Topic Brief: Terminalia Bellirica for Treatment of COVID-19

Date: 5/5/2020
Nomination Number: 907

Purpose: This document summarizes the information addressing a nomination submitted on 5/5/2020 through the Effective Health Care Website. This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

Issue: The nominator is interested in studies on using Terminalia bellirica for treatment of COVID-19. This plant is theorized to have anti-microbial properties.

Program Decision: The nominator is interested in new research which is outside the scope of the EPC Program. We found no studies that could inform a new systematic review; and there are multiple ongoing systematic reviews on herbal treatments for COVID-19.

Background

- There is widespread ongoing transmission of a respiratory illness caused by a novel (new) coronavirus called SARS-CoV-2. The disease has been named "coronavirus disease 2019" (abbreviated "COVID-19").
- This is a rapidly growing area of research, and evidence being added daily to aid our understanding of how to treat COVID-19.
- T. bellirica is used in Ayurvedic medicine to treat a wide variety of diseases. T. bellirica is also widely used in Unani, Siddha and Chinese systems of traditional medicine [1]
- Fruit and fruit extracts of T. bellirica are theorized to address a range of conditions, including diabetes, pain, ulcers, fungal infections, bacterial infections and hypertension. [1]
- The nominator is interested in the study of T. bellirica for COVID-19.

Assessment Methods

We assessed nomination for priority for a systematic review or other AHRQ EHC report with a hierarchical process using established selection criteria. Assessment of each criteria determined the need to evaluate the next one (Appendix A).

1. Determine the *appropriateness* of the nominated topic for inclusion in the EHC program.
2. Establish the overall *importance* of a potential topic as representing a health or healthcare issue in the United States.
3. Determine the *desirability of new evidence review* by examining whether a new systematic review or other AHRQ product would be duplicative.
4. Assess the *potential impact* a new systematic review or other AHRQ product.
5. Assess whether the *current state of the evidence* allows for a systematic review or other AHRQ product (feasibility).

6. Determine the *potential value* of a new systematic review or other AHRQ product.

Summary of Selection Criteria Assessment

Primary research is outside the scope of the EPC Program. Investigating new treatments for COVID-19 is an important research area with the potential for high impact, and we found multiple systematic reviews on the use of herbal medicines for COVID-19 treatment (Appendix B). We found no studies in Pubmed or clinicaltrials.gov specifically about Terminalia Bellirica for COVID-19 treatment.

References

1. Dharmaratne MPJ, Manoraj A, Thevanesam V, et al. Terminalia bellirica fruit extracts: in-vitro antibacterial activity against selected multidrug-resistant bacteria, radical scavenging activity and cytotoxicity study on BHK-21 cells. BMC Complement Altern Med. 2018 Dec 7;18(1):325. doi: 10.1186/s12906-018-2382-7. PMID: 30526562. https://www.ncbi.nlm.nih.gov/pubmed/30526562

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Conflict of Interest: None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

Appendix A: Methods

We assessed nomination for priority for a systematic review or other AHRQ Effective Health Care report with a hierarchical process using established selection criteria. Assessment of each criteria determined the need to evaluate the next one. See Appendix B for detailed description of the criteria.

Appropriateness and Importance

We assessed the nomination for appropriateness and importance.

Desirability of New Review/Absence of Duplication

We searched for high-quality, completed or in-process evidence reviews published in the last three years April 2017-May 2020 on the questions of the nomination from these sources:

- AHRQ: Evidence reports and technology assessments
    - AHRQ Evidence Reports https://www.ahrq.gov/research/findings/evidence-based-reports/index.html
    - EHC Program https://effectivehealthcare.ahrq.gov/
    - US Preventive Services Task Force https://www.uspreventiveservicestaskforce.org/
    - AHRQ Technology Assessment Program https://www.ahrq.gov/research/findings/ta/index.html
- US Department of Veterans Affairs Products publications
    - Evidence Synthesis Program https://www.hsrd.research.va.gov/publications/esp/
    - VA/Department of Defense Evidence-Based Clinical Practice Guideline Program https://www.healthquality.va.gov/
- Cochrane Systematic Reviews https://www.cochranelibrary.com/
- PROSPERO Database (international prospective register of systematic reviews and protocols) http://www.crd.york.ac.uk/prospero/
- PubMed https://www.ncbi.nlm.nih.gov/pubmed/

Impact of a New Evidence Review

The impact of a new evidence review was qualitatively assessed by analyzing the current standard of care, the existence of potential knowledge gaps, and practice variation. We considered whether it was possible for this review to influence the current state of practice through various dissemination pathways (practice recommendation, clinical guidelines, etc.).

Feasibility of New Evidence Review

We conducted a limited literature search in PubMed and clinicaltrials.gov for the last five years April 2015 to May 2020. We reviewed all studies identified titles and abstracts for inclusion. We classified identified studies by question and study design to estimate the size and scope of a potential evidence review.

Appendix B: In-process Systematic Reviews

We found multiple in-process systematic review in PROSPERO on herbs for treatment of COVID-19.

- Shree Devi, P Sathiyarajeswaran. A protocol for a systematic review and meta-analysis of Siddha Medicines having Anti viral activity and beneficial in reducing symptoms and selected as candidates for treating novel coronavirus disease (COVID-19). PROSPERO 2020 CRD42020179838 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020179838
- Yu-Ting Dong, Liu Wu, Jin Li, Ju Huang, Deng-Peng Wen. A systematic review and meta-analysis of the efficacy and safety of combining Chinese and Western medicine in the treatment of COVID-19. PROSPERO 2020 CRD42020181410 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020181410
- Dezhao Kong, Hang Li, Yu Wang, Miaomiao Wang, Hao Ji. A systematic review of Chinese medicine for people with globally epidemic acute respiratory infectious disease. PROSPERO 2020 CRD42020170784 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020170784
- Geng Li, Zehuai Wen, Meiling Xuan, Wenwei Ouyang, Mingjun Lin. Adverse events and effects of Chinese medicine in the treatment of COVID-19: a systematic review and meta-analysis. PROSPERO 2020 CRD42020181123 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020181123
- Yoann Birling, Emily Yang, Mingxian Jia, Guixia Li. Chinese herbal medicine for coronavirus disease 2019 (Covid-19): a systematic review of the evidence. PROSPERO 2020 CRD42020177464 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020177464
- Huizhen Chen, Qiu Chen, Chunguang Xie. Chinese medicine for COVID-19: a protocol for systematic review and meta-analysis. PROSPERO 2020 CRD42020175105 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020175105
- Haiyong Chen, Xiangyin Xiang, Yao Chen. Effectiveness and safety of Chinese medicine on coronavirus Disease 2019 (2019-nCoV): a systematic review and meta-analysis. PROSPERO 2020 CRD42020176347 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020176347
- Dan Qiu, Qingzi Yan, Xiang Liu, Limei Lin, Yixiang Hu. Effectiveness and safety of traditional Chinese medicine for older adult with COVID-19: a meta-analysis and systematic review. PROSPERO 2020 CRD42020180272 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020180272
- Ming Liu, Ya Gao, Yuan Yuan, Kelu Yang, Jinhui Tian. Efficacy and safety of integrated traditional Chinese and western medicine for corona virus disease 2019 (Covid-19): a systematic review and meta-analysis. PROSPERO 2020 CRD42020177097 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020177097
- Heping Wang, Bowen Xu, Yuanyuan Duan, Ruike Gao, Jie Li. Efficacy and safety of traditional Chinese medicine in corona virus disease 2019 (COVID-19): a systematic review and meta-analysis. PROSPERO 2020 CRD42020171564 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020171564
- Ju Huang, Liu Wu, Dengpeng Wen. Internal treatment in traditional Chinese medicine for patients with COVID-19: a systematic review and meta-analysis. PROSPERO 2020 CRD42020180178 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020180178
- Renjun Gu, Ziyun Li, Yihuang Gu, Chunbing Zhang, Zhiguang Sun. Safety and effectiveness of Traditional Chinese Medicine in the treatment of COVID-19. PROSPERO 2020 CRD42020170599 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020170599

- Yalei Sun, Chun Y Sun, B Yuan. The effectiveness and safety of Chinese medicine for COVID-19 pneumonia: a systematic review and meta-analysis. PROSPERO 2020 CRD42020175909 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020175909
- Yulin Li, Quanxi Wang, Dan Tang, Xin Liang, Xiang Deng, Hongqiu Zhu, Yanqing Li, Lin Bi, Xiongxin Hu. The effectiveness and safety of traditional Chinese medicine for the treatment of children with COVID-19. PROSPERO 2020 CRD42020179150 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020179150
- Yulin Li, Haonan Xu, Hui Lang, Yanqing Li, Lin Zhang, Xin Liang, Jing Li, Qiaozhi Yin, Xiaolong Shuai. The efficacy and safety of Chinese traditional medicine injections on patients with COVID-19: a systematic review and meta-analysis. PROSPERO 2020 CRD42020180397 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020180397
- Jun Li, Yaling Li, Chengzi Huang, Yi Qi, Bin He. The prevention and treatment of Coronavirus Disease 2019 (COVID-19) with Traditional Chinese Medicine (TCM): a systematic review and meta-analysis. PROSPERO 2020 CRD42020180144 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020180144
- Renjun Gu, Yihuang Gu, Chunbing Zhang, Zhiguang Sun. The safety and effectiveness of traditional Chinese medicine for the treatment of pregnant patients with COVID-19: a systematic review and meta-analysis. PROSPERO 2020 CRD42020177009 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020177009
- Yuxi Li, Xiaobo Liu, Liuxue Guo, Juan Li, Dongling Zhong, Mike Clarke, Yonggang Zhang, Rongjiang Jin. Traditional Chinese herbal medicine for treating novel coronavirus (COVID-19) pneumonia: protocol for a systematic review and meta-analysis. PROSPERO 2020 CRD42020168004 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020168004
- Qinwei Fu, Hui Yang, Lanzhi Zhang, Yang Liu, Xinrong Li, Yepeng Yang, Menglin Dai, Qinxiu Zhang. Traditional Chinese medicine as adjuvant therapy for acute respiratory distress syndrome (ARDS): a systematic review and meta-analysis. PROSPERO 2020 CRD42020166406 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020166406
- Huang Ju, Liu Wu, Dengpeng Wen, Yuting Dong. Traditional Chinese medicine for COVID-19: a systematic review protocol. PROSPERO 2020 CRD42020181006 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020181006