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Improving the quality of pediatric clinical practice guidelines in China: a long way to go

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Children's health is one of the key health issues receiving increasing attention worldwide and it is also an important measure of a country's social progress and economic development.[1] However, the development of pediatrics in China also faces many problems, such as the enormous contradiction between medical health resources and medical needs and the unbalanced development in various regions.[2] Although clinical practice guidelines (CPGs) play an important and positive role in solving medical health problems,[3] previous studies suggested that the methodological quality of some CPGs might be inadequate. It is important and necessary to investigate the current status of the pediatric CPGs in China and systematically evaluate their methodological quality. This paper investigated and analyzed the current status of the CPGs for pediatric in China, using the Appraisal of Guidelines for REsearch & Evaluation II (AGREE II) instrument to evaluate the methodological quality of evidence-based guidelines for pediatrics in China. The aim of this study was to appraise the methodological quality of the evidence-based guidelines for pediatrics published in China from 2010 to 2017 using the AGREE II instrument to provide a reference and guidance for guideline developers and users.

We systematically searched the following databases: Chinese BioMedical Literature Database, Chinese National Knowledge Infrastructure, Wanfang Database, and China Science and Technology Journal Database. The Baidu Scholar and Google Scholar search engines were also included in. The main search terms were "clinical practice guideline," "adolescent," "children," "pediatric," "guideline," "guidance," "recommendation," and "consensus."

The AGREE II instrument was used to assess the methodological quality of the included CPGs. It contains 23 key items of six domains, such as scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, editorial independence, and overall guideline assessment. Each item was assigned with a score of 1–7, with 1 being "strongly disagree" and 7 being "strongly agree." Each domain was calculated by summing up all the scores of its items and then it was standardized as follows: (obtained score − minimal possible score)/(maximal possible score − minimal possible score).[4]

A total of 4820 records were retrieved through a search of a comprehensive list of databases, and 22 records were identified through Baidu (www.baidu.com) and Google (www.Google.com) search engines. Finally, 44 CPGs that meet the requirements were included.

AGREE II scores in different domains of CPGs with different characteristics (types, institutions, and categories) are shown in Table 1.

As a clinical guidance document, the CPGs play an important role in standardizing the medical behavior of medical professionals, promoting rational, fair, and efficient use of medical resources, and improving the

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Table 1: AGREE II scores in different domains of CPGs with different characteristics.

Subgroup	N	Domain (%)					
		Scope and purpose	Stakeholder involvement	Rigor of development	Clarity of presentation	Applicability	Editorial independence
Type of CPGs							
Diagnosis and treatment	33	76.3	36.7	29.7	65.1	31.9	78.6
Technology	3	46.3	13.6	14.8	49.4	16.2	22.2
Treatment	2	72.3	36.1	44.1	62.0	22.2	44.5
Diagnosis	1	88.9	46.3	71.5	77.8	12.5	91.7
Comprehensive*	1	79.6	22.2	11.1	72.2	25.0	0.0
Other†	4	40.8	11.6	17.7	40.7	13.5	18.8
Formulating institutions							
Society	27	77.1	42.7	37.1	64.0	33.3	77.3
Committee	2	78.7	7.45	29.5	67.6	18.2	87.5
Personal	3	79.0	38.3	23.6	54.9	13.4	29.6
Association	1	25.9	20.4	12.5	51.9	13.9	0.0
Working group	1	88.9	46.3	71.5	77.8	12.5	91.7
Comprehensive‡	10	51.5	18.5	20.8	54.6	18.1	33.6
Category of CPGs							
TCM	23	80.8	44.0	38.1	66.5	36.4	87.3
Western medicine	21	59.4	24.8	26.0	55.9	16.4	36.6

* More than three types. † It does not belong to the above types, such as management, rehabilitation, etc. ‡ More than two types of formulating institution. AGREE II: Appraisal of Guidelines for REsearch & Evaluation II; CPGs: Clinical practice guidelines; TCM: Traditional Chinese medicine.

quality of health services. However, if the CPGs are not properly developed, they may lead to unreliable, misleading, or even conflicting recommendations.[5] This study used the AGREE II scale to evaluate the formulation and process quality of CPGs. The results showed that the AGREE II scores of pediatric evidence-based guidelines in China were all <50% in the participants (field 2), the severity (field 3), and the applicability (field 5) domains. The study also found that there was a lack of reporting on specific duties, affiliation, and regional information by the participants in the development of the CPGs. Most CPGs did not take into account the preferences and values of patients and guardians in the process of guidance development. In the CPGs for diagnosis and treatment of pediatric diseases in traditional Chinese medicine, it is mentioned that CPGs will be promoted through training courses and academic conferences, and for implementation, reference manuals, which are worth learning and using for reference in other guide-developing organizations, will be made available. High-quality CPGs should be based on the evidence of systematic reviews and the optimal guidance put forward through comprehensively in-balancing advantages and disadvantages of each alternative intervention. At the same time, the following recommendations are pointed out: the guideline development group should reflect the multidisciplinary characteristics, the recommendations should consider preferences of subgroups and patients or their guardians, the process of development CPGs is supposed to be more transparent, and bias and conflicts of interest should be minimized, including the quality of the evidence and strength of the recommendations; and recommendations should be timely updated when new evidence emerges.[6] The quality of the CPGs for pediatrics in China needs to be further developed and promoted to provide a reliable reference for guiding clinical practice.

Suggestions for improving CPGs for pediatric in China are as follows: (1) Pay attention to the methodological quality and reporting quality of the CPGs. The development of the guideline is a rigorous, systematic, and transparent process. Thus, to improve the quality of the guideline, more attention should be paid to guide the development of the relevant norms and standards. At the same time, the study also found that lack of standardization in the writing of the report of the CPGs is also an urgent problem to be solved. Besides the methodological quality of the CPGs, the reporting standards of the guidelines should also be of concern. (2) Enhancement of organizational cooperation is of great importance to improve the quality of the guideline. Also, the application and promotion of the guideline may require additional funds; thus, increased funding is important for the practical application of the guideline. In the course of developing the guidelines, we should strengthen cooperation among different disciplines and strive to integrate the resources and funds.

In summary, the methodological quality of the evidence-based guidelines for pediatrics published in Chinese journals in China from 2010 to 2017 is not adequate. The developers of CPGs should attach importance and refer to the international scientific approach to ensure the development of high-quality CPGs, and refer to the standard development and reporting CPGs of the AGREE II instrument and the reporting items for practice guidelines in healthcare statement (RIGHT) checklist during the development.

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Conflicts of interest

None.

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