BMJ Open

Characteristics and quality of clinical practice guidelines addressing acupuncture interventions: a systematic survey of 133 guidelines and 433 acupuncture recommendations

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To cite: Tang X, Shi X, Zhao H, *et al*. Characteristics and quality of clinical practice guidelines addressing acupuncture interventions: a systematic survey of 133 guidelines and 433 acupuncture recommendations. *BMJ Open* 2022;**12**:e058834. doi:10.1136/bmjopen-2021-058834

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2021-058834).

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Received 31 October 2021
Accepted 17 January 2022

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ABSTRACT

Objective To systematically summarise acupuncture-related Clinical Practice Guidelines (CPGs)'s clinical and methodological characteristics and critically appraise their methodology quality.

Design We summarised the characteristics of the guidelines and recommendations and evaluated their methodological quality using the Appraisal of Guidelines Research and Evaluation II (AGREE II) instrument.

Data sources Nine databases were searched from 1 January 2010 to 20 September 2020.

Eligibility criteria for selecting studies We included the latest version of acupuncture CPGs, which must have used at least one systematic review addressing the benefits and harms of alternative care options to inform acupuncture recommendations.

Data extraction and synthesis Reviewers, working in pairs, independently screened and extracted data. When there are statistical differences among types of CPGs, we reported the data by type in the text, but when not, we reported the overall data.

Results Of the 133 eligible guidelines, musculoskeletal and connective tissue diseases proved the most commonly addressed therapeutic areas. According to the AGREE II instrument, the CPG was moderate quality in the domain of clarity of scope and purpose, clarity of presentation, the rigour of development, stakeholder involvement and low quality in editorial independence, and applicability. The study identified 433 acupuncture-related recommendations; 380 recommended the use of acupuncture, 28 recommended against the use of acupuncture and 25 considered acupuncture but did not make recommendations. Of the 303 recommendations that used Grading of Recommendations Assessment, Development and Evaluation to determine the strength of recommendations, 152 were weak recommendations, 131 were strong recommendations, of which 104 were supported by low or very low certainty evidence (discordant recommendations).

Conclusion In the past 10 years, a large number of CPGs addressing acupuncture interventions exist. Although these guidelines may be as or more rigorous than many others, considerable room for improvement remains.

Strengths and limitations of this study

- This systematic survey includes a comprehensive search of eligible clinical practice guidelines (CPGs) and systemic and explicit eligibility criteria.
- This study used the Appraisal of Guidelines Research and Evaluation II instrument to evaluate the methodological of eligible CPGs.
- This study investigated the utilisation of the Grading of Recommendations Assessment, Development and Evaluation in CPGs.
- This study documented recommendations discordant with respect to evidence strength and certainty.
- Limitations include the exclusion of guidelines not supported by any systematic reviews; our findings, therefore, do not apply to the lowest methodological quality guidelines.

INTRODUCTION

With more than 3000 years of history, acupuncture is one of the widely used complementary and alternative therapies.[1 2] Among the 192 WHO member states, 183 have used acupuncture.[3] In Norway, 34%–64% of doctors recommend acupuncture to their patients.[4] The increasing acupuncture application in practice has led to growing demands for clinical practice guidelines (CPGs), with many countries and academic organisations including acupuncture in their CPGs.[5 6]

Trustworthy CPGs base their recommendations on systematic reviews (SRs) assessing the benefits and harms of alternative care options, rate the certainty of the evidence and grade the strength of recommendations.[7 8]

CPGs help clinicians, managers and policy-makers select the best available evidence to support decision making. Despite the existing large number of acupuncture-related CPGs, the clinical and methodological status of CPGs, including recommendations, remain underexplored.

This systematic survey summarises acupuncture-related CPGs' clinical and methodological characteristics and critically assesses their methodology quality.

METHODS

Definition

Acupuncture and acupuncture point

In this study, acupuncture is used in a broad sense refers to interventions that use any stimulation on acupuncture points, including manual acupuncture, electric acupuncture (electroacupuncture), acupressure, moxibustion, warm needling, fire needling, transcutaneous electrical nerve, laser acupuncture, microsystem acupuncture, thread-embedding therapy, medicine acicula, point injection, acupoint paste; magnetic acupuncture, blood-letting therapy, acupotomy.[9]

Acupuncture point: the point in humans where stimulation and manipulation are performed in acupuncture therapies.[10]

Types of CPG

This study divides eligible CPGs into three types: acupuncture-specific CPG (all recommendations include acupuncture interventions), traditional and complementary medicine (T&CM) CPG (all recommendations include T&CM interventions), and Comprehensive CPG (all recommendations include conventional interventions, and some include acupuncture interventions).

Acupuncture recommendation

We define acupuncture recommendations as recommendations (including for, against or considered but did not make recommendations) in which authors considered acupuncture as a treatment or prophylactic (eg, prevent nausea and vomiting after chemotherapy) option.

Conventional medicine

Conventional medicine is defined as pharmacological, and other non-pharmacological used in conventional medicine systems to treat, prevent disease, or restore, correct, or modify physiological function.[11]

Outcome classification

We categorised outcomes into symptoms (eg, pain, insomnia); function (eg, poststroke motor function); surrogate outcomes (eg, blood pressure); quality of life (eg, short Form 36 survey); morality and major morbid events (eg, myocardial infarction).[12]

Eligibility criteria

Eligible CPGs met all the following criteria: (1) title or abstract included keywords 'CPG' or 'guideline' or 'guidelines' or 'guidance'; If the CPG had no abstract, introduction, scope, purpose, rationale, background or objectives presented at least one of these keywords; (2) full text included 'acupuncture' or 'acupressure' or 'transcutaneous electrical nerve' ; (3) the CPG used at least one SRs addressing the benefits and harms of alternative care options to inform recommendations; (4) the CPG addressed patient prevention or treatment; (5) the CPG included at least one recommendation addressing acupuncture and (6) the latest version of a CPG when multiple versions exist. This study excluded health technology assessment.

Literature search

LL, HZ and YZ developed the search strategy. The keywords included guideline, recommendation, advice, opinion, acupuncture, transcutaneous electrical nerve stimulation, acupressure, etc (detail in online supplemental material 1). Two reviewers (ZC and XS) systematically searched databases including MEDLINE, EMBASE, Trip medical database, the Guidelines International Network, Agency for Healthcare Research and Quality, National Institute for Health and Care Excellence, Canadian Medical Association's CPGs database, the New Zealand Ministry of Health, China National Knowledge Internet (CNKI), Wanfang Data, China Biology Medicine, and China Science and Technology Journal Database from 1 January 2010 to 20 September 2020. Without language restriction, we searched subject terms and free words. The reviewers managed records using EndNote (V.X9.0).

CPGs selection, data extraction and analysis

Reviewers, working in pairs, independently screened and extracted data. After title and abstract screening, reviewers retrieved and evaluated potentially eligible guidelines' full texts, resolving disagreement by discussion or consultation with a third reviewer (XS). To collect data, we designed a structured data extraction table in Excel.

Reviewers extracted two types of information from each CPG: (1) CPG level information, for example, region of the publication, types of CPG, target users, and diseases or conditions investigated, (2) recommendation level information, for example, strength and direction of the recommendation, intervention (eg, types of acupuncture and acupoints), comparators included in the recommendation, outcomes informing the recommendation.

To compare the variables across different types of CPGs, we used the χ^2 and, when necessary, Fisher's exact test. When there are statistical differences among types of CPGs, we reported the data by type in the text, but when not, we reported the overall data. We showed all data in the tables. This study conducted the analyses using Statistical Package for the Social Sciences (SPSS, V.22) and set the significance level at 5% ($p<0.05$).

Quality appraisal

The study used the Appraisal of Guidelines Research and Evaluation II (AGREE-II) instrument, which includes 23 appraisal criteria (items) organised within six domains: scope and purpose, stakeholder involvement, the rigour of development, clarity of presentation, applicability, and editorial independence, to assess the quality of CPGs. Reviewers rated each item on a seven-point scale from strongly disagree (score 1) to strongly agree (score 7). We calculated the scaled domain score (higher score indicates better quality) according to AGREE II (the 'obtained score' was the sum of the appraisers' scores per item)[13]: (Obtained score − Minimum possible score) / (Maximum possible score − Minimum possible score). Prior to quality appraisal, eight reviewers received training in AGREE II with repeated assessment until the chance-corrected agreements were ≥0.6 for each pair of reviewers in each domain. Two reviewers (ZC and XT) independently assessed each CPG, and when the discussion failed to resolve the disagreement, a third reviewer (XS) arbitrated the case.

AGREE II instrument does not set minimum domain scores or patterns of scores across domains to differentiate between high quality and low quality guidelines. As previously suggested, we considered domain and overall scores under 50% to indicate low quality, >50% as moderate quality and >80% as high quality.[14–16]

Patient and public involvement

No patient involved.

RESULTS

Literature search

Our initial search yielded 8943 citations, of which 3122 were excluded due to duplicate publication and 4848 deemed ineligible. Of the 973 full texts, we excluded 840 reports for the following reasons: 793 did not include any recommendation regarding acupuncture, 28 were not CPGs, 16 had unavailable full texts and 3 were duplicate publications. The 133 CPGs deemed eligible, including 433 acupuncture recommendations (figure 1).

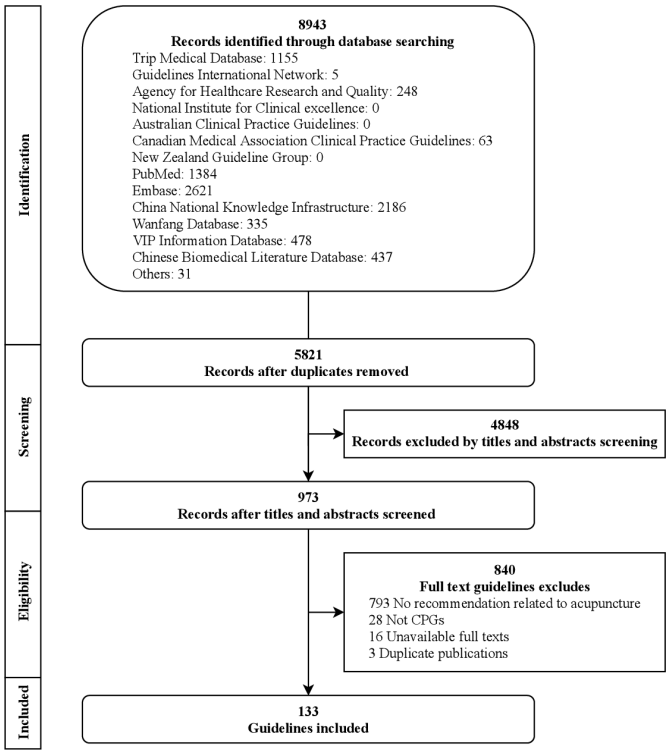

Figure 1 The Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram. CPG, clinical practice guideline.

Characteristics of included CPGs and recommendations

Table 1 and online supplemental material 2 present eligible CPGs' summary characteristics.

The organisations that conducted CPGs were from North America (49, 36.8%), Asia (44, 33.2%), Europe (31, 23.3%), Oceania (6, 4.5%) and international organisations (eg, WHO) (3, 2.2%). Guideline category proved comprehensive in 89 (66.9%), acupuncture-specific CPGs in 31 (23.3%) and T&CM specific in 13 (9.8%). Sixty-nine (51.9%) used Grading of Recommendations Assessment, Development and Evaluation (GRADE) to assess the certainty of the evidence, and 59 (44.4%) used GRADE to assess the strength of recommendation.

Figure 2 shows CPGs and recommendations' therapeutic areas distribution, quantity, and methodological rigour. Areas most frequently addressed proved musculoskeletal and connective tissue diseases (39, 29.3%), neurological disorders (21, 15.8%) and oncology (11, 8.3%). CPGs seldom addressed endocrine, nutritional and metabolic, ophthalmology, cardiovascular diseases, respiratory diseases and dermatology (one per therapeutic area).

Methodological quality of CPGs

Table 2 presents CPGs AGREE II rating. Of all CPGs, domains evaluated by AGREE II scored from the highest to lowest include: 'scope and purpose,' 'clarity of presentation,' 'rigour of development,' 'stakeholder involvement', 'editorial independence,' and 'application.' The first four domains proved moderate quality (ie, 50% or higher rating), and the last two domains deemed low quality (ie, scored less than 50%).

For comprehensive CPGs, 'clarity of presentation' (75.2%), 'scope and purpose' (74.0%), 'editorial independence(53.4%)' and 'rigour of development' (51.6%) proved moderate quality; meanwhile 'stakeholder involvement(49.8%)', and 'application(32.1%)' proved lower quality. For T&CM CPGs, 'clarity of presentation' (68.2%), and 'scope and purpose' (66.0%) were moderate quality; meanwhile 'editorial independence' (48.7%), 'rigour of development' (45.9%), 'stakeholder involvement' (32.7%) and 'application' (22.4%) were lower quality. For acupuncture-specific CPGs, 'scope and purpose' (95.2%) was high quality; and 'clarity of presentation' (79.8%), 'rigour of development' (71.3%), and 'stakeholder involvement' (67.8%) were moderate

Table 1 Characteristics of 133 included CPG in the study

Variable	N (%)
Region	
International	3 (2.3)
America	49 (36.8)
Asia	44 (33.1)
Europe	31 (23.3)
Oceania	6 (4.5)
Type of CPG	
Comprehensive CPG	89 (66.9)
T&CM CPG	13 (9.8)
Acupuncture-specific CPG	31 (23.3)
CPGs with at least one acupuncture recommendation supported by systematic reviews	
Comprehensive CPG	46 (34.6)
T&CM CPG	7 (5.3)
Acupuncture-specific CPG	12 (9.0)
The health intent*	
Treatment	129 (97.0)
Prevention	17 (12.8)
Target users*	
Healthcare provider	127 (95.5)
Policy-maker	9 (6.8)
Patient	39 (29.3)
Using GRADE to assess thecertainty of the evidence	
Reported	69 (51.9)
Not reported	64 (48.1)
Using GRADE to assess the strength of recommendation	
Reported	59 (44.4)
Not reported	74 (55.6)

*One CPG can contribute to more than one category.
CPG, clinical practice guidelines; GRADE, Grading of Recommendations Assessment, Development and Evaluation; T&CM, traditional and complementary medicine.

quality; meanwhile 'application' (35.4%) and 'editorial independence' (33.2%) were lower quality.

The low rating in the 'application' domain reflects inadequate consideration of resource use (52, 39.1%) and monitoring/auditing standards. The absence of a conflict-of-interest (COI) statement (61, 45.9%) and lack of explicit explanation on how COIs are considered (58,43.6%) from CPGs developers led to the low rating in the 'editorial independence' domain. In addition to item 5 in AGREE II, whether guideline developers considered patients' values and preferences, we evaluated whether the CPG explicitly explained how they considered it. The results showed that 43.6% reported considering patients' values and preferences, of which only less than 10.5% explicitly explained how they were considered (online supplemental 3 table A).

Acupuncture recommendations specific analyses

Evidence supporting acupuncture recommendations

Table 3 shows the evidence that supported acupuncture recommendations. Type of study design used to inform acupuncture recommendations from the most to the least frequently are randomised controlled trial and controlled clinical trial, SR and meta-analysis, observational study, narrative review, expert consensus and Chinese classic texts/textbook. Of all acupuncture recommendations, 314 (72.5%) used GRADE to assess the certainty of evidence. Low or very low certainty evidence supported over 80% of the 314 acupuncture recommendations.

Direction, strength and rationale of the recommendations

Of the 433 acupuncture recommendations, 380 (87.8%) recommended or suggested using acupuncture, 28 (6.4%) recommended or suggested against, and 25 (5.8%) did not make recommendations. Of the 303 (70.0% of all recommendations in the guidelines) recommendations that used GRADE to determine the strength of recommendations, 152 (50.2%) were weak recommendations, and 131 (43.2%) were strong recommendations, of which 104 (79.4%) were supported by low or very low certainty evidence (we will refer to this situation as discordant recommendations[15] (table 4).

online supplemental 3 table B shows the rationale when making acupuncture recommendations. For all CPGs, treatment benefits are the main reason for recommending or against acupuncture (264, 61.0%). Forty-one (36.3%) comprehensive CPGs consider the certainty of evidence as an important issue in making recommendations, while T &CM and acupuncture-specific CPGs seldom consider certainty (1, 0.4%). Less than 10% of all CPGs reported patients' values and preferences, cost, adverse events and feasibility as part of their rationale for making acupuncture recommendations.

Patient characteristics in acupuncture recommendations

Acupuncture recommendations report patient information poorly. Of all acupuncture recommendations, only 16 (8.7%) reported the severity of the disease. Seventeen (15.0%), 3 (4.5%), and 101 (39.8%) of the comprehensive, T & CM and acupuncture-specific CPGs reported the stage of the disease (online supplemental 3 table C).

Acupuncture interventions in the recommendations and remarks

Acupuncture recommendations and remarks reported limited details regarding acupuncture intervention (table 5). Comprehensive CPGs most frequently include manual acupuncture and acupressure in acupuncture recommendations. T&CM and acupuncture-specific CPGs most frequently include manual and electro-acupuncture in acupuncture recommendations. Most acupuncture recommendations in all CPGs focus on stand-alone usage of acupuncture therapies, and only 99 (22.9%) recommendations use acupuncture as a combination/ adjunct therapy. Moreover, almost no recommendations reported

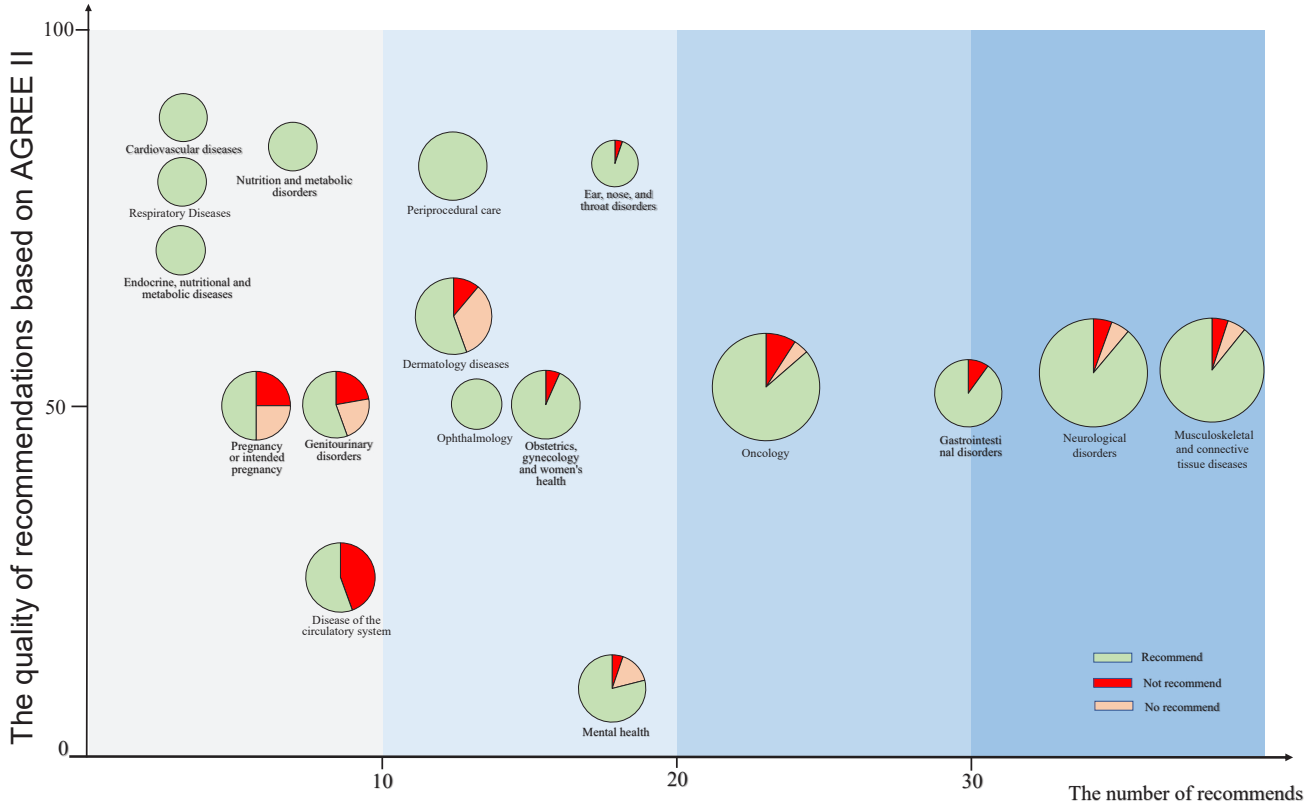

Figure 2 A multidimensional plot for acupuncture guidelines and recommendations' quantity, methodological rigour and distribution of therapeutic areas. Each pie represents a therapeutic area. (1) Pie size: number of CPGs (larger=more studies). (2) Pie colour: direction of recommendation (green: recommend for, red: recommend against; pink: did not make a recommendation). CPG, clinical practice guideline.

the acupuncture points selection except for acupuncture-specific CPGs (206, 81.1%).

Comparators in acupuncture recommendations

Approximately three-quarters of the CPGs recommendations (323, 74.6%) did not report the comparators (online supplemental 3 table D). Among all CPGs recommendations that reported the comparators, comprehensive CPGs most often compared acupuncture with no acupuncture (12, 10.6%), T&CM CPGs most often compared acupuncture with non-pharmacological therapy (22, 33.3%), and acupuncture-specific CPGs most often compared acupuncture with conventional medicine (32, 12.6%).

Outcomes summarised to inform acupuncture recommendations

Among all acupuncture recommendations, 130 (30.0%) did not summarise the outcomes used to inform recommendations: 43/113, 38/66 and 49/254 were in comprehensive, T&CM and acupuncture-specific CPGs. Of the

Table 2 The methodological quality of 133 CPGs (%)

Domain	Comprehensive CPGs	T&CM CPGs	Acupuncture-specific CPGs	Total	P value
Scope and purpose	74.0	66.0	95.2	78.4	0.386
Stakeholder involvement	49.8	32.7	67.8	50.1	
Rigour of development	51.6	45.9	71.3	56.3	
Clarity of presentation	75.2	68.2	79.8	74.4	
Application	32.1	22.4	35.4	30.0	
Editorial independence	53.4	48.7	33.2	45.1	

CPG, clinical practice guidelines; T&CM, traditional and complementary medicine.

Table 3 Evidence supports acupuncture recommendations

Variable	N (%)
Type of study supporting acupuncture recommendations*(n=433)	
SR or meta-analysis	135 (31.2)
RCT or CCT	250 (57.7)
Observational studies	114 (26.3)
Narrative review	36 (8.3)
Expert consensus	24 (5.5)
Chinese classic texts/ Textbook	4 (0.9)
Not reported	47 (10.9)
Recommendations used GRADE to assess thecertainty of evidence (n=314)	
Comprehensive CPG	46 (40.7)
T&CM CPG	24 (36.3)
Acupuncture-specific CPG	244 (96.1)
Certainty of evidencesupporting recommendations using GRADE (n=314)	
High	5 (1.6)
Moderate	33 (10.5)
Low	105 (33.4)
Very low	157 (50.0)
Not reported	14 (4.5)

*One recommendation can contribute to more than one category. development, and evaluation, CCT, controlled clinical trial; CPG, clinical practice guidelines; GRADE, Grading of Recommendations Assessment, Development and Evaluation; RCT, randomised controlled trial; SR, systematic review; T&CM, traditional and complementary medicine.

Table 4 Direction and strength of acupuncture recommendations

Variable	N (%)
The direction of the recommendation (n=433)	
In favour	380 (87.8)
Against	28 (6.4)
Did not make recommendations	25 (5.8)
Strength of the recommendation assessed with GRADE (n=303)	
Strong	131 (43.2)
High and moderate certainty of the evidence	26 (19.8)
Low and very low certainty of the evidence	104 (79.4)
Not reported	1 (0.8)
Weak	152 (50.2)
High and moderate certainty of the evidence	10 (6.6)
Low and very low certainty of the evidence	135 (88.8)
Not reported	7 (4.6)
Not reported	20 (6.6)

GRADE, Grading of Recommendations Assessment, Development and Evaluation.

remaining 382, from the most to the least summarised types of outcomes are: symptoms (253, 58.4%), function (86, 19.9%), quality of life (29, 6.7%), surrogate outcomes (12, 2.8%), mortality (1, 0.2%) and major morbid events (1, 0.2%) (online supplemental 3 table E).

DISCUSSION

This study identified 133 CPGs and 433 recommendations addressing acupuncture intervention published between 2010 and 2019 that most frequently addressed musculoskeletal and connective tissue diseases (29.3%), neurological disorders (15.8%), obstetrics, gynaecology, and women's health (9.7%), and oncology (9.0%) (figure 2). Guidelines overwhelmingly recommended in favour of acupuncture (87.8% of recommendations), with the remainder split more or less evenly between recommendations against or no recommendation. Of the 303 (70.0%) recommendations that used GRADE to determine the strength of recommendations, 152 (50.2%) were weak recommendations, 131 (43.2%) were strong recommendations, of which 104 (79.4%) were supported by low or very low certainty evidence (discordant recommendations). According to the AGREE II instrument, included CPGs proved moderate quality in 'scope and purpose,' 'clarity of presentation,' 'rigour of development' and 'stakeholder involvement,' but low quality in 'editorial independence' and 'applicability' domains.

Strengths and limitations

Our study, the most comprehensive that systematically evaluated CPGs addressing acupuncture interventions, has several strengths. First, this systematic survey includes a comprehensive search of eligible CPGs, systemic and explicit application of eligibility criteria, duplicate and independent study selection and data extraction, and rigorous methodological assessment of CPGs using the AGREE-II instrument. Second, our research investigated the utilisation of the GRADE approach in CPGs and recommendations. Moreover, we documented recommendations discordant with respect to strength and certainty. Third, this survey identified the missing aspect in AGREE II that most acupuncture-related CPGs did not explicitly report how they consider patients' values and preferences, hindering guidelines' applicability.

The limitation of our study includes: (1) we did not include Japanese and South Korean guideline databases, and (2) we excluded guidelines not supported by any SRs—thus, results do not apply to the lowest methodological quality guidelines.

Relation to other studies

Jeremy Y Ng *.et al*[17] investigated the quantity and quality of T&CM (eg, herbal medicine, acupuncture, chiropractic and osteopathic manipulation) guidelines in

Table 5 Details of acupuncture interventions in the recommendations and remarks

Description of acupuncture intervention	N (%)			P value
	Comprehensive CPGs	T&CM CPGs	Acupuncture-specific CPGs	
Type of acupuncture* (n=433)				
Manual acupuncture	57 (50.4)	37 (56.1)	121 (47.6)	<0.001
Electroacupuncture	13 (11.5)	13 (19.7)	42 (16.5)	
Acupressure	19 (16.8)	2 (3.0)	5 (2.0)	
Moxibustion, warm needling, fire needling	6 (5.3)	12 (18.2)	55 (21.7)	
Other†	26 (23.0)	14 (21.2)	97 (38.2)	
Not reported	44 (38.9)	14 (21.2)	15 (5.9)	
Acupuncture alone or with other interventions* (n=433)				
Alone	100 (88.5)	42 (63.6)	192 (75.6)	0.006
With conventional medicine	4 (3.5)	9 (13.6)	16 (6.3)	
With Chinese herbal medicine	2 (1.8)	4 (6.1)	5 (2.0)	
With Non-pharmacological interventions	10 (8.8)	14 (21.2)	41 (16.1)	
Acupuncture points selection (n=433)				
Reported	6 (5.3)	20 (30.3)	206 (81.1)	<0.001
Not reported	107 (94.7)	46 (69.7)	48 (18.9)	
Acupuncture points selection based onTraditional Chinese medicine syndromedifferentiation (n=433)				
Reported	0 (0.0)	1 (1.5)	39 (15.4)	<0.001
Not reported	113 (100.0)	65 (98.5)	215 (84.6)	
Acupuncture points selection based onMeridian syndrome differentiation (n=433)				
Reported	0 (0.0)	0 (0.0)	5 (2.0)	0.177
Not reported	113 (100.0)	66 (100.0)	249 (98.0)	

*One recommendation can contribute to more than one category.
†Include laser acupuncture, microsystem acupuncture, thread-embedding therapy, medicine acicula, point injection, transcutaneous electrical nerve, acupoint paste; magnetic acupuncture, blood-letting therapy, acupotomy.
CPG, clinical practice guidelines; T&CM, traditional and complementary medicine.

MEDLINE, EMBASE and CINAH, etc. This survey examined a few selected interventions in T & CM and only included three acupuncture-related guidelines. Guo LH *et al*[18] evaluated the methodological quality of acupuncture CPGs conducted by the China Institute of Acupuncture and Moxibustion. Consistent with our results, both articles identified 'applicability' and 'editorial independence' as Acupuncture-specific CPGs 'main limitations, but they omitted non-Chinese CPGs. Guo Y *et al*[6] conducted a systematic survey to summarise the diseases and disorders most commonly treated with acupuncture in CPGs and concluded that acupuncture recommendations might be limited to painful conditions. They only searched the National Guideline Clearinghouse database, which might explain their failure to present the broad picture of acupuncture guidelines that our survey describes. None of the three studies analysed whether patients' values and preferences were explicitly considered, and only Wu *et al* summarised whether CPGs used the GRADE approach.

Implications

Acupuncture guidelines could improve by consistently supporting recommendations with SRs, explicitly considering patients' values and preferences, providing additional details regarding patients' characteristics, acupuncture interventions/definition, comparators and outcomes summarised.

Despite available evidence and the wide application of acupuncture as an adjunct therapy in practice (eg, in combination with conventional medicine),[19–22] acupuncture recommendations often do not address this question. Future guidelines should much more frequently address this issue.

The GRADE approach perceives strong recommendations supported by low or very low certainty evidence (ie, discordant recommendations) as questionable and often inappropriate.[23] Guidelines addressing acupuncture intervention should better understand the GRADE approach, include panels that support the GRADE approach's optimal usage, and collaborate with well-trained methodologists to avoid discordant recommendations.[24 25] Both financial and

intellectual COIs can impact panels and guideline developers' judgement and the recommendations.[26 27] Proper management of COIs can mitigate bias related to it and increase CPGs' credibility. CPGs addressing acupuncture should report guideline' funding sources, declare and manage all guideline developers and panel members' COIs considering available literature.[28 29]

CONCLUSION

In the past 10 years, many CPGs addressing acupuncture interventions covering various diseases and conditions exist. Although these guidelines may be as or more rigorous than many others, considerable room for improvement remains, particularly, guideline developers should better manage COIs, explicitly considering patients values and preferences and resources utilisation, using more SRs to support recommendations and avoiding discordant recommendations.

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Acknowledgements We thank Hao wen, Peiming zhang, Xiaojing Wei, Yong Jiang, Haoyu Zhang, Chen Chen, and Yiming Chen all from the Guangzhou University of Chinese Medicine, for contributing to the literature screening, data extraction and visualisation.

Contributors YQZ, LL, HZ, XJ and NX codeveloped the protocol for this systematic survey. LL, HZ and YQZ developed the search strategy. XS, ZC, YF, LL, RD, PZ, YX, SC, FG and JF conducted the screening of studies, data extraction and critical appraisal. YQZ, XT and XS reviewed each stage of study selection and calibrated findings. XT, XS, YQZ, LL and HZ wrote the manuscript's first draft. All authors assisted in the interpretation and write-up of results. All authors approved the final manuscript prior to submission. The corresponding author attests that all listed authors meet authorship criteria and that no others have been omitted. YQZ and XJ are the guarantors of this paper.

Funding This study was supported by the Innovation Team and Talents Cultivation Program of the National Administration of Traditional Chinese Medicine (ZYYCXTD-C-202004); the special project of "Lingnan Modernization of Traditional Chinese Medicine" within the 2019 Guangdong Provincial Research and Development Program (2020B1111100008); the Project of First Class Universities and High-level Dual Discipline for Guangzhou University of Chinese Medicine; and the National Natural Science Foundation of China (82174527); Graduate Research Innovation Project of Guangzhou University of Chinese Medicine; The belt and road' International Cooperation Project supported by China Academy of Chinese Medical Sciences (project number: GH201901).

Disclaimer The funders had no influence on study design, data collection, analysis, decision to publish, or manuscript preparation.

Competing interests All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare funding for the submitted work as described above; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Patient consent for publication Not applicable.

Ethics approval This study does not involve human participants.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available on reasonable request. The full dataset and statistical code will be available on reasonable request by emailing YZ.

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