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VIEWPOINT

Recommendations for Improving the Quality of Chinese Cardiovascular Guidelines and Evidence

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In a paper published in *The Lancet Regional Health-Western Pacific* on April 29, 2023, Li et al[1] suggested that although the quality of evidence in Chinese cardiovascular disease (CVD) guidelines has improved over the past 2 decades, there is still a lack of high-quality evidence in the field. The authors pointed out that there is an urgent need for more high-quality research in cardiology, especially on certain topics like cardiomyopathy and pulmonary hypertension.[1] The development methodology of guidelines tends to be simplistic and many strong recommendations are based on low- or moderate-quality evidence, meaning that the methodology of Chinese CVD guidelines needs improvement.

The present paper provides some recommendations based on the paper of Li et al[1] to improve the quality of CVD research and guidelines.

IMPROVING THE QUALITY OF EVIDENCE IN THE MANAGEMENT OF CVD IN CHINA

The number of clinical studies on CVDs led by Chinese scholars has been increasing in recent years, but the quality remains suboptimal. We propose the following measures to provide better-quality evidence in the field of cardiology in China.

SELECT TOPICS WITH LIMITED AVAILABILITY OF EVIDENCE AND CONDUCT CLINICAL STUDIES TO FILL THE GAPS. As mentioned by Li et al,[1] the research gaps reported in the guidelines, such as the lack of high-quality evidence for cardiomyopathy, pulmonary hypertension, and surgical treatment, need to be filled. Among these topics, those requiring the most urgent action should be selected to conduct more research whenever feasible. This will provide timely evidence for guideline updates to modify recommendations and improve clinical practice.

FOCUS ON THE DESIGN AND REPORTING OF CLINICAL STUDIES. Li et al[1] pointed out obstacles, such as the complexity of CVDs, restricted patient recruitment, and uneven resource investment, that can lead to study deficits in certain topics of cardiology. Researchers should therefore pay more attention to the study design, choose the appropriate study type in advance, conduct prospective registration, and write and publish a protocol to avoid or reduce bias as much as possible. During the implementation of the study, the protocol should be strictly followed to guarantee timely completion of the project and avoid wasting resources. When writing and publishing the results, we also recommend adherence to applicable reporting guidelines (depending on the study type) to improve the integrity and transparency of the study.

CONDUCT PRECISE RESEARCH TO IDENTIFY POSSIBLE DIFFERENCES IN THE EFFICACY AND SAFETY OF THE INTERVENTIONS IN THE CHINESE POPULATION. Because of differences genetics or local resources, strong recommendations in foreign guidelines supported by high-quality evidence are not necessarily valid in China. To develop guidelines for the Chinese population, clinical researchers should pay attention to the aspects of the interventions that may change in therapeutic efficacy

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due to changes in the applicable populations, and conduct clinical trials focusing on these aspects in China. In addition, Li et al[1] mentioned that a large number of traditional Chinese medicine (TCM) studies have been conducted in China, and that some TCM interventions supported by this research play a crucial function in clinical practice in China. It is therefore recommended that clinical studies on potentially beneficial TCM interventions are also conducted, under rigorous methodology.

ENHANCING THE SCIENCE AND TRANSPARENCY OF CARDIOVASCULAR GUIDELINE DEVELOPMENT

High-quality guidelines should be supported by high-quality research evidence. We propose the following recommendations, aligned with the 10 key steps in guideline development, to enhance better quality of the guidelines.

REVIEW OF EXISTING AND PLANNED GUIDELINES. Prior to the initiation of guideline development, it is recommended that the systematic review of guidelines is used to identify guidelines that have been developed and published on the same cardiovascular topic, and to search the PREPARE (Practice Guideline Registration and Transparency) platform to confirm whether any guidelines on the topic are being planned or developed.[2]

REGISTRATION AND WRITING A PROTOCOL. So far, protocols have been published only for few guidelines, and only 1 protocol could be identified in the field of cardiology, for a guideline on cardiac surgery.[3] We thus recommend that CVD guidelines should be prospectively registered in the PREPARE platform, an international platform for preregistration of guidelines, in order to reduce the number of duplicate guidelines and to facilitate the search for CVD guidelines. In addition, we recommend to follow the RIGHT (Reporting Items for Practice Guidelines in Healthcare) statement for guideline protocols when writing the protocol.[4]

FORMATION OF WORKING GROUPS. The inclusion of experts from the fields of clinical pharmacy, health economics, evidence-based medicine, and guideline methodology, as well as the inclusion of patient representatives, in addition to cardiologists, will enable and the inclusion of opinions from different perspectives throughout the development process, resulting in improved comprehension and science of the recommendations. In particular, the inclusion of specialists in evidence-based medicine specialists and guideline methodologists can facilitate the evidence retrieval process and strengthen the quality of the evidence included in the CVD guidelines.

CONFLICT OF INTEREST MANAGEMENT. CVD guidelines receive clearly more funding than guidelines in other fields in China.[5] However, overall only half of Chinese guidelines made a declaration of conflicts of interest (all reported no conflict of interest), and no Chinese CVD guidelines reported any content on the management of conflicts of interest.[5] It is recommended that Chinese guidelines, including CVD guidelines, should agree on a systematic method for managing conflicts of interest prior to the initiation of the project, and that declarations of interest should be collected, assessed, and processed throughout the entire process of development. The forthcoming RIGHT statement for conflicts of interest and funding could be used as a standard for guidelines to manage conflicts of interest and funding.[6]

COLLECTION AND SELECTION CLINICAL QUESTIONS. The paper by Li et al[1] showed that only some of the Chinese CVD guidelines presented clear clinical questions, which hinders the identification and analysis of the recommendations. Specific clinical questions need to be presented in the guidelines and deconstructed using the PICO (Population, Intervention, Comparison, Outcomes) framework. In addition, the importance of these clinical questions should be surveyed to guide their selection for the guidelines.

GRADING OF EVIDENCE. For each clinical question, a targeted retrieval strategy should be formulated, relevant studies from literature databases and other sources comprehensively should be searched and rigorously screened, and the risk of bias of the included studies should be evaluated using pertinent assessment tools. The quality of evidence needs also to be graded to generate the evidence summary table. Li et al[1] included only guidelines using the strength of recommendation and quality of evidence grading systems to facilitate the comparison of guidelines developed by the American College of Cardiology/American Heart Association and the European Society of Cardiology. On the one hand, this reduced the number of guidelines included in the review, and on the other hand, this impeded the comparison of the quality with Chinese guidelines in other fields. We thus recommend guidelines to use the GRADE system, the most widely used and recognized grading approach for evidence worldwide.

FORMATION OF RECOMMENDATIONS. Li et al[1] showed that a large number of strong recommendations were based on evidence that was of moderate or even lower quality. It is recommended that cardiovascular disease guidelines, using the GRADE EtD (Grading of Recommendations Assessment, Development and Evaluation Evidence to Decision) framework, give more consideration to the quality of evidence when forming recommendations, and they should consider the balance of benefits and harms, patient preferences and values, and cost-effectiveness and accessibility of interventions, to strengthen the validity and reliability of the strong recommendations. After forming a recommendation, the strength of the recommendation also needs to be clearly labeled alongside the recommendation.

WRITING THE GUIDELINE. Li et al[1] pointed out that most Chinese CVD guidelines described the development process and grading methodology only briefly and lacked a summary of recommendations. However, the paper did not discuss the reporting quality of these guidelines in more detail. A thorough evaluation of the reporting quality of Chinese CVD guidelines is therefore needed. We encourage developers of Chinese CVD guidelines to use the RIGHT instrument to clearly and exhaustively report all necessary content in the guidelines.

DISSEMINATION AND IMPLEMENTATION. Li et al[1] pointed out that most Chinese CVD guidelines are published in Chinese journals, lacking a unified publication platform and public access free of charge. We recommend that guidelines should be published through multiple channels and versions, and that the integration of user feedback be enhanced to further promote guideline dissemination and implementation, and ultimately help cardiologists make decisions informed by the latest high-quality evidence. However, before implementation, comprehensive quality evaluation should be conducted to avoid the flow of low-quality, potentially misleading guidelines into clinical practice. The STAR (Scientific, Transparent and Applicable Rankings) tool includes 39 items in 11 domains with weights reflecting their importance.[7] The STAR working group evaluates the quality of guidelines in various specialties, including cardiology, on a regular basis. Guideline users can retrieve the results of guideline evaluations free of charge from the STAR library and select the highest-quality guidelines for dissemination and use.

UPDATING THE GUIDELINES. Guidelines expire years after their publication, and the evidence gets outdated quicky.[8] Li et al[1] pointed out that the lack of regular updating of CVD guidelines in China hinders the integration of the latest research findings into the recommendations. It is thus recommended that CVD guidelines be regularly updated every 2 to 5 years to include the most recent research results. Prior to updating, an evaluation of the situation using the CheckUp list could be considered to reflect the adaptability of guidelines and consensus to support updating guideline.

The total number of clinical studies led by Chinese investigators in the last decade exceeds 30,000, and more than 40 Chinese CVD guidelines and consensus statements are being published annually.[9] Both clinicians and guideline developers are collaborating with methodologists to conduct more scientific and transparent research, which is an efficient and highly effective way to improve quality. We believe that in the near future, the contribution of Chinese CVD research to the development of international guidelines will substantially increase, and Chinese CVD guidelines can be disseminated for use by medical professionals in an increasing number of countries.

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