

Rapid qualitative analysis in implementation science: a protocol for a methodological scoping review and the development of reporting recommendations

Xue-han Wei^{1,2}, Xiao-ying Chen³, Yi-ying Wang⁴, Jing-jing Fu^{1,2}, Guo-yan Yang⁵, Jin Sun⁶, Chun-li Lu^{1,2,✉}

¹Institute of Chinese Medicine, Guangdong Pharmaceutical University, Guangzhou, 510006, China

²Key Laboratory of Glucolipid Metabolic Diseases, Ministry of Education, Guangzhou, 510006, China

³Graduate School, Beijing University of Chinese Medicine, Beijing, 100029, China

⁴Center for Evidence-Based Chinese Medicine, Beijing University of Chinese Medicine, Beijing, 100029, China

⁵NICM Health Research Institute, Western Sydney University, Penrith, NSW 2751, Australia

⁶The First Clinical Medical College of Nanjing University of Chinese Medicine, Nanjing, 210023, China

Received: June 4, 2026; Revised: July 31, 2026; Accepted: August 28, 2026

ABSTRACT

Introduction Implementation science aims to translate evidence into practice and optimize interventions in real-world settings. Traditional Chinese medicine (TCM), as a typical complex intervention integrating biological, psychological, cognitive and behavioral, social, and environmental components, is subject to numerous contextual and implementation-related influences in real-world practice. Qualitative research is essential for understanding these, but traditional methods are time- and resource-intensive. Rapid qualitative analysis (RQA) can generate decision-relevant evidence within compressed timeframes and has emerged as an important methodological approach in implementation science. We will conduct a methodological scoping review of RQA in implementation science and develop tailored reporting recommendations. **Methods** This methodological scoping review will follow Joanna Briggs Institute (JBI) guidelines and Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR). PubMed, Web of Science, Embase, the Cochrane Library, CINAHL, and PsycINFO will be searched from 2000 onward, supplemented by relevant government reports and implementation science websites. Eligible studies will be situated in implementation science and explicit report using RQA. Two reviewers will independently screen, extract, and appraise studies to map methodological characteristics of RQA. Reporting recommendations will be developed and refined through a modified Delphi consensus involving experts in qualitative methodology and implementation science. **Discussion** To our knowledge, this will be the first methodological scoping review to systematically examine RQA in implementation science, which will also take full account of the characteristics of TCM as a complex intervention and explore the capacity of RQA to capture implementation-relevant dimensions. Findings will inform reporting recommendations for RQA, strengthen methodological transparency, consistency, and rigor in healthcare implementation research, and enhance the comparability, interpretability, and practical utility of RQA for implementation-related decision-making.

Registration This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols in May 2026 (<https://inplasy.com/>, INPLASY202650116).

KEYWORDS

rapid qualitative analysis, implementation science, qualitative research, scoping review, reporting recommendations, Delphi consensus, qualitative data analysis, protocol

CITE THIS ARTICLE

Wei XH, Chen XY, Wang YY, et al. Rapid qualitative analysis in implementation science: a protocol for a methodological scoping review and the development of reporting recommendations. Evidence-Based Chinese Medicine and Technology Assessment, 2026, 2: 9570046. <https://doi.org/10.26599/eCMTA.2026.9570046>

1. Introduction

Implementation science promotes the adoption, implementation, and sustainment of evidence-based practices in routine healthcare and public health settings. It aims to understand and address the real-world gap between evidence and practice, as well as the contextual factors that influence implementation.¹⁻³ Because the implementation process is influenced by multiple interacting factors at the individual, organizational, and system levels, implementation science relies on qualitative, quantitative, and mixed-methods approaches to understand the strategies and processes required to implement evidence-based change, the outcomes associated with these changes, the barriers

and facilitators to implementation, and how these factors vary across different contexts.⁴⁻⁷ Among these approaches, qualitative methods play a particularly important role in generating contextually grounded insights into implementation processes and stakeholder experiences. In traditional Chinese medicine (TCM), individualized treatment and the integration of multiple therapeutic modalities add complexity to implementation in routine practice. Qualitative research can help elucidate how patient perspectives, practitioner decision-making, and local care contexts influence the delivery and uptake of these interventions. However, traditional qualitative research can require significant time for data collection and in-depth analysis. At the same time, implementation science studies often operate within relatively short timeframes and may require evidence to inform decisions throughout the implementation process.^{8,9} Therefore, to address the need for timely evidence to support practice-based decision-making, a range of rapid qualitative research methods and techniques has emerged to enhance the efficiency of implementation research, shorten the research cycle, and maintain method-

✉ Corresponding author.

E-mail address: Jennyylu@bucm.edu.cn (CL. Lu)

© 2026 Beijing University of Chinese Medicine. Production and hosting by Tsinghua University Press. This is an open access article under the CC-BY license (<http://creativecommons.org/licenses/by/4.0/>).

ological rigor.^{5,10,11}

From a methodological perspective, rapid qualitative research is an overarching approach that emphasizes conducting qualitative research activities within a relatively short timeframe, encompassing study design, data collection, analysis, and generation of findings. Its primary objective is to provide timely and actionable insights for decision-making.¹² Within this broader approach, several complementary methods and techniques can be used. Rapid qualitative interviews are a data collection approach that focuses on key questions within a limited timeframe to efficiently obtain information related to the research objectives.^{13,14} In contrast, rapid qualitative analysis (RQA) provides a rapid approach to the analysis of qualitative data, facilitating the systematic integration, distillation, and interpretation of collected data.¹⁰ Thus, these three approaches may be used in combination in implementation science. Researchers may use rapid qualitative research as an overarching approach, collect data through rapid qualitative interviews, and apply RQA to analyze and synthesize the data, thereby generating timely insights to inform the adaptation, optimization, and implementation of interventions.

Driven by the growing demand for timely evidence in applied research and policy decision-making, a range of rapid qualitative approaches has been developed over recent decades, including rapid assessment methods, rapid assessment procedures, rapid ethnographic assessment, and rapid qualitative inquiry. These approaches typically rely on team-based collaboration, iterative analysis, and triangulation of information from multiple sources to shorten the research cycle while maintaining the credibility and practical utility of the results.¹⁵ More recently, researchers have increasingly focused on the application of RQA in implementation science. RQA is a deliberately streamlined approach to qualitative data analysis that aims to reduce the time and resources required for analysis while meeting the short timelines often associated with implementation research.¹⁶ Gale et al. (2019) reported that RQA produced findings consistent with those generated through traditional qualitative analysis, while requiring a shorter research cycle (69 days for traditional methods).¹⁷ RQA has increasingly been applied in implementation science, including the rapid identification of barriers to implementing clinical practice guidelines, optimization of healthcare service processes, responses to public health emergencies, and mental health services.^{10,16}

Although RQA has emerged as an important approach in implementation science, there is a lack of scoping reviews examining its current applications and methodological characteristics within the field. The fragmented nature of the existing evidence and inconsistencies in methodological descriptions have left researchers with a limited understanding of RQA's applicable scenarios, operational guidelines, and quality control measures, which may limit its adoption and standardized application in implementation science.¹⁶ Our preliminary literature search identified no published reviews specifically addressing these issues. Therefore, this protocol aims to conduct a methodological scoping review to systematically characterize the application of RQA in implementation science within the health sector. Building on these findings and drawing on the Consolidated Criteria for Reporting Qualitative Research (COREQ), the Standards for Reporting Qualitative Research (SRQR),^{17,18} and the Planning for and Assessing Rigor in Rapid Qualitative Analysis (PAR-RQA),^{19,20} we will develop preliminary reporting recommendations for RQA in implementation science, thereby supporting more standardized and transparent reporting and application of this approach.

This methodological scoping review aims to systematically synthesize and clarify the application of RQA in implementation science. Specifically, this review aims to: (I) identify the application contexts, rationales, research topics, research objectives, and stages of implementation (before, during, and after implementation) in which RQA is used in implementation science; (II) analyze the methodological characteristics of RQA in implementation science, including methods and processes of data collection and analysis, tools used, strategies for ensuring research quality, and the suitability of RQA for implementation science; (III) summarize the strengths, limitations, and existing research gaps related to the use of RQA in implementation science; (IV) develop a preliminary reporting recommendation framework for RQA in implementation science, informed by the identified application characteristics and existing qualitative research reporting standards.

2. Methods

2.1. Ethical approval

This study will not involve human participants, patient data, clinical samples, or identifiable personal information. Therefore, no ethical approval or informed consent is required for this study.

2.2. Study design

This scoping review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews.²¹ A scoping review was considered appropriate for the following reasons. First, the use of RQA in implementation science is still evolving, and the available evidence is dispersed across different research contexts, with limited consistency in methodological descriptions. A methodological scoping review can comprehensively synthesize the existing evidence and clarify the scope and characteristics of RQA applications in this field. Second, this study focuses on the application contexts, methodological characteristics, and research gaps related to RQA in implementation science. This includes examining study characteristics, implementation settings, and target populations rather than evaluating the effectiveness of interventions. Therefore, a methodological scoping review is well suited to broadly explore these research questions. This protocol describes the first three steps of the JBI nine-step approach: defining the review objectives and research questions; establishing inclusion and exclusion criteria aligned with these objectives and questions; and outlining the methods for evidence search, study selection, data extraction, and analysis. The subsequent steps will involve implementing these planned procedures, followed by presentation of the results. The eighth step focuses on presenting the results, while the ninth and final step involves summarizing the evidence, drawing conclusions, and discussing the implications of the findings. This review will be reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR).²²

This study comprises two components. The first is a methodological scoping review that will examine the current applications of RQA in implementation science, including its methodological and reporting characteristics. The second will build on the findings of the scoping review by integrating relevant RQA-related domains from COREQ, SRQR, and the PARRQA framework.^{17–20} A modified Delphi expert consensus process will then be used to develop and refine reporting recommendations for RQA tailored to implementation science.

2.3. Inclusion and exclusion criteria

The inclusion and exclusion criteria for this review were developed in accordance with the JBI population, concept, and context framework.²¹ Studies and reports will be eligible for inclusion if they meet the following criteria.

2.3.1. Population

This review will include implementation research involving RQA, with no restrictions on study population, participant demographics, study country, or recruitment strategies.

2.3.2. Concept

Eligible studies or reports must explicitly address the use of RQA to support implementation research (Table 1). Included studies must use RQA, another named rapid qualitative analytic approach, or a functionally equivalent, intentionally expedited approach to qualitative data analysis, and apply it to research concerning the implementation or translation of evidence into practice in healthcare settings. Eligible applications may include, but are not limited to, analyses of factors that facilitate or hinder implementation, the design and optimization of implementation strategies, pre-implementation assessments, process evaluations, and outcome evaluations. Studies or reports will be eligible if they explicitly identify RQA or another rapid qualitative ana-

Table 1 Applications of RQA across phases of implementation science

Application domains	Definition
Pre-implementation: • Assessment of social determinants prior to intervention implementation • Development of adaptive implementation strategies	RQA can be used to conduct pre-implementation assessments by rapidly analyzing qualitative data from interviews and other sources to identify social determinants of implementation, stakeholder needs, contextual factors, and potential barriers and facilitators. These findings can inform the development and adaptation of implementation strategies.
During implementation: • Assessment of barriers and facilitators to implementation • Implementation process evaluation	RQA can be used to rapidly identify barriers and facilitators to the implementation process from the perspectives of relevant stakeholders, allowing timely adjustments to implementation strategies. RQA can be used to conduct process evaluations by examining key implementation dimensions, such as fidelity, reach, and contextual adaptation; identifying deviations from the planned implementation process; and informing timely refinement of implementation strategies.
Post-implementation: Implementation outcome evaluation	RQA can be used to evaluate implementation outcomes, such as acceptability, adoption, appropriateness, feasibility, and sustainability, with attention to changes in stakeholders' behaviors, perceptions, experiences, and attitudes.

Notes: RQA: rapid qualitative analysis. The content of this table is based on Reference 16.

lytic approach as the method used to analyze qualitative data in implementation research. Studies using different terminology will also be eligible if the full text indicates that qualitative data were analyzed using an intentionally expedited approach designed to generate timely and actionable findings. Detailed descriptions of analytical procedures and quality assurance measures will not be required for inclusion. Incomplete, unclear, or absent reporting of these elements will be coded as reporting gaps rather than used as reasons for exclusion. RQA may be used as a stand-alone analytical approach or as a qualitative component of a mixed-methods study.

Studies will be excluded if they meet any of the following criteria: (I) non-

empirical publications that do not report relevant empirical findings, such as conference abstracts, commentaries, and book reviews; (II) protocols without reported empirical findings; (III) full text that cannot be obtained after reasonable efforts; or (IV) insufficient or unreliable data that preclude assessment of the study's use of RQA. The inclusion and exclusion criteria are summarized in Table 2.

2.3.3. Context

This review will include implementation research conducted in real-world settings within the health sector, including healthcare institutions, communi-

Table 2 Inclusion and exclusion criteria for studies on the application of RQA in implementation science

Domain	Definition	Inclusion criteria	Exclusion criteria
Implementation research	Implementation science is commonly defined as the scientific study of methods to promote the systematic uptake of research findings and other reports the use of at least one evidence-based practices into science theory, model, or framework, such as CFIR, EPIS, RE-routine practice and, AIM, or NPT; ultimately, to improve the quality and effectiveness of health services and care. ²³	Studies will be included if they focus on the adoption, implementation, adaptation, sustainment, or dissemination of evidence-based practices in real-world settings and meet at least one of the following criteria: (I) the study explicitly cites or reports the use of at least one recognized implementation evidence-based practices into science theory, model, or framework, such as CFIR, EPIS, RE-routine practice and, AIM, or NPT; (II) although no implementation science theory, model, or framework is explicitly reported, the study addresses at least one implementation-specific domain listed in the "Implementation Process & Strategy" row below.	Studies that focus solely on clinical efficacy or effectiveness without addressing implementation processes, strategies, outcomes, or context.
Implementation process and strategy	The application of methods to implement evidence-based interventions, practices, guidelines, and policies in real-world settings. ²⁴	Studies addressing at least one of the following: (I) development, selection, adaptation, or evaluation of implementation strategies; ²⁵ (II) evaluation of implementation outcomes; ²⁶ (III) implementation mechanisms or pathways of action; ²⁷ (IV) dissemination, scaling-up, sustainability, or de-implementation. ²⁹	Studies that do not address implementation strategies, outcomes, mechanisms, or context.
RQA	RQA is a pragmatic qualitative analytic approach designed to generate timely and actionable findings through an intentionally expedited analytical process while maintaining methodological rigor, particularly in implementation and health services research. ^{10,16}	Studies that explicitly identify RQA or another named RQA approach as the analytical method, or whose methodological descriptions indicate an intentionally expedited approach to generate timely, actionable findings.	(I) Studies that do not use RQA or another intentionally expedited qualitative analytic approach, or for which the full text provides insufficient information to determine whether such an approach was used; (II) studies that use only conventional qualitative analysis without an explicitly expedited analytical process; (III) studies in which RQA is used exclusively for clinical efficacy or effectiveness assessment without addressing implementation processes, strategies, outcomes, mechanisms, or context.

Notes: CFIR: Consolidated Framework for Implementation Research; EPIS: Exploration, Preparation, Implementation, Sustainment; NPT: Normalization Process Theory; RE-AIM: Reach, Effectiveness, Adoption, Implementation, and Maintenance; RQA: rapid qualitative analysis.

ty health service organizations, and health administration settings. Because context in implementation science encompasses more than physical locations, the presence of a health-related real-world setting will serve as the primary inclusion criterion. Other contextual characteristics, including organizational support, organizational culture and environment, leadership capacity, resource allocation, and the external policy environment, will be identified and categorized during data extraction and analysis.

2.4. Literature search

2.4.1. Information sources

The literature search will be conducted in six electronic databases: PubMed, Web of Science, Embase, the Cochrane Library, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and PsycINFO. Additionally, relevant websites in the field of implementation science will be manually searched (Appendix 1). Government reports will also be manually searched to identify potentially eligible studies and gray literature. Only studies and reports published in English will be included. The search will cover publications from 2000 onward, reflecting the emergence of implementation science as a distinct field during this period. Since then, institutes within the US National Institutes of Health have established dissemination and implementation research initiatives and issued dedicated funding announcements to support research on the translation of evidence into routine clinical practice.^{30,31}

2.4.2. Search strategy

A search strategy will be developed to identify potentially eligible records related to implementation science and RQA (the PubMed search strategy is provided in Table 3). The database searches will be independently conducted by at least two reviewers (XHW and JJF). For searches of websites and gray literature, the database search strategy will be adapted to the functionality of each website because website interfaces differ substantially in their structure and capacity to support phrase searching and Boolean operators. Site-specific keyword searching and manual browsing will be used as complementary approaches to identify relevant websites and grey literature.^{32,33} “Rapid qualitative” will be used as the primary search term, while broader, site-adapted terms, including “rapid” and “implementation science,” will be used when required by the scope and search functionality of individual websites. When no internal search function is available, relevant sections, including Publications, Reports, Resources, Research, Guidance, and Toolkits, will be manually browsed. All retrieved records will be screened according to the prespecified eligibility criteria. The search date, exact search terms used, browsed sections, and the number of records retrieved from each website will be docu-

mented in a search log to enhance transparency and auditability.

2.5. Literature screening

All identified citations will be imported into the NoteExpress Reference Library (version 3.5.0, Aegean Software Corporation, Beijing, China), and duplicate records will be removed. Two reviewers will independently screen titles and abstracts of all retrieved records against the inclusion criteria. Subsequently, the full texts of potentially eligible records will be independently assessed by the same two reviewers. Any disagreements during the screening and selection process will be resolved through discussion or, if necessary, consultation with an additional reviewer. The search results and study selection process will be reported in detail in the final methodological scoping review and presented using a PRISMA-ScR flow diagram.²²

2.6. Data extraction

A standardized data extraction form will be developed to capture relevant information from the included studies. Two reviewers will independently pilot the form using a random sample comprising 10% of the included studies. The reviewers will compare their extracted data and discuss any discrepancies to assess the completeness and consistency of the data extraction form and ensure that all relevant information is captured. Following pilot testing and refinement of the data extraction form, the two reviewers will independently extract data from the remaining included studies. Extracted data will be compared at regular intervals to maintain calibration and consistency. Any discrepancies will be resolved through discussion between the two reviewers. If consensus cannot be reached, a third reviewer will be consulted. Any modifications made to the data extraction form during the process will be documented and applied to all previously extracted studies, where relevant.

2.6.1. Basic characteristics

We will extract basic characteristics of the included studies, including study ID, article type, first author, publication year, journal, country or region, study design, and funding source.

2.6.2. Study participants and background information

The following information related to the study participants and the research context will be extracted: research questions and objectives; research topics or themes; the rationale for using RQA; stakeholders involved in the research, such as healthcare professionals, administrators, public health practitioners, patients, and family members; and implementation settings, such as hospitals, community health service centers, primary healthcare facilities, and public health institutions.

Table 3 PubMed search strategy

#	Search term
PubMed search strategy (implementation science keywords)	
1	((“implementation science”[Mesh]) OR (“implementation research”[Title/Abstract]) OR (“implementation practice”[Title/Abstract]) OR (“implementation strateg*”[Title/Abstract]) OR (“implementation process”[Title/Abstract]) OR (“implementation outcome*”[Title/Abstract]) OR (“program implementation”[Title/Abstract]) OR (“real-world implementation”[Title/Abstract]) OR (“dissemination and implementation”[Title/Abstract]) OR (“knowledge translation”[Title/Abstract]) OR (“evidence implementation”[Title/Abstract]) OR (“evidence-based intervention*”[Title/Abstract]) OR (“knowledge-to-action”[Title/Abstract]) OR (“knowledge to action”[Title/Abstract]) OR (“translation of evidence”[Title/Abstract]) OR (“intervention uptake”[Title/Abstract]) OR (“intervention adoption”[Title/Abstract]) OR (“behavior change”[Title/Abstract]) OR (“behaviour change”[Title/Abstract]))
PubMed search strategy (rapid qualitative analysis keywords)	
2	(“rapid qualitative method*”[All Fields] OR “rapid analysis”[All Fields] OR “rapid analysis approach”[All Fields] OR “rapid analytic approach”[All Fields] OR “rapid analysis technique*”[All Fields] OR “rapid qualitative analy*”[All Fields] OR “RQA”[All Fields] OR “rapid qualitative inquiry”[All Fields] OR “rapid assessment procedure*”[All Fields] OR “rapid assessment process”[All Fields] OR “rapid team-based qualitative”[All Fields] OR “rapid ethnograph*”[All Fields] OR “rapid qualitative assessment”[All Fields] OR “rapid turn-around qualitative research”[All Fields] OR “rapid turnaround”[All Fields] OR “brief qualitative analysis”[All Fields] OR “short qualitative analysis”[All Fields] OR “brief qualitative approaches”[All Fields] OR “short qualitative approaches”[All Fields] OR “rapid inductive analysis”[All Fields] OR “rapid thematic analysis”[All Fields] OR “rapid anthropological assessment procedures”[All Fields] OR “rapid appraisal”[All Fields] OR “rapid feedback evaluations”[All Fields] OR “rapid-cycle evaluations”[All Fields])
3	1 AND 2

2.6.3. Methodological characteristics of RQA

The methodological characteristics of RQA will be extracted and analyzed across the following dimensions:

(I) Stage of implementation at which RQA is applied: before, during, or after implementation;

(II) Primary roles of RQA, including evidence synthesis, assessment of barriers and facilitators, contextual analysis, implementation strategy design, process evaluation, and outcome evaluation; and

(III) Technical and methodological characteristics of RQA, including the implementation science theories, models, or frameworks used; qualitative data collection and analysis methods; interview sample size; number of interview rounds; tools used to organize and analyze qualitative data; and measures used to ensure the credibility and rigor of the analysis.

2.6.4. Study outcomes

The following data will be extracted: main study findings; implementation outcomes (e.g., fidelity, adoption, acceptability, and sustainment); reported contributions or utility of RQA, including its ability to generate timely, actionable, or decision-relevant findings; and reported strengths, limitations, and research gaps related to the use of RQA.

2.6.5. Reporting characteristics

The following reporting characteristics will be extracted from the included studies: the rationale for adopting RQA; the definition or description of RQA; the division of labor and calibration procedures within the research team; reporting of RQA rigor, including: (I) the theories, models, and frameworks used in the research; (II) the standardization of data collection, including the use of interview guides and the diversity of data sources; (III) the structure and transparency of data analysis, including the use of analysis templates or matrices and clear descriptions of the analytic process; and (IV) the transparency of the research process and the methods used to validate findings, including documentation of the analytic process reports, peer review, and triangulation; and the reporting standards or frameworks referenced when using or reporting RQA, including COREQ, SRQR, and PAR-RQA.

2.7. Quality assessment

Quality assessment will be conducted to evaluate the methodological quality of the included studies and facilitate interpretation of the strengths and limitations of the available evidence.³⁴ The methodological quality of the qualitative component of each included study will be assessed using the JBI Critical Appraisal Checklist for Qualitative Research. This standardized checklist comprises 10 criteria addressing methodological congruity; the alignment between the research question and qualitative methodology; data collection and analysis; researcher reflexivity; representation of participants' voices; ethical considerations; and the relationship between the findings and the underlying data. For mixed-method studies, the appraisal will be restricted to the qualitative components. Two reviewers will independently conduct the appraisals to enhance consistency and reduce subjective variation. Each criterion will be assessed using the standard JBI response categories of "yes," "no," "unclear," or "not applicable." The appraisal findings will be summarized descriptively.

2.8. Data analysis and synthesis

Descriptive and thematic analyses of the included studies will be conducted to address the review objectives. First, we will generate a descriptive summary of key characteristics, such as publication year, country or region, study design, study population, implementation setting, and application domains of RQA. Categorical data will be summarized using frequencies and percentages. For full-text analysis, an iterative coding framework will be developed using both deductive and inductive codes. Deductive codes will be derived from the review objectives and prespecified data charting domains, while additional codes will be developed inductively to capture relevant findings

that are not adequately represented by the initial categories. Rather than applying a single implementation science framework, deductive coding will be guided by prespecified review domains and Proctor's implementation outcome taxonomy,²⁷ whereas framework-specific constructs will be coded only when explicitly reported in the included studies. To situate RQA within implementation science, the included studies will be coded according to: (I) the stage at which RQA was applied; (II) the stated rationale for using RQA; (III) the implementation research purpose for which RQA was used; (IV) any implementation theory, model, or framework explicitly reported by the study authors; and (V) the type of outcome, categorized as implementation, service, or client outcomes in accordance with Proctor's implementation outcome framework.²⁷ Studies may be assigned to more than one category.²⁷ Studies will also be classified according to whether an implementation science theory, model, or framework is explicitly reported. Studies without an explicitly reported theory, model, or framework will be categorized according to their implementation research purpose and reported as having no explicitly reported implementation science theory, model, or framework.

RQA-specific methodological characteristics will be analyzed separately, including data sources and data collection procedures, approaches used to accelerate analysis, development of summary templates, use of matrices or other data-reduction techniques, team roles, analytic procedures, strategies for ensuring methodological rigor, and reporting practices. Only information explicitly reported in the included studies will be coded. Information that is absent or insufficiently described will be classified as "not reported" rather than inferred by the reviewers. Relevant observations not captured by the initial coding framework will be recorded and considered during iterative refinement. Two reviewers will pilot the coding framework on a sample of included studies and revise the codes and definitions through discussion. Following calibration, the reviewers will independently apply the finalized coding framework, with disagreements resolved through discussion and, where necessary, through consultation with a third reviewer. The findings will be summarized and presented in figures or tables according to the review questions. No meta-analysis or effect-size synthesis will be conducted.

2.9. Development of RQA reporting recommendations

Building on the findings of the methodological scoping review, we will develop reporting recommendations for RQA in implementation science through four stages: synthesizing the evidence to generate candidate items, constructing an initial framework, refining the framework through expert consensus, and finalizing and presenting the recommendations.

2.9.1. Synthesis of evidence and generation of candidate items

We will synthesize the results of the methodological scoping review to generate a pool of candidate reporting items for RQA. These candidate items will primarily comprise four groups: (I) items from existing reporting standards that can be directly applied to RQA; (II) reporting items that are absent from or inconsistently reported in existing studies, as well as methodological information considered critical for understanding the RQA process and findings; (III) RQA-specific reporting items, such as the rationale for using RQA, data-reduction strategies, data analysis tools, team roles and division of responsibilities, and measures used to ensure the rigor of RQA; and (IV) implementation science-specific reporting items derived from relevant implementation science constructs, including implementation context and stage, determinants, strategies, processes or mechanisms, implementation outcomes, the use of implementation science theories, models, or frameworks, and how RQA findings informed implementation decisions or adaptations.^{35,36}

To systematically generate the fourth group of candidate items, relevant implementation science constructs will be identified from the prespecified data-charting domains and from implementation science theories, models, or frameworks explicitly reported in the included studies. Each construct will be assessed for its relevance to understanding, reproducing, and interpreting the use of RQA in implementation research. Relevant constructs will then be mapped against candidate items derived from the included studies and exist-

ing reporting standards. When an existing item adequately addresses a relevant construct, it will be retained or adapted for RQA. When no existing item provides adequate coverage, a new candidate reporting item will be developed. For each candidate item, we will document the source construct, supporting evidence, rationale for inclusion, and proposed wording. Two reviewers will independently conduct the mapping. Disagreements will be resolved through discussion or, when necessary, consultation with a third reviewer. Only constructs considered relevant to RQA reporting will be incorporated. No single implementation science framework will be retrospectively imposed on the included studies.

2.9.2. Development of the initial reporting recommendation framework

After establishing the pool of candidate items, we will develop an initial reporting recommendation framework informed by COREQ, SRQR, and PARRQA.^{18–20} The framework will comprise three categories of items: (I) general reporting items from COREQ and SRQR that are applicable to RQA, such as the research team's background and roles, sampling rationale, data collection settings, and analytical procedures; (II) methodological items specific to RQA, such as the rationale for using rapid qualitative methods, whether audio recordings are transcribed into notes, and how templates and matrices are developed and calibrated; and (III) additional items specific to the conduct and reporting of RQA, such as strategies for ensuring timeliness, justification for methodological streamlining, quality assurance measures, and mechanisms for validating findings.

2.9.3. Modified Delphi process to prioritize items in the reporting recommendations

Modified Delphi process To prioritize items for inclusion in the RQA reporting recommendation framework, we will use a modified Delphi process.^{35,36} Consistent with approaches used to develop other reporting guidelines, up to three rounds of Delphi surveys will be conducted. Each round will assess the level of agreement among experts regarding individual items and will allow items to be retained, revised, or removed based on predefined consensus criteria.^{22,35} If any item remains without consensus after the third round, a virtual consensus meeting will be held to discuss these items, followed by anonymous re-rating. The ACCurate CONsensus Reporting Document (ACCORD) will be used to guide reporting of the modified Delphi process and consensus meeting.³⁷

Expert panel selection and recruitment An international, interdisciplinary expert panel will be recruited across four predefined domains: implementation science, qualitative research methodology, RQA, and evidence-based methodology or reporting guideline development.³⁸ Before recruitment, a purposive sampling matrix will be developed to document each candidate's primary area of expertise, eligibility pathway (academic or applied), and recruitment status, thereby ensuring representation across all four domains. Eligibility will be determined based on relevant academic expertise or substantive applied experience. Each expert will be assigned to one primary expertise domain for monitoring panel composition, while relevant secondary areas of expertise will also be recorded. Potential experts will be identified through multiple sources, including authors of published RQA or implementation science qualitative studies, members of implementation science organizations, developers and users of qualitative research reporting standards, and researchers with practical experience in applying RQA. Experts will be eligible if they meet the following criteria: (I) at least 5 years of professional experience in implementation science, qualitative research methodology, health policy, evidence-based medicine, social science, or a related field, and (II) at least three publications indexed in the Science Citation Index Expanded (SCI-Expanded) or Social Sciences Citation Index, with the candidate serving as first or corresponding author. Preference will be given to experts with practical experience in RQA or rapid qualitative research. Purposive sampling will be used as the primary recruitment strategy, supplemented by snowball sampling, with a target minimum panel size of 15 experts, consistent with sample sizes reported in previous studies developing reporting recommendations.^{39,40} Panel composition will be monitored

throughout recruitment, and targeted invitations will be used to address underrepresentation and minimize dominance by any single expertise domain. All prospective experts, including those identified through snowball sampling, will be assessed against the prespecified eligibility criteria and sampling matrix. Eligible experts will be invited by email to participate in the Delphi process. The invitation will include an explanatory statement describing the study. Participants who may have difficulty accessing the required technology will be offered alternative methods of participation, such as telephone-based participation or mail-based questionnaires.

Delphi survey administration and participant retention For Round 1, the survey will be developed based on the results of the methodological scoping review described above. The initial candidate items and survey questionnaire will be reviewed by the research team, pilot-tested for content and clarity, and revised before dissemination.

Each survey round will remain open for approximately 4 weeks. Reminder emails will be sent every 7 days after the initial invitation to encourage participation. In each round, participants will rate their agreement with the inclusion of each proposed item using a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Each survey item will include an optional text box for participants to provide comments. Participants may propose additional candidate items in Round 1. Newly proposed items will be reviewed by the research team and, if considered relevant and nonduplicative, will be added to the Round 2 survey for rating. In subsequent rounds, participant comments will be used primarily to inform the deletion, clarification, consolidation, or refinement of existing items.

Only participants who complete a given survey round will be invited to participate in subsequent rounds. No new or replacement participants will be recruited after Round 1. A participant who completes one round but does not submit the questionnaire for the subsequent round by the deadline despite the scheduled reminders, or who explicitly withdraws from the study, will be considered lost to follow-up. Responses provided by participants before withdrawal will remain in the analysis of the corresponding round but will not be carried forward or imputed for subsequent rounds. Reasons for withdrawal will be reported when available.^{37,41} Participant demographic and professional information will be collected to characterize the expert panel and assess its diversity. This information will include sex, country of residence, primary expertise domain, disciplinary background, career stage, and relevant experience with RQA or rapid qualitative research.

Data analysis, consensus criteria, and stopping rules Participants' demographic and professional characteristics will be summarized using frequencies and percentages for categorical variables. The response rate for each round will be calculated as the number of participants who complete the round divided by the number of participants invited to that round. Between-round attrition will be calculated as the number of participants who completed the preceding round but did not complete the current round, divided by the number of participants who completed the preceding round. The number of participants invited to and completing each round, response and attrition rates, and reasons for withdrawal, where available, will be reported. For each item, the denominator used to calculate the proportions of agreement and disagreement will be the number of participants providing a valid rating of 1–5 for that item in the corresponding round. Neutral ratings (3) will be included in the denominator but excluded from both the agreement and disagreement numerators. Missing item-level ratings will be excluded from the denominator and will not be imputed. The number of valid responses and the number and percentage of missing ratings will be reported for each item. A prespecified threshold of 70% will be used to determine consensus. Inclusion consensus will be reached when at least 70% of participants rate an item as 4 or 5, in which case the item will be retained. Exclusion consensus will be reached when at least 70% of participants rate an item as 1 or 2, and the item will then be removed. Items that do not meet either criterion will be classified as having no consensus and will be carried forward to the subsequent round for reconsideration and revision, where appropriate. A minimum of two Delphi rounds will be conducted. If all items reach either inclusion or exclusion consensus after Round 2, Round 3 will not be conducted. Otherwise, items without consensus will be carried forward to Round 3. Items that remain

without consensus after Round 3 will be discussed and anonymously re-rated during a virtual consensus meeting using the same denominator and 70% consensus thresholds. Items that fail to achieve either inclusion or exclusion consensus following the consensus meeting will be classified as having “no consensus,” excluded from the final RQA reporting recommendation framework, and reported separately with their rating distributions and relevant qualitative comments.^{42–44}

Where the sample size permits, we will investigate whether item-level agreement differs according to participant characteristics, such as disciplinary background and career stage.³² Where appropriate, content analysis will be conducted on open-ended comments, including participants’ explanations for items that do not reach consensus. The results from these analyses will be used to inform subsequent survey rounds. For Rounds 2 and 3, participants will be provided with their individual results alongside the overall group response distribution, median, and interquartile range from the preceding round.⁴² These data will promote transparency and encourage informed reconsideration of items for which consensus has not yet been reached.

2.9.4. Framework presentation

Following the expert consensus process, the reporting items will undergo final refinement to produce the RQA reporting recommendations for implementation science. In accordance with established guidance for developing health research reporting recommendations, the final framework will clearly document its developmental rationale, expert panel composition, revision process, and plans for future updates. Where feasible, external pilot testing or validation will be conducted to further assess the usability and applicability of the proposed framework.

3. Discussion

This protocol outlines a rigorous and comprehensive methodological scoping review designed to provide the first systematic map of RQA applications in implementation science. This study has several strengths. First, the review will adopt a structured, iterative process grounded in JBI methodological guidance and the PRISMA-ScR framework, thereby promoting systematic and transparent conduct. Second, data extraction and thematic analysis will be conducted across multiple dimensions, ranging from application contexts and methodological characteristics to quality assurance and rigor measures, thereby broadening the scope and utility of the findings. Third, by synthesizing the extracted evidence using the COREQ, SRQR, and PARRQA frameworks and applying a modified Delphi consensus process, this study aims to develop RQA reporting recommendations tailored to implementation science. This approach may address potential gaps in the coverage of RQA-specific methodological elements within existing generic qualitative reporting standards.

A further consideration is the applicability of the proposed reporting recommendations to complex interventions, particularly for TCM. TCM is widely recognized as a complex intervention, characterized by multiple interdependent components that dynamically interact across biological, psychological, cognitive-behavioral, social, and environmental domains. A narrative synthesis of qualitative studies on complex healthcare interventions identified these five therapeutic dimensions as inherently intertwined and operative throughout the entire implementation process.⁴⁵ Within this framework, Chinese herbal medicine and acupuncture serve as the primary biological modalities. Consequently, the real-world effectiveness of TCM is not determined by the intervention alone, but is also influenced by implementation outcomes, manifested in the interplay among practitioner competence and clinical behavior, therapeutic alliance quality, patient engagement and adherence, and the broader organizational, systemic, and policy contexts shaping care delivery. This multi-component, context-embedded nature presents distinctive methodological challenges for implementation research in TCM effectiveness evaluation. It is necessary to rigorously analyze how these factors operate by using qualitative evidence. We therefore will focus our analy-

sis on such complex intervention features and systematically assess how RQAs function in relation to intervention fidelity, extent of implementation, contextual adaptation, and stakeholder experiences.

However, several methodological limitations and considerations warrant attention. The decision to restrict the search to English-language publications from 2000 onward reflects the emergence and development of implementation science as a distinct field over the past two to three decades. Earlier publications may also provide limited methodological details regarding RQA. However, restricting the search to English-language publications may exclude relevant studies published in other languages, potentially introducing language bias. Furthermore, the review will focus on implementation science studies that explicitly identify RQA as an analytical method or whose methodology aligns with the defining characteristics of rapid, feedback-oriented, and decision-support-oriented qualitative analysis. This approach will help ensure the conceptual coherence of the review and facilitate interpretation of the findings. Nevertheless, it may inadvertently exclude studies that use functionally similar rapid analytical procedures but employ different or inconsistent terminology, thereby introducing a degree of terminology bias.

With respect to methodological appraisal, this study will use the JBI Critical Appraisal Checklist for Qualitative Research to assess methodological congruity and trustworthiness in the qualitative components of the included studies. However, as a general qualitative appraisal instrument, the JBI checklist does not directly assess all methodological characteristics specific to RQA. Thus, RQA-specific features, including expedited analytic procedures, development of a summary template, use of matrices or other data-reduction techniques, team roles, rigor safeguards, and reporting practices, will be extracted and analyzed separately. Additionally, variability across included studies in study design, operationalization of RQA, and level of reporting detail may pose challenges for cross-study methodological comparison and thematic synthesis, potentially limiting the comparability of the findings. However, systematically identifying and documenting these inconsistencies will be valuable, as it may help identify priority areas for future efforts to promote methodological standardization and transparent reporting of RQA. At the data-extraction level, although iterative refinement of the extraction tool will be necessary to capture the diversity of RQA applications across implementation science, it may introduce minor procedural inconsistencies. The research team will mitigate this risk through independent dual extraction and ongoing calibration.

Despite these limitations, this study is expected to make three major contributions to the field. First, by systematically mapping the landscape of RQA applications in implementation science, the review will provide a methodological baseline to inform future research. Second, the systematic integration of empirical reporting gaps, existing qualitative reporting standards, RQA-specific methodological requirements, and relevant implementation science constructs will provide an evidence-informed pool of candidate items for expert consensus. The resulting reporting recommendations may support more transparent study design, reporting, interpretation, and peer review of RQA in implementation science. Third, by delineating the core functions and methodological features of RQA across the pre-, during-, and post-implementation phases, the findings may help advance RQA from fragmented, experience-driven use toward a more systematic and evidence-informed methodological practice.

Future research should build on this work through external validation, cross-cultural adaptation, and empirical testing of the reporting recommendation framework to evaluate its feasibility and potential impact on research quality in real-world settings. These efforts may ultimately promote the standardized development and broader adoption of RQA in implementation science.

4. Conclusion

This protocol describes a methodological scoping review designed to provide the first comprehensive synthesis of the applications and methodological characteristics of RQA in implementation science. By integrating systematic searching, multidimensional data extraction, qualitative appraisal using

the JBI Critical Appraisal Checklist for Qualitative Research, and a modified Delphi consensus process, this study will map the landscape of RQA use in implementation science and develop reporting recommendations tailored to the field. The findings are expected to provide a methodological foundation for the rigorous design, transparent reporting, and standardized application of RQA in implementation science, while identifying priorities for future empirical validation and cross-cultural adaptation.

Funding

The authors declare that they received financial support for the research and publication of this article from the following sources: the Guangdong Basic and Applied Basic Research Project (grant no.: 2025A1515110053), the National Natural Science Foundation of China for Young Scientists (grant no.: 82505381), and the Guangdong Provincial Special Support Program for Outstanding Young Talents Project (grant no.: 0820250232).

Data Availability

Not applicable.

Author Contribution Statement

Xue-han Wei: Data curation, investigation, resources, and writing – original draft. **Xiao-ying Chen:** Investigation and writing – review & editing. **Yi-ying Wang:** Investigation and writing – review & editing. **Jing-jing Fu:** Data curation and writing – review & editing. **Guo-yan Yang:** Methodology and writing – review & editing. **Jin Sun:** Funding acquisition and writing – review & editing. **Chun-li Lu:** Conceptualization, supervision, project administration, funding acquisition, and writing – review & editing.

Use of AI Statement

None.

Declaration of Competing Interest

The authors have no competing interests to declare that are relevant to the content of this article.

Electronic Supplementary Material

The online version contains supplementary material available at <https://doi.org/10.26599/eCMTA.2026.9570046>.

Acknowledgements

We would like to express our sincere gratitude to Professor Jian-ping Liu (Center for Evidence-Based Medicine, Hospital of Chengdu University of TCM, Chengdu, China) and Professor Nicola Robinson (London South Bank University, London, United Kingdom) for their expert methodological guidance and constructive suggestions throughout this protocol.

References

- Lu CL, Cao HJ, Xu D, Liu JP. Background, concept and progress of implementation science. *Chin J Integr Tradit West Med*. 2020;40(11):1378–1380.
- Brownson RC, Colditz GA, Proctor EK. *Dissemination and Implementation Research in Health: Translating Science to Practice*. 2nd ed. New York, NY: Oxford University Press; 2017.
- Lu CL, Xu D, Liu JP. Implementation science methodology for study investigating Chinese medicine and integrative medicine. *Chin J Integr Tradit West Med*. 2021;41(9):1113–1119.
- Palinkas LA. Qualitative and mixed methods in mental health services and implementation research. *J Clin Child Adolesc Psychol*. 2014;43(6):851–861.
- Sheldrick RC, Cruden G, Schaefer AJ, Mackie TI. Rapid-cycle systems modeling to support evidence-informed decision-making during system-wide implementation. *Implement Sci Commun*. 2021;2(1):116.
- Liu X, Lu C, Zheng R, Liu J. Rapid qualitative analysis methods and their application in implementation science. *World J Tradit Chin Med*. 2021;16(20):3093–3099.
- Glasgow RE, Chambers D. Developing robust, sustainable, implementation systems using rigorous, rapid and relevant science. *Clin Transl Sci*. 2012;5(1):48–55.
- Azar J, Adams N, Boustani M. The Indiana University Center for Healthcare Innovation and Implementation Science: bridging healthcare research and delivery to build a learning healthcare system. *Z Evid Fortbild Qual Gesundhwes*. 2015;109(2):138–143.
- Brear MR, Shabangu PN, Fisher JR, Hammarberg K, Keleher HM, Livingstone C. Health capability deprivations in a rural Swazi community: understanding complexity with theoretically informed, qualitatively driven, mixed-method design, participatory action research. *Qual Health Res*. 2018;28(12):1897–1909.
- Qualitative methods in rapid turn-around health services research. SILO. TIPS web site. <https://silo.tips/download/qualitative-methods-in-rapid-turn-around-health-services-research>. Accessed August 4, 2026.
- Brives C, Le Marcis F, Sanabria E. What's in a context? tensions and tensions in evidence-based medicine. *Med Anthropol*. 2016;35(5):369–376.
- Nevedal AL, Reardon CM, Opra Widerquist MA, et al. Rapid versus traditional qualitative analysis using the Consolidated Framework for Implementation Research (CFIR). *Implement Sci*. 2021;16(1):67.
- Parkin S, Neale J, Roberts E, et al. Conducting rapid qualitative research amongst people with experience of rough sleeping in London during the COVID-19 pandemic. *Res Meth Med Health Sci*. 2021;2(4):124–139.
- Logue M, Haylock C, Scarborough C, MacKenzie J. “If people are hesitant at all, you just want a really big front door”: a rapid qualitative interview study on the Luton COVID-19 vaccination outreach clinics. *BMC Public Health*. 2023;23(1):440.
- Vindrola-Padros C, Johnson GA. Rapid techniques in qualitative research: a critical review of the literature. *Qual Health Res*. 2020;30(10):1596–1604.
- Wei X, Chen X, Wang R, et al. Rapid qualitative analysis methods and their application in implementation science. *Med J Peking Union Med Coll Hosp*. 2026;17(2):546–556.
- Gale RC, Wu J, Erhardt T, et al. Comparison of rapid vs in-depth qualitative analytic methods from a process evaluation of academic detailing in the Veterans Health Administration. *Implement Sci*. 2019;14(1):11.
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349–357.
- O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med*. 2014;89(9):1245–1251.
- Kowalski CP, Nevedal AL, Finley EP, et al. Planning for and Assessing Rigor in Rapid Qualitative Analysis (PARRQA): a consensus-based framework for designing, conducting, and reporting. *Implement Sci*. 2024;19(1):71.
- Pollock D, Peters M, Tricco A, et al. Chapter 10: scoping reviews. In: Aromataris E, Lockwood C, Porritt K, Pilla B, Jordan Z, eds. *JBI Manual for Evidence Synthesis*. Adelaide, Australia: JBI; 2024.
- Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467–473.
- Eccles MP, Mittman BS. Welcome to implementation science. *Implement Sci*. 2006;1(1):1.
- Proctor EK, Landsverk J, Aarons G, Chambers D, Glisson C, Mittman B. Implementation research in mental health services: an emerging science with conceptual, methodological, and training challenges. *Adm Policy Ment Health*. 2009;36(1):24–34.
- Nilsen P, Bernhardsson S. Context matters in implementation science: a scoping review of determinant frameworks that describe contextual determinants for implementation outcomes. *BMC Health Serv Res*. 2019;19(1):189.
- Proctor EK, Powell BJ, McMillen JC. Implementation strategies: recommendations for specifying and reporting. *Implement Sci*. 2013;8(1):139.
- Proctor E, Silmere H, Raghavan R, et al. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health*. 2011;38(2):65–76.
- Smith JD, Li DH, Rafferty MR. The implementation research logic model: a method for planning, executing, reporting, and synthesizing implementation projects. *Implement Sci*. 2020;15(1):84.
- Birken SA, Haines ER, Hwang S, Chambers DA, Bunker AC, Nilsen P. Advancing understanding and identifying strategies for sustaining evidence-based practices: a review of reviews. *Implement Sci*. 2020;15(1):88.
- Glasgow RE, Vinson C, Chambers D, Khoury MJ, Kaplan RM, Hunter C. National Institutes of Health approaches to dissemination and implementation science: current and future directions. *Am J Public Health*. 2012;102(7):1274–1281.
- Tinkle M, Kimball R, Haozous EA, Shuster G, Meize-Grochowski R. Dissemination and implementation research funded by the US national institutes of health, 2005–2012. *Nurs Res Pract*. 2013;2013(1):909606.
- Stansfield C, Dickson K, Bangpan M. Exploring issues in the conduct of website searching and other online sources for systematic reviews: how can we be systematic? *Syst Rev*. 2016;5(1):191.
- Godin K, Stapleton J, Kirkpatrick SI, Hanning RM, Leatherdale ST. Applying systematic review search methods to the grey literature: a case study examining guidelines for school-based breakfast programs in Canada. *Syst Rev*. 2015;4(1):138.
- Joanna Briggs Institute. The Joanna Briggs Institute critical appraisal tools for use in JBI systematic reviews checklist for qualitative research. https://jbi.global/sites/default/files/2019-05/JBI_Critical_Appraisal-Checklist_for_Qualitative_Research2017_0.pdf. Accessed August 4, 2026.
- Moher D, Schulz KF, Simera I, Altman DG. Guidance for developers of health research reporting guidelines. *PLoS Med*. 2010;7(2):e1000217.
- Thompson M. Considering the implication of variations within Delphi research. *Fam Pract*. 2009;26(5):420–424.

- [37] Gattrell WT, Logullo P, van Zuuren EJ, et al. ACCORD (ACcurate COnsensus Reporting Document): a reporting guideline for consensus methods in biomedicine developed via a modified Delphi. *PLoS Med.* 2024;21(1):e1004326.
- [38] Schifano J, Niederberger M. How Delphi studies in the health sciences find consensus: a scoping review. *Syst Rev.* 2025;14(1):14.
- [39] Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Policy Ment Health.* 2015;42(5):533–544.
- [40] Nasa P, Jain R, Juneja D. Delphi methodology in healthcare research: how to decide its appropriateness. *World J Methodol.* 2021;11(4):116–129.
- [41] Williamson PR, Altman DG, Bagley H, et al. The COMET handbook: version 1.0. *Trials.* 2017;18(Suppl 3):280.
- [42] Jünger S, Payne SA, Brine J, Radbruch L, Brearley SG. Guidance on Conducting and REporting DELphi Studies (CREDES) in palliative care: recommendations based on a methodological systematic review. *Palliat Med.* 2017;31(8):684–706.
- [43] Gertner AK, Franklin J, Roth I, et al. A scoping review of the use of ethnographic approaches in implementation research and recommendations for reporting. *Implement Res Pract.* 2021;2:2633489521992743.
- [44] Manyara AM, Purvis A, Ciani O, Collins GS, Taylor RS. Sample size in multistakeholder Delphi surveys: at what minimum sample size do replicability of results stabilize? *J Clin Epidemiol.* 2024;174:111485.
- [45] Ma S, Yu H, Liang N, et al. Components of complex interventions for healthcare: a narrative synthesis of qualitative studies. *J Integr Med.* 2020;18(3):208–217.