daily activities. Role functioning (emotional): extent to which mental health interferes with daily activities Social functioning Bodily pain: effect of pain on work	**Depression, n (%):** Major depression: Current: 13 (26) After BI, resolved: 14 (28) Before BI: 6 (12) Lifetime: 33 (66) **Taking depression medications (%):** NR **Other co-morbidities, n (%):** PTSD: NR Other anxiety disorder: Current GAD: **G1:** 4/13 (30.8) **Total:** 12/50 (24.0) Current panic disorder: **G1:** 2/13 (15.4) **Total:** 2/50 (4.0) Current agoraphobia: **G1:** 0/13 **Total:** 1/50 (2.0) Irritability: NR Aggression: NR Suicidality: NR Current alcohol/ drug use: **G1:** NR **Total:** 4/50 (8.0) Current dysthymia: **G1:** 5/13 (38.5) **Total:** 7/50 (14.0) Current bipolar disorder: **G1:** 0/13 **Total:** 0 /50 **Health related QoL or functional status:** Role functioning (emotional): **G1+G2:** 19.3 ± 33.9 **G3:** 56.1 ± 42.9 **G1+G2/G3:** p=0.006

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Fann et al., 1995		**Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR		Mental health: **G1+G2:** 46.3 ± 18.2 **G3:** 66.5 ± 14.1 **G1+G2/G3:** p=0.0003 General health: **G1+G2:** 44.6 ± 20.0 **G3:** 59.4 ± 27.1 **G1+G2/G3:** p=0.03 Other differences not significant.

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hibbard et al., 1998 See Sliwinski et al., 1998 **Country, Setting:** US, other **Enrollment Period:** NR **Design:** Cross-sectional **Time from injury, years:** 7.6 **Length of follow up:** NA **Dep. Scale/Tool:** SCID	**Inclusion criteria:** • 18 to 65 yrs old • At least 1 year post-TBI • Resident of New York state and living within the community **Exclusion criteria:** • Non-traumatic brain injuries (brain tumors, stroke, etc.) **TBI Def:** NR	**Group(s):** Patients with TBI **G1:** Patients with pre-TBI Axis I diagnosis **G2:** Patients with no pre-TBI Axis I diagnosis **N screened:** 431 **N eligible:** 100 **N included:** **G1:** 51 **G2:** 49 **N at conclusion:** NA **Depression:** Prior to injury, n (%): 17 (17) At time of injury: NR **Other preexisting psychiatric conditions, n (%):** Dysthymia: 1 (1) PTSD: 6 (6) OCD: 1 (1) Panic disorder: 4 (4) Phobias: 4 (4) Substance use disorder: 40 (40) One Axis 1 disorder: 34 (34) Two or more Axis 1 disorders: 17 (17) **Depression status prior to TBI:** NR **N with prior TBI:** NR **Age, yrs:** 39.8 ± 10.2 **Age ≥16, n (%):** 100 (100) **Global injury severity:** NR	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: SCID Other anxiety disorder: SCID Irritability: NR Aggression: NR Suicidality: NR Substance use: SCID Other psychiatric diagnoses: SCID **Health related QoL or functional status:** NR	**Depression, post-TBI, n (%):** MDD: 61 (61) MDD with psychotic features: 14 (14) Dysthymia: 3 (3) Depression, onset post-TBI, n (% resolved): MDD: **G1:** 16 (69) **G2:** 32 (59) Dysthymia: **G1:** 1 (0) **G2:** 1 (0) **Taking depression medications (%):** NR **Other co-morbidities, onset post-TBI, n (% resolved):** PTSD: **G1:** 8 (38) **G2:** 9 (44) Other anxiety disorder: MDD and anxiety: **G1:** 7 (43) **G2:** 18 (39) Panic disorder: **G1:** 4 (75) **G2:** 7 (57) GAD: **G1:** 4 (0) **G2:** 4 (0) Phobias: **G1:** 4 (25) **G2:** 3 (33) Irritability: NR Aggression: NR Suicidality: NR Substance use: **G1:** 3 (66) **G2:** 9 (56) Substance use and MDD and/or anxiety disorder: **G1:** 2 (0) **G2:** 6 (83)

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hibbard et al., 1998		**Severity of TBI, %:** Dazed/confused <20 minutes: 30 >20 min but <1 day: 9 >1 day to <1 week: 20 1-4 weeks: 17 > 1 month: 24 **Mechanism/type of injury, %:** MVA: 62 Assault: 8 Pedestrian accident: 8 Fall: 6 Sports related: 6 Hit by falling/flying object: 5 Gunshot wound: 2 Other: 3 **Area of brain injured:** NR **Concomitant injuries:** NR		Other psychiatric diagnoses: Bipolar: **G1:** 2 (50) **G2:** 0 (0) OCD: **G1:** 7 (29) **G2:** 7 (43) **Health related QoL or functional status:** NR

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Hibbard et al., 2004 See Ashman et al., 2004 **Country, Setting:** US, tertiary care center **Enrollment Period:** March 1995 to December 2000 **Design:** Prospective cohort **Time from injury, yrs ± SD:** **G1:** 2.51 ± 1.3 **G2:** 2.63 ± 1.3 **G3:** 2.52 ± 1.2 **G4:** 2.16 ± 0.5 **Length of follow up:** 1 year **Dep. Scale/Tool:** SCID, BDI	**Inclusion criteria:** • Between the ages of 18 and 87 • Self-identified TBI • Between 3 months and 4 years postinjury • Residents of the United States living within the community • Capable of giving informed consent for participation and answering interviews independently **Exclusion criteria:** • The presence of an acquired brain injury (e.g., cerebrovascular accident, aneurysm) • A preexisting neurocognitive disorder • Any preexisting psychotic disorder (e.g., schizophrenia, psychoses not otherwise specified, depression with psychotic features) **TBI Def:** According to ACRM criteria^	**Group(s):** **G1:** Patients experiencing no depression after TBI **G2:** Patients with resolved depression after TBI **G3:** Patients with late-onset depression after TBI **G4:** Patients with chronic depression after TBI **N screened:** NR **N eligible:** NR **N included:** **G1:** 91 **G2:** 52* **G3:** 19 **G4:** 27 **N at conclusion:** **G1:** 91 **G2:** 52* **G3:** 19 **G4:** 27 **Depression:** Prior to injury: NR At time of injury: NR **Other preexisting psychiatric conditions, %:** Mood disorders: 24 Substance abuse: 22 Anxiety: 9 Eating disorders: 1 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 43.8 ± 16.7 **G2:** 43.1 ± 14.7 **G3:** 38.5 ± 17.9 **G4:** 44.8 ± 10.0 **Age ≥16, %:** 100	**Depression:** SCID: No depression: Did not meet DSM-IV criteria for major mood disorder at either T1 (time 1=initial screening) or T2 (time 2= 1 year following initial screening). Resolved depression: Diagnosed with major depression at T1 resolved by T2. Late-onset-depression: Not depressed at T1 but met the criteria for DSM-IV diagnoses of major depression at T2. Chronic depression: Met the DSM-IV criteria for major depression at both T1 and T2. BDI: used to measure depression severity at T1 and T2 **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-IV Irritability: NR Aggression: NR Suicidality: NR Substance use: DSM-IV Other psychiatric diagnoses: DSM-IV	**Depression, n:** Chronic depression: 27 Late onset depression: 19 Resolved depression: 52* No depression: 91 **Taking depression medications (%):** NR **Other co-morbidities:** PTSD: NR Other anxiety Disorder, %: Initial screening: 19 1 year follow-up: 16 Irritability: NR Aggression: NR Suicidality: NR Substance use, %: Initial screening: 4 1 year follow-up: 6 Other psychiatric diagnoses: Co-occurring psychiatric disorder, initial screening, n (%): **G1:** 47 (52) **G2:** 23 (44) **G3:** 14 (74) **G4:** 7 (26) Co-occurring psychiatric disorder, 1 year follow-up, n (%): **G1:** 48 (53) **G2:** 38 (73) **G3:** 16 (84) **G4:** 25 (93) **Health related QoL or functional status:** No prevalence or incidence reported. Only comparisons made between depression groups

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Hibbard et al., 2004		**Global injury severity:** NR **Severity of TBI, LOC, n (%):** Dazed and/or confused: 19 (10) < 20 mins: 34 (18) 21- 60 min: 19 (10) > 1 to < 24 hrs: NR > 1 day to 1 week: 24 (13) 1-4 weeks: 43 (23) > 4 weeks: 32 (17) **Mechanism/type of injury:** NR **Area of brain injured:** NR **Concomitant injuries:** NR	**Health related QoL or functional status:** Living Life After TBI (LLATBI): Unmet Important Needs (UIN) scale Impact of TBI on Roles and Responsibilities Scale (Impact Scale) Life-3 scale	

*Reported as n=55 and n=52 in publication
^Taken from Ashman et al., 2004

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Starkstein, and Arndt, 1994 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, days, median (IQR):** 31 (32) **Length of follow up:** 12 months **Dep. Scale/Tool:** DSM-III-R, HAM-D, PSE	**Inclusion criteria:** • Acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** **G1:** Patients with major depression **G2:** Patients with major depression and anxiety **G3:** Nondepressed patients **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** **G1:** 10 **G2:** 7 **G3:** 47 **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions, n (%):** Psychiatric disorder: **G1:** 2 (20) **G2:** 2 (29) **G3:** 11 (24) Personal history of alcohol abuse, %: **G1:** 40 **G2:** 14 **G3:** 17 **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 29.4 ± 6.2 **G2:** 25 ± 5.0 **G3:** 30.1 ± 10.8 **Age ≥16:** NR **Global injury severity:** NR	**Depression:** Patient self-report of depressed mood; structured initial psychiatric evaluation with assessment for DSM-III criteria for depression; Hamilton Depression Rating Scale (HAMD-D); Present State Examination (PSE) **Other co-morbidities:** PTSD: NR Other anxiety disorder: DSM-III R criteria for Anxiety & depression PSE for mood & anxiety disorders Irritability: NR Aggression: NR Suicidality: NR Substance use: Other psychiatric diagnoses: **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI)	**Depression, n (%):** MDD: 17/66 (25.8) HAM-D score, mean ± SD: **G1:** 12.6 ± 2.9 **G2:** 15.4 ± 2.9 **G3:** 6.7 ± 2.6 **Taking depression medications, n:** Benzodiazepines: **G1+G2:** 16 Antidepressants: **G1+G2:** 0 **Other co-morbidities:** PTSD: NR Other anxiety disorder: PSE score, mean ± SD: **G1:** 18.1 ± 3.7 **G2:** 21.8 ±4.2 **G3:** 7.2 ± 4.6 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status, JHFI score, mean ± SD:** **G1:** 2.1 ± 2.0 **G2:** 0.86 ± 1.1 **G3:** 1.5 ± 2.8

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 1994		**Severity of TBI, %:** Severe: **G1:** 33 **G2:** 33 **G3:** 13 Moderate: **G1:** 56 **G2:** 50 **G3:** 64 Mild: **G1:** 11 **G2:** 17 **G3:** 23 GCS score, median (IQR): **G1:** 8.3 (3) **G2:** 10.5 (7) **G3:** 9 (6.75) **Mechanism/type of injury:** NR **Area of brain injured, CT scan, %:*** Focal injuries: **G1:** 30 **G2:** 57 **Concomitant injuries:** NR		

* Anxious depressions were associated with the presence of right hemisphere lesions (*P*=0.007), whereas depression alone was associated with left anterior lesion location (*P*= 0.003). In addition, the presence of frontal lesions (right, left, or bilateral) was associated with a decreased probability of developing anxious depressions (*P*= 0.02).

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge, Robinson, Starkstein, and Arndt, 1994 See Federoff et al., 1992 & Jorge, Robinson, and Arndt, 1993 & Jorge, Robinson, Arndt, Starkstein et al., 1993 **Country, Setting:** US, trauma center **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, n:** 3 months: 52 6 months: 43 12 months: 43 **Length of follow up:** 12 months **Dep. Scale/Tool:** Modified version of the PSE using DSM-III-R criteria	**Inclusion criteria:** • Acute closed head injury **Exclusion criteria:** • Penetrating head injuries or associated spinal cord injury • Multiple system involvement such as fractures which would influence physical recovery or produce significant secondary brain damage as a result of hypovolemic shock or severe hypoxia (abdominal hemorrhages or lung collapse) • Decreased level of consciousness (drowsy, stuporous, or comatose) or delirium • Aphasic disorders (unable to follow a two-stage command) that interfered with comprehension of questions **TBI Def:** Injury that requires medical treatment Mild TBI: GCS 12 to 15 Moderate TBI: GCS 8 to 11, or GCS 12 to 15 with surgical procedures or focal lesions greater than 25 cc Severe TBI: GCS 3 to 7	**Group(s):** Patients with TBI **N screened:** NR **N eligible:** NR **N included:** 66 **N at conclusion:** 52* **Depression, n:** Prior to injury: 0 At time of injury: 0 **Other preexisting psychiatric conditions:** Unable to determine **N with prior TBI:** NR **Age, yrs ± SD:** NR **Age ≥16:** NR **Global injury severity:** NR **Severity of TBI, %:** Severe: 17 Moderate: 68 Mild: 15 GCS score, median (IQR): 10 (6) **Mechanism/type of injury:** MVA: “Most” **Area of brain injured:** Reported but unable to determine from data presented **Concomitant injuries:** NR	**Depression:** DSM-III-R criteria **Other co-morbidities:** PTSD:NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Johns Hopkins Functioning Inventory (JHFI) Social Functioning Exam (SFE) Social Ties Checklist (STC)	**Depression, n (%):** MDD: 13 (25) Minor depression: 1 (2) **Taking depression medications:** NR **Other co-morbidities, n:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: Bipolar disorder: 1/52 Secondary mania (elevated mood): 5/52 **Health related QoL or functional status:** Poor psychosocial outcome, n: Long-lasting MDD: 4/6 No affective disorder: 3/19 *P* = 0.03 Poor ADL’s outcome, n: Long-lasting MDD: 2/4 No affective disorder: 0/10 *P* = 0.03

* Completed at least 3 of 4 follow-up evaluations

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Jorge et al., 2004 See Tateno et al., 2003 **Country, Setting:** US, tertiary care centers **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury:** NR **Length of follow up:** 12 months **Dep. Scale/Tool:** SCID	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Penetrating head injuries • Clinical or radiological findings suggesting spinal cord injury • Patients with severe comprehension deficits (i.e., those who were unable to complete part II of the Token Test) that precluded a thorough neuropsychiatric evaluation **TBI Def:** Mild TBI: GCS score between 13 and 15 Moderate TBI: GCS score between 9 and 12, or GCS score of 12 to 15 with intracranial surgical procedures or with focal lesions greater than 15 mL Severe TBI: GCS score between 3 and 8	**Group(s):** **G1:** Patients with TBI **G2:** Trauma patients without central nervous system damage **N screened:** NR **N eligible:** NR **N included:** **G1:** 91 **G2:** 27 **N at conclusion:** **G1:** 74 **G2:** 27 **Depression, n (%):** Prior to injury: **G1:** 18 (19.8) **G2:** 4 (14.8) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 36.4 ± 15.7 **G2:** 35.7 ± 14.1 **Age ≥16, n (%):** NR **Global injury severity, AIS score, mean:** 16.8 **Severity of TBI, %:** Mild: 44.3 Moderate: 32.5 Severe: 23.2 **Mechanism/type of injury, %:** MVA: 74.7 Fall: 17.6 Assault: 3.3 Other (sports): 4.4	**Depression:** SCID: DSM-IV criteria **Other co-morbidities:** PTSD: see below Other anxiety disorder: SCID: PTSD, GAD, panic Irritability: NR Aggression: Overt Aggression Scale (OAS) Suicidality: NR Substance use: NR Other psychiatric diagnoses: **Health related QoL or functional status:** FIM RAVLT WCST Trail Making Test Stroop Color-Word Interference Test Multilingual Asphasia Examination	**Depression, n (%):** 30 (33) **Taking depression medications, n (%):** 8 (33) **Other co-morbidities, %:** PTSD: See below Other anxiety Disorder (includes PTSD): 43.2 Irritability: NR Aggression: 36.5 Suicidality: NR Substance use: Concurrent alcohol abuse, patients with TBI and major depression: 6.7 Concurrent other drug abuse, patients with TBI and major depression: 6.7 Other psychiatric diagnoses: NR **Health related QoL or functional status:** FIM score, mean: 62.7 RAVLT score, mean ± SD: 8.33 ± 2.77 WCST Perseverative score, mean ± SD: 13.92 ± 11.09 Categories achieved, mean ± SD: 2.25 ± 1.60 Trail Making Test score, mean ± SD: 37.08 ± 15.18

Evidence Table 3. KQ 3 Prevalence of Concomitant Psychiatric Conditions (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Jorge et al., 2004		**Area of brain injured, %:** Diffuse lesions: 72.1 Focal pattern of injury: 27.9 **Concomitant injuries:** NR		Stroop Color-Word Interference Test score, mean ± SD: 31.83 ± 10.30 Multilingual Asphasia Examination score, mean ± SD: 34.08 ± 12.06

*See Appendix X for standard definitions of depression tools

Evidence Table 4. KQ 4 Outcomes of Treatment for Depression After TBI

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Ashman et al., 2009 **Country, Setting:** US, tertiary care hospital **Enrollment Period:** NR **Design:** Prospective cohort **Time from injury, yrs ± SD:** **G1:** 18.6 ± 13.8 **G2:** 16.6 ± 13.9 **Length of follow up:** 10 weeks **Dep. Scale/Tool:** SCID, HAM-D	**Inclusion criteria:** • At least 18 yrs old • A history of TBI with a documented LOC or other evidence of a TBI (e.g., pathology on neuroimaging) • At least 6 mos postinjury • Meet DSM-IV diagnostic criteria for MDE • HAM-D score ≥ 18 • Able to comprehend or answer verbal or written questionnaires **Exclusion criteria:** • Using antidepressant medication • Currently in psychotherapy • Active suicidal plans or depression severe enough to require hospitalization • Serious medical illness • Pregnant or breast-feeding • Mass brain lesions or other neurologic diagnoses other than TBI • A history of current or past psychosis or mania using DSM-IV criteria • Current substance abuse disorder using DSM-IV criteria • A history of clinically significant liver or renal disease	**Group(s):** **G1:** Sertraline group **G2:** Placebo group **N screened:** 91 **N eligible:** 52 **N included:** **G1:** 22 **G2:** 19 **N at conclusion:** **G1:** 22 **G2:** 19 **Depression:** Prior to injury: See inclusion criteria At time of injury: See inclusion criteria **Other preexisting psychiatric conditions:** See inclusion criteria **N with prior TBI:** NR **Age, yrs ± SD:** **G1:** 46.8 ± 12.8 **G2:** 51.5 ± 8.2 **Age ≥16, n (%):** 52 (100) **Global injury severity:** NR **Severity of TBI, %:** Mild: **G1:** 20.0 **G2:** 50.0 Moderate: **G1:** 46.6 **G2:** 31.3 Severe: **G1:** 33.4 **G2:** 18.8	**Depression:** SCID: DSM-IV criteria HAM-D ≥ 18 **Other co-morbidities:** PTSD: NR Other anxiety disorder: Beck Anxiety Inventory Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Life-3	**Depression, SCID, n (%):** **G1:** 4 (18) **G2:** 7 (37) HAM-D score, mean ± SD: Baseline: **G1:** 27.5 ± 7.1 **G2:** 25.2 ± 8.0 End of treatment: **G1:** 13.7 ± 9.7 **G2:** 16.2 ± 9.6 **Taking depression medications:** None (see exclusion criteria) **Other co-morbidities:** PTSD: NR Other anxiety disorder: BAI score, mean ± SD: Baseline **G1:** 23.2 ± 15.2 **G2:** 20.5 ± 14.9 End of treatment: **G1:** 11.1 ± 11.9 **G2:** 13.1 ± 11.6 Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** Life-3 score, mean ± SD: **G1:** 6.3 ± 8.0 **G2:** 4.9 ± 3.5

Evidence Table 4. KQ 4 Outcomes of Treatment for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Ashman et al., 2009	**TBI Def:** NR	**Mechanism/type of injury, %:** Assault: 46.3 MVC or pedestrian hit by MV: 34.2 Fall: 14.6 GSW to head: 2.4 **Area of brain injured:** NR **Concomitant injuries:** NR		

Evidence Table 4. KQ 4 Outcomes of Treatment for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Author: Rapoport et al., 2008 **Country, Setting:** Canada, tertiary care center **Enrollment Period:** NR **Design:** Case series **Time from injury:** NR **Length of follow up:** 10 weeks **Dep. Scale/Tool:** SCID, HAM-D	**Inclusion criteria:** See exclusion criteria **Exclusion criteria:** • Prior focal brain disease (e.g., stroke, tumor) • Significant acute medical illness • Alcohol abuse • CT abnormalities inconsistent with TBI • Current antidepressant treatment • Contraindications to citalopram • Premorbid diagnosis of schizophrenia, bipolar disorder or dementia **TBI Def:** Mild TBI: LOC at the time of the injury of 20 min or less, an initial GCS of 13 to 15, PTA < 24 hrs and a normal CT brain image. Moderate-to-severe TBI: GCS < 13, PTA > 24 hrs or an abnormal CT brain image	**Group(s)*:** **G1:** 6 week citalopram trial, various doses **G2:** 10 week citalopram trial, various doses **N screened:** NR **N eligible:** NR **N included*:** **G1:** 65 **G2:** 26 **N at conclusion*:** **G1:** 54 **G2:** 26 **Depression, n (%):** Prior to injury: 7/65 (10.8) At time of injury: NR **Other preexisting psychiatric conditions:** NR **N with prior TBI:** NR **Age, yrs ± SD:** 39.7 ± 19 **Age ≥16, n (%):** 65 (100) **Global injury severity:** NR **Severity of TBI, n (%):** Mild: 33/65 (50.8) Mod-Severe: 32/65 (49.2) **Mechanism/type of injury:** NR	**Depression:** SCID: DSM-IV criteria; at least 5 out of9 symptoms, one of which must be either depressed mood or anhedonia Response ≥ 50% in HAMD score **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** NR	**Depression:** MDD, n (%): 54 (83.1) HAMD score, base-line, mean ± SD: 23.66 ± 6.6 HAMD score, 6 weeks, mean ± SD: 16.30 ± 9.3 (n=59) Responded, 6 weeks, n (%): 15/54 (27.7) Remission, 6 weeks, n (%): 13/54 (24.1) HAMD score, 10 weeks, mean ± SD: 12.96 ± 7.9 (n=54) Responded, 10 weeks, n (%): 12/26 (46.2) Remission, 10 weeks, n (%): 7/26 (26.9) **Taking depression medications, %:** Completed trial: 83.1 **Other co-morbidities:** PTSD: NR Other anxiety disorder: NR Irritability: NR Aggression: NR Suicidality: NR

Evidence Table 4. KQ 4 Outcomes of Treatment for Depression After TBI (continued)

Study Description	Inclusion/ Exclusion Criteria	Population and Baseline Characteristics	Study Definitions	Depression Incidence/ Prevalence & Co-morbidities
Rapoport et al., 2008		**Area of brain injured, n (%):** Focal TBI-related CT brain abnormalities (e.g., subderal hematoma, contusions): 29/65 (44.6) **Concomitant injuries, n (%):** Significant other injuries (e.g., fractures, intra-abdominal trauma): 47/65 (73.4) Soft-tissue injuries only: 14/65 (21.9)		Substance use: NR Other psychiatric diagnoses: NR **Health related QoL or functional status:** CGI, 6 weeks, much/very much improved, n (%): 54 (42.6) CGI, 10 weeks, much/very much improved, n (%): 26 (56.5)

*Overlapping trials; some patients in both G1 and G2

Evidence Table 5. Prevalence of Depression by Time of Assessment in Studies with Poorly Defined TBI

Author, Year Country Setting	**N with TBI*** (% with Depression Measure)	**GCS Score**	**Assessment Method** (mean score)	**Prevalence %**
Unspecified timing from injury				
Aloia et al.[1] 1995 US Neuropsychology lab	748 (100)	NR	MMPI (66.5)	37.0
Kinsella et al.[2] 1988 Australia Rehabilitation center	39 (100)	NR	Leeds Scale (NR)	33.0
Schofield et al.[3] 2006 Australia Prison	164 (96.3)	NR	RDS (NR)	25.0
< 3 months since injury				
Rowland et al.[4] 2005 US Rehabilitation centers	51 (100)	NR	BDI-II (8.85)	25.5
6 to 12 months since injury				
Sebit et al.[5] 1998 Kenya Tertiary care center	37 (100)	NR	SCID	54.1
Slaughter et al.[6] 2003 US Prison	25 (100)	NR	PRIME: Major Remission Minor Depression	52.0 4.0 8.0
Wade et al.[7] 1998 UK Rehabilitation center	307 (71.0)	NR	HADS (NR)	28.4
>12 months since injury				
Brooks et al.[8] 1987 UK Rehabilitation center	134 (100)	NR	Interview	49.0
Holsinger et al.[9] 2002 US Veterans database	520 (100)	NR	Telephone SCID	11.2
Koponen et al.[10-13] 2004 Finland Tertiary care center	60 (100)	NR	SCID	26.7
Kreutzer et al.[14] 2001 US Trauma center	722 (100)	NR	SCID	42.0

Evidence Table 5. Prevalence of Depression by Time of Assessment in Studies with Poorly Defined TBI (continued)

Author, Year Country Setting	**N with TBI*** (% with Depression Measure)	**GCS Score**	**Assessment Method** (mean score)	**Prevalence %**
>12 months since injury				
Mobayed et al.[15] 1990 Ireland Tertiary care center	70 (78.6)	NR	SCID	20.0
Sliwinski et al.[16-19] 1998 US Community sample	100 (100)	NR	SCID	23.0
Varney et al.[20] 1987 US Tertiary care centers	120 (100)	NR	SCID	76.7
Curran et al.[21-23] 2000 Australia Rehabilitation center	88 (100)	NR	BDI (14.35)	55.7*
Felde et al.[24] 2006 US Psychiatric/specialty	218 (100)	NR	HAM-D (18.3) BDI (19.9)	15.6
Gass et al.[25] 1991 US Neuropsychology lab	58 (100)	NR	MMPI (59.1)	22.4
Hoofien et al.[26] 2001 Israel Rehabilitation center	76 (100)	NR	SCL-90 (1.07)	45.3
Kreuter et al.[27-28] 1998 Sweden Tertiary care center	92 (100)	NR	HADS (5.4)	9.8
Linn et al. [29] 1994 US Support group	60 (100)	NR	SCL-90-R (63.9)	70.0
MacNiven and Finlayson [30] 1993 Canada Neuropsychology lab	59 (100) Year 1 59 (23.7) Year 2	NR	MMPI (66.24) MMPI (65.66)	40.7 42.9

* calculated by reviewer

Evidence Table 5. Prevalence of Depression by Time of Assessment in Studies with Poorly Defined TBI (continued)

Author, Year Country Setting	**N with TBI*** (% with Depression Measure)	**GCS Score**	**Assessment Method** (mean score)	**Prevalence %**
>12 months since injury				
Powell et al.[31] 2002 UK Tertiary care center	110 (85.5)	NR	HADS (8.1)	35.0
Vasterling et al.[32] 2000 US Tertiary care center	87 (100)	NR	SCID	66.7

Evidence Table 6. Quality Rating of Individual Nontreatment Studies

Citation	Overall Quality Score	Definition of TBI	Severity of TBI	Depression definition	Participant selection criteria	Sampling method composite score	LTFU	Prior Hx of Psychological conditions
Al-Adawi et al.[33] 2007	Fair	++	+	+	+	+	N/A	+
Aloia et al.[1] 1995	Poor	-	+	+	-	+	N/A	-
Ashman et al.[34] 2004	Fair	++	+	++	+	+	-	+
Bay & Donders[35] 2008	Fair	+	+	+	+	+	N/A	+
Bay et al.[36] 2007	Poor	++	+	+	-	-	N/A	+
Bay et al.[37] 2002	Fair	++	+	+	+	+	N/A	+
Bombardier et al.[38] 2006	Fair	++	+	+	+	++	++	+
Bowen et al. [39] 1998	Good	++	+	+	+	+++	++	+
Brooks et al.[8] 1987	Poor	-	-	+	+	+	N/A	-
Brown et al.[40] 2004	Fair	++	+	++	+	+	N/A	-
Bryant et al.[41] 2001	Poor	-	+	++	+	+++	-	-
Chamelian et al. [42] 2004	Fair	++	+	++	+	+	N/A	+
Chamelian & Feinstein[43] 2006	Fair	++	+	++	-	++	++	+
Chiu et al.[44] 2006	Poor	++	+	++	-	+++	++	-
Curran et al.[21] 2000	Fair	+	+	++	-	+	++	-
Deb & Burns [45] 2007	Fair	++	+	++	+	+++	N/A	-
Deb et al.[46-47] 1999	Fair	++	+	+	+	+++	N/A	-
Dunlop et al.[48] 1991	Fair	-	-	+	+	++	N/A	+
Evans et al.[49] 2005	Fair	++	+	+	+	++	N/A	-
Fann et al.[50] 2005	Fair	++	+	++	+	+	-	+
Fann et al.[51] 1995	Fair	++	+	++	-	++	N/A	+
Jorge et al.[52-53] 1993 Fedoroff et al. [54]	Fair	++	+	++	+	+	+	+
Felde et al.[24] 2006	Poor	-	-	+	+	+++	N/A	+
Franulic et al.[55] 2004	Poor	-	+	++	-	+	N/A	-
Frenisy et al.[56] 2006	Poor	-	+	++	+	+++	++	-
Gagnon et al.[57] 2006	Fair	-	+	++	+	+++	+	+
Gass & Russell[25] 1991	Fair	-	+	+	+	+	N/A	+
Ghaffar et al.[58] 2006	Poor	++	+	+	+	+	++	+
Gomez-Hernandez et al.[59] 1997	Fair	-	+	+	+	+	+	+

Evidence Table 6. Quality Rating of Individual Nontreatment Studies (continued)

Citation	Overall Quality Score	Definition of TBI	Severity of TBI	Depression definition	Participant selection criteria	Sampling method composite score	LTFU	Prior Hx of Psychological conditions
Gordon et al.[18] 1998	Fair	-	+	++	+	+++	N/A	-
Gordon et al.[19] 1998	Poor	-	+	++	+	+++	N/A	-
Hawley & Joseph[60] 2008	Fair	++	+	+	+	+++	++	-
Hibbard et al.[17] 1998	Fair	-	+	++	+	+++	N/A	-
Hibbard et al.[61] 2004	Fair	++	+	++	+	+	++	+
Hoge et al.[62] 2008	Fair	+	+	+	+	+++	++	-
Holsinger et al.[9] 2002	Fair	+	+	++	+	+++	N/A	-
Hoofien et al.[26] 2001	Fair	-	+	++	+	+++	++	+
Huang et al.[63] 2005	Fair	++	+	++	+	+++	++	+
Jorge et al.[64] 2004	Fair	+	+	++	+	+	++	+
Jorge et al.[65] 1993	Fair	++	+	++	+	+	+	+
Jorge et al.[66] 1994	Fair	++	+	++	+	++	+	+
Jorge et al.[67] 1994	Fair	++	+	++	+	+	+	+
Kant et al.[68] 1998	Fair	++	+	+	-	+	N/A	+
Kashluba et al.[69] 2006	Fair	++	+	+	+	+	++	+
Keiski et al.[70] 2007	Poor	++	+	+	+	+	++	-
Kennedy et al.[71] 2005	Poor	++	+	++	-	+	N/A	-
Kersel et al.[72] 2001	Good	++	+	+	+	+++	+	+
Kinsella et al.[2] 1988	Fair	+	+	-	+	+	N/A	-
Koponen et al.[13] 2006	Good	+	+	++	+	+++	N/A	+
Koponen et al.[12] 2005	Good	+	+	+	+	+++	N/A	+
Koponen et al.[10-11] 2002, 2004	Good	+	+	++	+	+++	N/A	+
Kreutzer et al.[14] 2001	Poor	-	+	++	-	+	N/A	-
Kreuter et al.[27] 1998	Fair	-	+	++	+	+++	N/A	-
Kreuter et al.[28] 1998	Poor	-	-	++	+	+++	++	-
Levin et al.[73] 2005	Fair	++	+	++	+	+	+	+
Levin et al. [74] 2001	Fair	++	+	++	+	+	N/A	+
Lima et al.[75] 2008	Fair	++	+	+	+	+++	N/A	-
Linn et al.[29] 1994	Poor	-	+	++	-	+	N/A	-
MacNiven & Finlayson[30] 1993	Poor	-	-	+	-	+	-	-

Evidence Table 6. Quality Rating of Individual Nontreatment Studies (continued)

Citation	Overall Quality Score	Definition of TBI	Severity of TBI	Depression definition	Participant selection criteria	Sampling method composite score	LTFU	Prior Hx of Psychological conditions
Marsh & Kersel[76] 2006	Poor	-	+	-	+	+++	+	-
McCauley et al.[77] 2005	Fair	++	+	++	+	++	N/A	+
McCauley et al.[78] 2001	Fair	++	+	+	+	+	++	+
McCauley et al.[79] 2001	Fair	++	+	+	+	+++	++	-
McCleary et al.[80] 1998	Fair	-	+	+	+	+	+	-
Mobayed & Dinan[15] 1990	Fair	++	+	++	+	++	N/A	-
Mooney et al.[81] 2005	Fair	++	+	++	-	+	N/A	+
Mooney & Speed[82] 2001	Fair	++	+	++	-	+	N/A	+
Parcell et al.[22] 2006	Fair	-	+	++	+	+++	++	+
Perlesz et al.[23] 2000	Fair	-	+	++	+	+++	++	-
Popovic et al.[83] 2004	Fair	++	+	++	+	+	++	-
Powell et al.[31] 2002	Fair	+	+	+	+	+++	++	-
Rao et al.[84] 2008	Fair	++	+	++	+	+	N/A	+
Rapoport et al.[85] 2008	Fair	++	+	++	+	+	++	+
Rapoport et al.[86] 2003	Good	++	+	++	+	+++	N/A	+
Rapoport et al.[87] 2006	Good	++	+	++	+	+++	++	+
Rapoport et al.[88] 2006	Good	++	+	++	+	+++	+	+
Rapoport et al.[89] 2002	Good	++	+	+	+	+++	N/A	-
Rapoport et al.[90] 2003	Fair	++	+	++	+	+++	N/A	-
Rapoport et al.[91] 2005	Fair	++	+	++	+	+	N/A	+
Rowland et al.[4] 2005	Fair	+	+	++	+	+	N/A	+
Ruocco et al.[92] 2007	Poor	++	+	+	+	+	++	-
Satz et al.[93] 1998	Fair	++	+	+	+	+++	N/A	-
Satz et al.[94] 1998	Fair	++	+	+	+	+++	N/A	-
Schofield et al. [3] 2006	Poor	-	+	++	-	+	++	+
Sebit et al.[5] 1998	Fair	++	+	++	+	+	++	+
Seel & Kreutzer[95] 2003	Poor	-	+	++	-	+	N/A	-
Seel et al.[96] 2003	Fair	+	+	++	+	+	++	-
Sherer et al.[97] 2007	Fair	-	+	+	+	+	+	-
Sherman et al.[98] 2000	Fair	++	+	+	+	++	N/A	-

Evidence Table 6. Quality Rating of Individual Nontreatment Studies (continued)

Citation	Overall Quality Score	Definition of TBI	Severity of TBI	Depression definition	Participant selection criteria	Sampling method composite score	LTFU	Prior Hx of Psychological conditions
Slaughter et al.[6] 2003	Poor	-	+	+	+	+++	N/A	-
Sliwinski et al.[16] 1998	Poor	-	-	++	+	+++	N/A	-
Stalnacke[99] 2007	Good	++	+	+	+	+++	++	+
Tateno et al.[100] 2003	Fair	++	+	++	+	+	++	-
Varney et al.[20] 1987	Poor	-	-	++	+	+	N/A	-
Vasterling et al.[32] 2000	Poor	-	-	++	+	+++	N/A	+
Wade et al.[7] 1998	Fair	+	+	+	+	+++	N/A	-
Whelan-Goodinson et al.[101] 2008	Good	++	+	++	+	+++	N/A	+

Evidence Table 7. Quality Rating of Individual Treatment Studies

Citation	Overall Quality Score	Randomization	Method and blinding	Pt selection criteria	LTFU	Drop-out rates	Power calculation	Statistical issues	TBI severity	Time since injury
Rapoport et al. [85]2008	Fair	-	-	+	++	-	-	+	+	NR
Ashman et al.[102] 2009	Good	+	+	+	+	+	+	+	+	+

Evidence Table 8. Operational Definitions of TBI

Association/Tool	Operational Definition
American Congress of Rehabilitation Medicine (ACRM)	A patient with mild traumatic brain injury is a person who has had a traumatically induced physiological disruption of brain function, as manifested by **at least** one of the following: 1. any period of loss of consciousness; 2. any loss of memory for events immediately before or after the accident; 3. any alteration in mental state at the time of the accident (eg, feeling dazed, disoriented, or confused); and 4. focal neurological deficit(s) that may or may not be transient; but where the severity of the injury does not exceed the following: • loss of consciousness of approximately 30 minutes or less • after 30 minutes, an initial GCS score of 13-15 • posttraumatic amnesia (PTA) not greater than 24 hours[103]
Centers for Disease Control and Prevention (CDC)	Mild TBI: A case of MTBI is an occurrence of injury to the head resulting from blunt trauma or acceleration or deceleration forces with one or more of the following conditions attributable to the head injury during the surveillance period: • Any period of observed or self-reported transient confusion, disorientation, or impaired consciousness • Any period of observed or self-reported dysfunction of memory (amnesia) around the time of injury; • Observed signs of other neurological or neuropsychological dysfunction, such as: - Seizures acutely following head injury; - Among infants and very young children: irritability, lethargy, or vomiting following head injury; - Symptoms among older children and adults such as headache, dizziness, irritability, fatigue, or poor concentration, when identified soon after injury, can be used to support the diagnosis of mild TBI, but cannot be used to make the diagnosis in the absence of loss of consciousness or altered consciousness. Further research may provide additional guidance in this area. • Any period of observed or self-reported loss of consciousness lasting 30 minutes or less. More severe brain injuries can include one or more of the following conditions attributable to the injury: loss of consciousness lasting longer than 30 minutes; post-traumatic amnesia lasting longer than 24 hours; penetrating craniocerebral injury.[104]
Glasgow Coma Scale (GCS)	A clinical scale developed for assessing the depth and duration of impaired consciousness and coma that can be employed following a TBI event. Three aspects of behavior are independently measured: motor responsiveness, verbal performance, and eye opening. (Teasdale 1974) A cumulative score can be calculated to determine the overall severity of the head injury.[105] Conventional cutoffs are: 3-8: severe TBI 9-12: moderate TBI 13-15: mild TBI

Evidence Table 8. Operational Definitions of TBI (continued)

Association/Tool	Operational Definition
World Health Organization (WHO)	Two common criteria used to define severity of brain injury include: (i) length of time the patient is unconscious after the injury, often termed loss of consciousness (LOC) and (ii) length of post-traumatic amnesia (PTA), i.e. the time period from when the patient regains consciousness until he or she regains the capacity for continuous memory. The most common way of assessing the patient's level of consciousness is the Glasgow Coma Scale. Mild brain injury is defined as a GCS score of 13–15. PTA is often assessed more informally, by asking the patient, the family or the attending medical personnel to estimate the PTA time period. The cut-off for PTA for mild brain injury is usually 24 hours. When the length of time the patient is unconscious is used as a criterion for severity, a mild brain injury is usually defined as less than 30 minutes of unconsciousness. If a patient has a skull fracture, focal neurological deficits or hemiparesis, the brain injury is not usually considered to be mild.[106]
Other	Ad hoc definitions of TBI events and severity commonly include: • Duration of loss of consciousness • Duration of posttraumatic amnesia • Altered mental status • CT or MRI scans

Evidence Table 9. Depression and Quality of Life Assessment Tools

Tool/Scale	Description	Scoring/Diagnosis
Beck Depression Inventory (BDI/BDI-II)	A 21-item self-report of depression that assesses symptoms over a 7-day period. There is a 4-point scale for each item ranging from 0–3 (with 3 indicating maximum distress). The total self-rated scores range from 0–63.[99]	Conventional cutoffs:[99] Asymptomatic: 0–9 Mild-to-moderate: 10–18 Moderate-to-severe: 9–29 Extremely severe: 30–63 Individual studies may variously interpret the severity cutoffs assigned to specific scores.
Centers for Epidemiologic Studies-Depression (CES-D)	The 20-item CES-D asks respondents to rate the number of days (0–7) during the past week they experienced depressed symptoms. Higher scores denote greater levels of depression. As a measure of depressive symptoms, it contains DSM-IV related items of depressed mood, sleep disturbance, weight change, diminished concentration, worthlessness, anhedonia, and decreased energy.[36]	Conventional cutoffs:[36] Mild: 16–20 Moderate: 21–26 Severe: 27–60 Individual studies may variously interpret the severity cutoffs assigned to specific scores.
WHO Composite International Diagnostic Interview (CIDI)	A comprehensive, fully standardized diagnostic interview for the assessment of mental disorders according to the definitions and criteria of the ICD-10 Diagnostic Criteria for Research and the Diagnostic and Statistical Manual of Mental Disorders-Third Edition, Revised.[107]	The instrument contains 276 symptom questions, many of which are coupled with probe questions to evaluate symptom severity Diagnoses based on ICD-10 criteria and derived from patient responses to the symptom and probe questions.[107]
Clinical Interview Schedule-Revised (CIS-R)	Often reported in British studies, this structured interview instrument is useful for large surveys that use trained (but not necessarily expert) interviewers, or can be completed as a self-report in a computerized version. Depression is one of 14 areas of symptoms that are elicited. It can provide both ICD-10 diagnoses and also, separately, severity scores. It takes less time to administer than the CIDI.[108]	Can be used to generate a total score, as well as diagnostic categories according to ICD-10 criteria (similar to the CIDI).[108]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
National Institute of Mental Health Diagnostic Interview Schedule (DIS-III-A)	A highly structured interview designed to make diagnoses by the following three systems: (1) DSM-III, published in 1980; (2) the Feighner criteria, published in 1972, and (3) the Research Diagnostic Criteria (RDC), published in 1978. Diagnostic questions incorporate elements from the three included systems. This highly structured interview allows for lay interviewers to perform the many tasks involved in making an accurate diagnosis.[109]	All diagnoses are made on a lifetime basis first, and then the interview inquires as to how recently the last symptom was experienced. On the basis of these answers it decides whether the disorder is current, defined for four time periods: the last two weeks, the last month, the last six months, and the last year. It also ascertains the age at the last symptom; the age at which the first symptom appeared; and, in the upcoming version 3, it will ascertain whether medical care was ever sought for symptoms of that disorder. In addition to diagnostic results, the DIS also provides a total symptom count across diagnoses for each of the three systems and a count of the number of criteria met for each diagnosis, whether or not that diagnosis is positive.[109]
Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, DSM-IV, DSM-III-R)	Standard manual for diagnosis published by the American Psychiatric Association and accepted both nationally and, increasingly, worldwide. Provides diagnostic criteria with operationalized categorical thresholds.[110]	Depression is diagnosed as an episode, and then as a Major Depressive Disorder if depression is present without Manic Episodes. Specifiers allow depiction of severity, psychotic features, degrees of remission, chronicity, catatonic features, melancholic features, atypical features, and postpartum onsets. The diagnostician needs considerable training for use, and may also note Longitudinal Course Specifiers (With and Without Interepisode Recovery) or Seasonal Pattern.[110]
European Brain Injury Questionnaire (EBIQ)	63 questions regarding diverse “problems or difficulties that people sometimes experience in their lives” and it is requested that answers should concern the preceding month. The final question concerns “problems in general”.[111]	The response alternatives are “not at all”, “a little” or “a lot, are subsequently coded numerically as 1, 2, and 3 respectively.[111]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Functional Independence/ Assessment Measures (FIM+FAM)	The Functional Assessment Measure (FAM) was developed for use in brain-injured individuals. FAM consists of 12 items intended to be added to the 18 items of the Functional Independence Measure (FIM). The FAM items emphasize the cognitive and psychosocial aspects of the disability. They total 30 items, each assessed on seven levels which, when summed, may be used to estimate a person's need for assistance (burden of care). The lower the score, the more severe the indicated dysfunction. The 18 FIM items concerning self-care, bladder and bowel control, mobility and locomotion are indicators of motor disability. The 12 FAM items covering comprehension, expression, social interaction, emotional state, adaptation to limitations, ability to work, problem solving, memory, powers of concentration and ability to form an opinion on safety are indicators of communication and psychosocial and cognitive functioning.[27]	An interviewer administered questionnaire. A score of 7 represents complete independence for a given item and a score of 1 represents complete dependence.[60]
General Health Questionnaire (GHQ)	A self-administered screening questionnaire designed for use in consulting settings aimed at directing those with a diagnosable psychiatric disorder. It concerns itself with two major classes of phenomena: inability to carry out one's normal "healthy" functions, and the appearance of new phenomena of a distressing nature.[112]	The GHQ may be thought of as comprising a set of questions which form a "lowest common multiple" of symptoms which will be encountered in the various differentiated syndromes of mental disorder, consisting of symptoms which best differentiate psychiatric patients from those who consider themselves to be well. The full-length version requires any 12 symptoms from a set of 60 total in order to identify probable cases. Scaled versions of the GHQ exist.[112]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Hospitality Anxiety and Depression Scale (HADS)	A self-assessment questionnaire with subscales for anxiety and depression. Each subscale contains 7 items, with four possible answers for each, graded 0-3.[75]	Conventional cutoffs, individual subscales: Normal: 0–7 Borderline: 8–14 Abnormal: 15–21 The total score is obtained by adding two subscales and considering normal (0–14), borderline (15–28) and abnormal (29–42).[75] Individual studies may variously interpret the severity cutoffs assigned to specific scores.
Hamilton Depression Rating Scale (HAM-D)	This 17-item scale has often been used in expanded versions with 21 or 25-items. Consistently accepted since publication in 1960 as a standard severity measure for antidepressant medication outcome trials, its value derives from relatively balanced coverage of both somatic (sleep, appetite, energy) and psychological (sadness, guilt, suicidal thinking, insight) symptoms that are characteristic of depression.[113]	About half of the items are scored from 0 to 4; the others are measured from 0 to 2. Scores of 8 to 17 indicate subthreshold depression or dysthymic mood, 18 to 21 reflects a mild form of depression that will generally reach threshold for diagnosis, 22 to 24 is considered moderate, and 25 or more is often considered severe.[113]
Head Injury Behavior Rating Scale (HIBS)	A questionnaire containing 20 items describing behavioral problems often associated with TBI. The patient is asked to indicate whether the identified behavior has become a problem for them since their TBI, and if so, how much distress this causes for them. The relatives' version of this measure contains the same 20 items as those in the TBI patients' version. The primary difference is that the caregiver is asked to rate the presence/absence of the problem behaviors in the TBI patient, and then rate how much distress it causes for them.[76]	In both the patient and caregiver versions, behavioral problems assessed as either yes/no, while distress is rated on a 4 point scale from 1 (no distress) to 4 (severe distress).[114]
Leeds Scales for Anxiety and Depression	15-item self assessment that describe common symptoms of anxiety and depression. The scales can be separated or administered together, and are derived from the HAM-D and HAM-A scales.[115]	Conventional cutoffs: A score of 6-7 for both the depression and anxiety scores provides the most satisfactory division between healthy and sick populations.[115]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Millon Clinical Multiaxial Inventory–III (MCMI-III)	The MCMI-III is a 175-item self-report true-false inventory. It was designed to measure the DSM-IV personality disorders in addition to Depressive, Sadistic/Aggressive and Masochistic/Self-Defeating personality disorders. The instrument distinguishes the severe personality disorders of Schizotypal, Borderline and Paranoid from the other personality patterns. It contains scales measuring clinical symptoms and conditions, including anxiety, somatoform disorder, mania, dysthymia, alcohol and drug dependence, PTSD, thought disorder, major depression and delusional disorder.[92]	The instrument uses Base Rate (BR) scores which attempt to anchor scales to the base rate of psychiatric conditions in the population. The inventory also possesses four measures of response style. The Validity index is sensitive to a random response set. The Disclosure, Desirability and Debasement scales, called the modifier indices, are measures of response style and dissimulation. The Disclosure index is a measure of the overall number of symptoms reported on the inventory; elevations on this scale indicate a possible fake-bad response set, while very low scores may be indicative of a fake-good or defensive response set. The Debasement index provides an indication of exaggerated psychopathology, while the Desirability index gauges the tendency to present oneself in an overly positive light.[92]
Minnesota Multiphasic Personality Inventory (MMPI, MMPI-2)	Both the MMPI and MMPI-2 are subdivided into the same 10 clinical scales designed to assess an individual's perceived emotional, social, and behavioral functioning, as well as three validity scales, designated L, F, and K, designed to detect deviant test-taking attitudes.[116]	Scales: 1. Hypochondriasis 2. Depression 3. Hysteria 4. Psychotic Deviate 5. Masculinity-Femininity 6. Paranoia 7. Psychasthenia 8. Schizophrenia 9. Hypomania 10. Social Introversion Mean subscale scores can be compared with a normative population to determine elevations.[25]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Neurobehavioral Functioning Index-Depression (NFI-D)	The NFI is a factor-analytically derived and validated assessment tool. It consists of 6 scales -Depression, Somatic, Memory/Attention, Communication, Aggression, and Motor- dealing with category specific problems and symptoms characteristically experienced by people with recent onset of neurological and behavioral impairment. Seventy items are rated on a 5-point Likert-type scale and measure the frequency of behaviors and symptoms demonstrated by the identified participant (1 = never; 2 = rarely; 3 = sometimes; 4 = often; 5 = always). Higher scores indicate greater neurobehavioral problems.[117]	< 28: Not likely to be depressed 29-42: Borderline > 43: Highly correlated with clinical depression[117]
Neurobehavioral Rating Scale (NRS)	It contains 29 items subdivided into five factor categories and one nonfactor category. Factor I is memory difficulties, self-appraisal difficulties, reduction in affection, difficulties in flexible thinking, conceptual disorganization, disorientation, planning capacity problems, decline in initiative, and motivation. Factor II is anxiety, depressive moods, withdrawal. Factor III is hyperactivity—agitation, unusual thought content, mood swings, irritability, disinhibition, excitation, hostility, and suspiciousness. Factor IV is attention difficulties, loss of vigilance, motor slowing, and susceptibility to mental fatigue. Factor V is articulatory disorders, difficulties in oral expression, and difficulties in oral comprehension.[56]	Based on a 4 point scale (absent, mild, moderate, and severe). The ratings for each item are defined on the basis of the potential impact of the behavior on social and occupational independence.[79]
Personality Assessment Inventory (PAI)	Self-administered, objective inventory of adult personality. 344 items comprising 22 nonoverlapping full scales: 4 validity scales, 11 clinical scales, 5 treatment consideration scales, and 2 interpersonal scales. 27 critical items that act as indicators of potential crisis situations and have very low endorsement in normal sample. Responses to critical items facilitate follow-up questioning.[118]	Depression diagnosed if PAI score >70.[70] Individual studies may variously interpret the severity cutoffs assigned to specific scores.

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Patient Health Questionnaire-9 (PHQ-9)	The PHQ-9 parallels the 9 diagnostic symptom criteria that define DSM-IV MDD. The format and temporal framework of the items also correspond to the DSM-IV criteria and will facilitate the follow-up review of symptoms and diagnostic process. Unlike most other measures of depression, the PHQ-9 was developed, tested, and refined for use with medical patients.[50]	The PHQ-9 is a self-report measure that asks if the subject had been bothered by the following problems in the past 2 weeks: (a) little pleasure or interest in doing things, (b) feeling down, depressed, or hopeless, (c) sleeping too little or too much, (d) feeling tired or having little energy, (e) poor appetite or overeating, (f) feelings of worthlessness or guilt, (g) concentration problems, (h) psychomotor retardation or agitation, and (i) thoughts of suicide. Subjects are asked to rate how often each symptom occurred: 0 (not at all), 1 (several days), 2 (more than half the days), or 3 (nearly every day). Several methods of depression screening using the PHQ-9. It can be scored on the basis of at least 5 symptom endorsed “more than half the days” (suicidal ideation could be “several days”),with at least one being a “cardinal symptom”, that is, either (a) anhedonia or (b) depressed mood.[38, 50] Suggested cutoffs:[50] Mild: 5–9 Moderate: 10–14 Moderately severe: 15–19 Severe: ≥20 depression Individual studies may variously interpret the severity cutoffs assigned to specific scores.
Profile of Mood States (POMS)	A standardized list of 65 adjectives (happy, sad, angry, etc) rated by the subject to measures six affective states, including a 15-item depressed mood. It uses a 0–5 Likert-type scale (0 = not at all; 5 = extremely).[36]	Range 0-60; higher scores indicate more severe depression.[36]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Primary Care Evaluation of Mental Disorders (PRIME-MD)	A standardized, clinician-administered instrument that was developed to assess psychiatric disorders in primary care settings. It has been shown to be a psychometrically useful tool in identifying mental disorders in the medical setting as well as in research. (#461 Slaughter) Two components: a one-page patient questionnaire (PQ) that is completed by the patient before seeing the physician, and a 12-page clinician evaluation guide (CEG), a structured interview form that the physician uses to follow up on positive responses on the PQ.[119]	PQ: 26 yes/no questions about symptoms and signs present during the past month, divided into five diagnostic areas (mood, anxiety, somatoform, alcohol, and eating disorders). Patient responses to the PQ indicate to the physician which, if any, of the five diagnostic modules in the CEG should be used. CEG: Using the CEG, the clinician determines the presence or absence of 18 possible current mental disorders in the five broad diagnostic categories by asking specific questions based on the diagnostic criteria (often simplified for primary care use) contained in DSM-III-R.[119]
Referral Decision Scale (RDS)	Intended to provide researchers and trained correctional staff with a quick, easily administered/scored tool for screening jail detainees for serious mental illnesses (i.e., schizophrenia and the major affective disorders). Although offered as three subscales for identifying individuals with schizophrenia, bipolar, or depressive disorders, the RDS has not yet been demonstrated capable of distinguishing among these three major diagnostic categories.[120]	14 yes/no questions divided into 3 subscales and administered by trained individuals.[120]
Rivermead Post-Concussion Disorder Questionnaire (RPCQ)	It contains 18 questions probing symptoms of: headache, dizziness, nausea, noise sensitivity, sleep disturbance, fatigue, irritability, depression, frustration, forgetfulness, poor concentration, taking longer to think, blurred vision, light sensitivity, double vision, and restlessness.[58]	Self-report checklist in which patients rate PCS symptoms according to whether they are no more of a problem, a mild problem, a moderate problem or a severe problem in comparison with how they were functioning prior to their injury.[121]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Schedule for Clinical Assessment in Neuropsychiatry (SCAN)	Developed with the aim of providing a comprehensive procedure for clinical examination that is also capable of generating many of the categories of the ICD-10 and DSM-III.[122]	It includes the PSE 10th edition, the Item Group Checklist (IGCLIST), in which 59 item groups, each defined in terms of PSE- 10 items, are rated directly; and the Clinical Information Schedule (CLINFO), containing summary items on intellectual level, personality disorders, social disablement, and clinical diagnosis. Information is obtained from the same sources as IGCLIST (case records, clinicians, and other informants).[122]
Structured Clinical Interview for the DSM-IV (SCID)	A structured interview assessment approach that operationalizes scoring elements of DSM criteria. It has been developed through the work of clinicians and researchers alike over the past 5 decades and is currently in its fourth revision (DSM-IV-TR).[71]	MDD: Five (or more) of the following symptoms have been present during the same 2-wk period and represent a change from previous functioning; at least one of the symptoms is either item 1 or item 2: 1. Depressed mood most of the day, nearly every day 2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day 3. Significant weight loss when not dieting or weight gain (eg, a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day 4. Insomnia or hypersomnia nearly every day 5. Psychomotor agitation or retardation nearly every day 6. Fatigue or loss of energy nearly every day 7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick) 8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (as indicated by either subjective account or observation made by others) 9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.[71]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Symptom Checklist (SCL-90-R, SCL-90, SCL-20)	A psychiatric check list that produces psychopathology scores and a Global Severity Index (GSI), which reflects the clinical severity of all symptoms. The scale allows for the comparison of participants' scores to a US normative sample.[26]	Can be administered as the full-length, 90 item version or a scaled version. The full-length version produces nine psychopathology scales. Results are compared with percentiles of the normative sample to determine elevations.[26]
Short Form Health Survey (SF-36, SF-12)	Self-report questionnaire designed to measure health and quality of life from the respondent's point of view. Available in full-length or scaled versions.[19]	1 (excellent) to 5 (poor) scoring on eight scales (full length): physical functioning (extent to which health limits physical activities), role functioning-physical (extent ,to which physical health interferes with work or other daily activities), bodily pain (intensity of pain and its effect on normal work), general health (personal evaluation of health), vitality (feeling energetic versus feeling tired), social functioning (extent to which physical health or emotional problems interfere with normal social activities), role functioning- emotional (extent to which emotional problems interfere with work or other daily activities), and mental health (general mental health, including depression, anxiety, behavioral-emotional control, and general positive affect).[19]
Visual Analog Scale for Depression (VAS-D)	Visual method for assessing depression. The distance in millimeters from the non-depressed side is the dependent measure.[78] Scoring is not usually applied to severity measures, but items can be compared within subjects for change in scoring with repeated measures.	Depressed mood is measured by asking the patient to make a mark on a 100 mm line between the statements ``I am not depressed'' to ``I have never been more depressed''.[78]

Evidence Table 9. Depression and Quality of Life Assessment Tools (continued)

Tool/Scale	Description	Scoring/Diagnosis
Short form of the WHO Quality of Life questionnaire (WHOQOL-BREF)	26 items or "facets" assessed. Facet defined as a behavior (e.g., walking), a state of being (e.g., vitality), a capacity or potential (e.g., the ability to move around), or a subjective perception or experience (e.g., feeling pain). 26 items include 2 items from the overall quality of life and general health facet and 24 facets further categorized into four domains: physical capacity (7 items), psychological well-being (6 items), social relationships (3 items), and environment (8 items).[44]	Each item uses a scale from 1 to 5, with a higher score indicating a higher quality of life. Domain scores are calculated by multiplying the mean of all facet scores included in each domain by a factor of 4, and potential scores for each domain vary from 4 to 20.[44]
Zung Depression Scale (ZDS)	A 20 item self reported questionnaire descriptive of somatic and affective characteristics of depression.[63]	Each item rated from 1 to 4 to determine severity. Different cutoffs have been used for measuring depression: 55; ≥39.[63, 83]

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Appendix D. List of Excluded Studies

Article Exclusion Criteria Codes for Database

X-1: Did not address study questions

X-2: Not original research

X-3: Study population <18 years old

X-4: Study not published in English

X-5: N <50

X-6: Unusable depression assessment tool

X-7: Grey literature

Appendix D. List of Excluded Studies

1. Late effects of torture. Lancet. 1968 Sep 28;2(7570):721-2. X-1
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APPENDIX E. List of Peer Reviewers

List of peer reviewers will be included in the final version

APPENDIX F. Grey Literature Results

Government and Non-profit publications

1. New Zealand Guidelines Group (NZGG). Traumatic brain injury: diagnosis, acute management and rehabilitation. Wellington (NZ): New Zealand Guidelines Group (NZGG); 2006 Jul. 240 p. http://www.guideline.gov/summary/summary.aspx?doc_id=10281&nbr=5397&ss=6&xl=999#s24

2. Invisible Wounds of War. Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery (RAND Report) http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA494242&Location=U2&doc=GetTRDoc.pdf

3. Gulf War and Health – IOM Report http://www.nap.edu/catalog.php?record_id=12436#toc

4. Fann JR, Hart T, Schomer KG. Treatment for Depression Following Traumatic Brain Injury: A Systematic Review. J Neurotrauma August 2009; ePub(ePub): ePub. http://dx.doi.org/10.1089/neu.2009.1091

Non-published Research Opportunities and Current Projects

5. Psychological Health and Traumatic Brain Injury Advanced Technology/Therapeutic Development Award http://www.grants.gov/search/search.do;jsessionid=bhWpKXcVBKCT2l7LKyvlBjxz2QW4T8GXpWKn6rS8rg5dzVgXQdhH!-1757398871?oppId=48392&mode=VIEW

6. Treatment strategy to prevent mood disorders following traumatic brain injury. PI: Ricardo Estiban Jorge. ICD: National Institute of Neurological Disorders & Stroke. Grant Number: 5R01NS055827-02
   http://projectreporter.nih.gov/project_info_description.cfm?aid=7596417
   Project start date: 2008-04-01
   Project end date: 2013-03-31

7. Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury. PI: Jesse R. Fann, MD, MPH. Grant Number: H133G070016
   http://www.naric.com/research/record.cfm?search=1&type=all&criteria=brain injuriesdepression&phrase=no&rec=1751
   Start Date: October 1, 2007
   End Date: October 1, 2010

8. Effectiveness of a Group Cognitive-Behavioral Intervention for Depression after TBI and Factors that Affect Response to Treatment. PI: Allison Clark. Grant Number: H133G070222
   http://www.naric.com/research/record.cfm?search=1&type=all&criteria=brain injuriesdepression&phrase=no&rec=1772
   Start Date: October 1, 2007
   End Date: October 1, 2010

9. Post Traumatic Brain Injury (TBI) Depression, PI Information: Rao, VA. ICD: National Institute of Mental Health. Grant Number: 5K23MH066894-05
   Project Start: 01-AUG-2004
   Project End: 31-JUL-2009

10. Phone Cognitive Behavioral Therapy for Depression after Traumatic Brain Injury, PI Information: Fann, JR. ICD: Eunice Kennedy Shriver National Institute of Child Health and Human Development. Grant Number: 5R21HD053736-02
    Project Start: 15-SEP-2007
    Project End: 31-AUG-2009

11. Neuropsychiatry of Traumatic Brain Injury, PI Information: Kraus, MF. ICD: University of Illinois at Chicago. Grant Number: 5K23MH068787-05
    Project Start Date: 1-APR-2008
    Project End Date: 31-MAR-2010

Clinical Trial Protocols

12. Mindfulness-Based Cognitive Therapy Intervention to Treat Depression in Individuals with a Traumatic Brain Injury Conditions: Depression; Traumatic Brain Injury Intervention: Behavioral: Mindfulness-Based Cognitive Therapy NCT ID: NCT00745940 Start Date: March 2009

13. Treatment Strategy to Prevent Mood Disorders Following Traumatic Brain Injury Condition: Traumatic Brain Injury Interventions: Drug: Placebo; Drug: Sertraline NCT ID: NCT00704379 Start Date: June 2008

14. Treatment of Post-TBI Depression Conditions: Traumatic Brain Injury; Depression Interventions: Behavioral: Cognitive behavioral therapy; Behavioral: Supportive psychotherapy NCT ID: NCT00211835 Start Date: November 2005

15. The Effect of Exercise on Mood After Traumatic Brain Injury Conditions: Traumatic Brain Injury Depression Interventions: Behavioral: Aerobic exercise Behavioral: No exercise NCT ID:NCT00571545

16. Pharmacological Intervention in Depression After Traumatic Brain Injury Conditions: TBI (Traumatic Brain Injury) Interventions: Drug: Venlafaxine NCT ID: NCT00205491

17. Depression and Traumatic Brain Injury Conditions: Depression Traumatic Brain Injury Interventions: Drug: citalopram (celexa) NCT ID: NCT00254007

18. TMS in the Treatment of the Sequelae of Closed Brain Injury Conditions: Depression; Closed Head Injury, Interventions: Device: rTMS; Device: Sham rTMS Start Date: October 2007 NCT ID: NCT00531258

19. Behavioral Activation for Posttraumatic Stress Disorder (PTSD)/ Depression Treatment in Operations Iraqi Freedom and Enduring Freedom (OIF/OEF) Veterans, Conditions: Posttraumatic Stress Disorder; Depression, Interventions: Behavioral Activation treatment; Other: Usual VA Treatment for PTSD, Start Date: May 2009 NCT ID: NCT00805532

20. Improving Psychological Wellness After Acquired Brain Injury Conditions: Depression;Anxiety;Brain Injury, Intervention: Cognitive Behavioural Therapy Start Date: June 2008, NCT ID: NCT00866632

21. The use of Motivational Interviewing and cognitive behavioural therapy to treat anxiety and/or depression following traumatic brain injury, Conditions: Traumatic Brain Injury, Depression, Anxiety, Intervention: Cognitive Behavioural Therapy (CBT), Start Date: June 2008, Registry Number: ACTRN12609000456257

Conference Proceedings

22. Mauri, M. C.; Colasanti, A.; Paletta, S., et al. Post traumatic brain injury major depression and primary major depression: psychopathological and neuropsychological profiles 22nd Congress of the European-College-of Neuropsychopharmacology, September 12 -16, 2009 , Istanbul, Turkey European Neuropsychopharmacology 19 (Suppl. 3) : S389 SEP 2009

23. Thaut, Michael H.; Gardiner, James C.; Holmberg, Dawn, et al. Neurologic Music Therapy Improves Executive Function and Emotional Adjustment in Traumatic Brain Injury Rehabilitation Conference on the Neurosciences and Music III, June 25 -28, 2008 , Montreal, Canada Neurosciences and Music III: Disorders and Plasticity : 406-416 2009

24. Colasanti, A.; Mauri, M. C.; Paletta, S., et al. Primary major depression versus post-traumatic brain injury major depression: psychopathological and neuropsychological differences 21st Congress of the European-College-of-Neuropsychopharmacology, August 30 -September 03, 2008, Barcelona, SPAIN European Neuropsychopharmacology 18 (Suppl. 4) : S582-S583 AUG 2008

25. Mauri, M. C.; Colasanti, A.; Natoli, A., et al. Psychiatric and neuropsychological sequelae of TBI: a case-control, longitudinal study 26th Collegium Internationale Neuro-Psychopharmacologicum Congress (CINP), July 13 -17, 2008 , Munich, GERMANY International Journal of Neuropsychopharmacology 11 (Suppl. 1) : 308 JUL 2008

26. Hou, Jyh-Gong Gabriel; Lai, Eugene Previous traumatic brain injury may be a risk factor of mood disorders in Parkinson's disease 60th Annual Meeting of the American-Academy-of-Neurology, April 12 -19, 2008 , Chicago, IL, United States Neurology 70 (11, Suppl. 1) : A438 MAR 11 2008

27. Lee, H.; Kim, S.; Kim, J., et al. Comparing effects of methylphenidate, sertraline and placebo on depressive symptoms and psychomotor function in patients with traumatic brain injury 24th CINP Congress, June 20 -24, 2004 , Paris, France International Journal of Neuropsychopharmacology 7 (Suppl. 2) : S274 JUN 2004

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33. Rao, N. Suicide after successful rehabilitation of traumatic brain injury 53rd Annual Assembly of the American Academy of Physical Medicine and Rehabilitation and the 68th Annual Session American Congress of Rehabilitation Medicine, Washington, D.C., United States, October 27-31, 1991. Arch Phys Med Rehabil. 72 (10) : 818 1991

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Dissertations

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