

BMJ Open What do older people who have attempted suicide experience? Study protocol for a qualitative meta-synthesis among older adults, family caregivers and healthcare professionals

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ABSTRACT

Introduction Attempted suicide among older adults represents a significant mental health concern that has witnessed a rising incidence within this demographic in recent years. Research indicates that attempted suicide among the older population serves as a primary risk factor for completed suicide. Consequently, the objective of this study is to provide a comprehensive overview of the prevailing factors that influence suicide attempts among older adults, thereby offering evidence to guide healthcare professionals in designing targeted interventions.

Methods and analysis This study will adhere to the Joanna Briggs Institute framework and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols. We will synthesise qualitative studies using a comprehensive and inclusive bibliographic search strategy. The following databases will be searched: PubMed, Embase, Web of Science, CINAHL and the Cochrane Library. The quality of the articles will be assessed using the 10-item Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research. At the same time, data extraction will be performed using the Qualitative Assessment and Review Instrument data extraction form proposed by the Joanna Briggs Institute for Evidence-Based Practice. The synthesis of findings will adhere to the principles and procedures of Thomas and Harden's three-stage thematic synthesis approach.

Ethics and dissemination Ethical approval will not be required for this study, as it solely encompasses data derived from previously published research. The findings will be disseminated through publication in a peer-reviewed journal. Moreover, the results will be presented at relevant academic conferences to guarantee that the study's outcomes reach pertinent stakeholders. This protocol is registered with the PROSPERO prospective database for systematic review.

PROSPERO registration number CRD42023408385.

BACKGROUND

According to a report by the WHO, approximately 800 000 individuals worldwide die by suicide each year, making suicide the 14th leading cause of death globally.^{1 2} The issue of suicide among older adults is increasingly

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Through a dedicated emphasis on qualitative analysis, the manuscript significantly enhances our comprehension of the subjective dimensions related to older adults' suicide attempts, thereby contributing to the enrichment of existing literature.
- ⇒ This study underscores the significance of understanding the causes and contributing factors of suicide attempts among older adults, emphasising the need for healthcare professionals to offer pertinent interventions.
- ⇒ The incorporation of diverse viewpoints from older adults, family caregivers and healthcare professionals enriches the study, offering a comprehensive perspective on the factors that influence suicide attempts in the older population.
- ⇒ The qualitative synthesis additionally narrows its scope by excluding qualitative studies published in languages other than English, primarily due to limited financial resources that preclude the coverage of translation expenses.

recognised as a critical social problem, eliciting widespread concern internationally.

Multiple factors influence older adults suicide. According to the literature, older people have a statistically higher rate of death by suicide than any other age group.³ Previous research suggests that there may be unique factors that contribute to thoughts of suicide in older adults, including social isolation, declines in physical, sensory and cognitive function, childhood trauma, financial distress, multiple medical morbidities and age discrimination.⁴⁻⁷

Suicide rates among older individuals vary significantly across different countries. A study conducted in the USA revealed that those aged 65 or older have a suicide rate nine times higher than individuals aged 10-24. In 2016, over 8800 adults aged 65 or

older died by suicide in North America.⁸ The highest suicide rate within the Australian population is among men aged 85 and above, at a rate of 38.3 suicides per 100 000 individuals.⁹ In 2016, China's age-standardised suicide rate was 8 per 100 000 individuals; however, suicide rates among the age groups of 60–69, 70–79 and 80 and above were 23.4, 44.0 and 61.3, respectively—approximately 3–8 times higher than the general population's suicide rate.¹⁰ A meta-analysis indicated that among China's older population, the proportion of individuals with suicidal ideation ranges from 2.2% to 21.5%.¹¹ It is worth noting that suicide rates in China tend to be higher in rural areas compared with urban areas.¹² Other studies suggest that gender plays a role in suicide attempts, with a higher proportion of females attempting suicide and suicidal ideation than males, while mortality from suicide is typically lower for females than for males.^{13 14} However, there is ongoing controversy regarding gender differences in the context of various mental disorders among suicide attempters. A comprehensive nationwide study of patients with mood disorders revealed a higher incidence of suicide attempts among women compared with men, corroborating previous findings associating female gender with suicide attempts.¹⁵ Another research suggests that women are nearly twice as likely as men to report experiencing moderate difficulty with suicidal ideation and behaviours.¹⁶

Suicide among older adults represents a significant societal concern. As the ageing population continues to expand, the incidence of suicide attempts among older adults is increasing, with profound consequences for both society and families.¹⁷ Suicide attempts not only pose a considerable threat to the physical health of older individuals but also have far-reaching implications for society and families.^{18 19} Research has demonstrated that risk factors for suicide attempts among older adults are closely intertwined with their physical health, psychological well-being and social environment.²⁰ Older adults often face chronic illnesses, bereavement, social isolation and financial challenges, all of which can increase the risk of suicide attempts.²¹ Additionally, older individuals frequently lack adequate support from family and friends, as well as effective coping strategies, heightening their vulnerability to suicide attempts.

Suicide attempts among older adults can have extensive effects beyond the individual. First, they can cause psychological and economic burdens on the families of older adults, such as emotional stress for family members and increased medical expenses.^{22 23} Second, suicide attempts among older adults can also have negative impacts on society and caregivers, such as increasing pressure on medical resources, posing risks to public safety and leaving caregivers vulnerable to adverse physical and psychological outcomes like burnout, fatigue, trauma and reduced health status.^{24 25}

Currently, research on suicide attempts among older adults primarily focuses on identifying risk factors, exploring stressful events leading up to the suicide

attempt and examining postattempt experiences.^{26–28} However, there is a lack of integrated analysis of the results of these qualitative studies to gain a more comprehensive understanding of this topic. Our findings may provide a reference for the development of suicide prevention interventions in the older population.

Hence, the primary aim of this study is to comprehensively synthesise qualitative research on suicide attempts among older adults to offer more robust support and guidance for prevention and intervention initiatives.

Study aims

The objectives of this study are threefold:

1. The primary objective of this study is to furnish an exhaustive collection of qualitative data elucidating the experiences of older individuals who have engaged in suicide attempts. This endeavour seeks to cultivate a profound comprehension of the multifaceted factors that precipitate suicide attempts within the older population.
2. This study also aims to support family caregivers of older adults who have encountered adverse events, recognising the importance of addressing their unique needs and challenges in the aftermath of such distressing circumstances.
3. Furthermore, this research endeavours to formulate psychological intervention strategies tailored for healthcare professionals who are tasked with the care of older individuals who have survived suicide attempts. In addition, it seeks to establish a foundational framework that can serve as a reference point for community-based initiatives aimed at the prevention of suicide among older adults.

METHODS/DESIGN

Registration

In order to enhance the quality of this protocol, adherence to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P) guidelines has been maintained.^{29–31} We have chosen this paradigm because it encourages researchers to construct and interpret their understanding of collected data based on participants' experiences or reported data without imposing their own views or experiences. In accordance with these guidelines, a condensed version of the protocol has been registered on the International Prospective Register of Systematic Reviews (PROSPERO) (registration number: CRD42023408385). This meta-synthesis will also comply with the PRISMA guidelines.

Design

This is a protocol for a qualitative meta-synthesis.

Study inclusion and exclusion criteria

Types of studies

We will include the following:

1. Studies were designed as phenomenology, grounded theory, action research, ethnography and other types

of design, which may be a purely qualitative study or a qualitative part of a mixed-methods study.

2. Studies were published in English due to the limited financial resources for translation.
3. Studies published between the database's establishment and 31 December 2023.
4. Phenomena of interest: understanding, cognition, feeling, experience and perceptions of attempted suicide.

Exclusion criteria

1. All qualitative documents are found in grey literature.
2. Duplicate publications.
3. Articles with incomplete data.

Types of participants

The synthesis will incorporate studies involving the following participant groups:

1. Individuals aged 65 years or older who have experienced a suicide attempt (older adults whose at least one suicide attempt had occurred until 1 year before enrolment), had no psychosis or dementia and were not at increased risk of suicide by participating, could articulate their experiences, volunteered to participate in this study, were allowed by his/her guardian to participate in this study, or signed the informed consent form to participate in this study.
2. Family caregivers of older adults who have experienced attempted suicide.
3. Healthcare professionals who have cared for seniors with previous suicide attempts in their clinical practice.

Types of phenomena of interest

The synthesis will encompass studies that concentrate on descriptions and interpretations of older adults' experiences with suicide attempts, as reported by the older adults themselves, their family caregivers and healthcare professionals.

Types of outcomes studied

This encompasses examining their emotions and personal experiences with the subject matter.

Search strategies for studies

The bibliographic search will be comprehensive and inclusive, encompassing both published studies and those indexed in international databases. The following databases will be searched: Embase, Web of Science, CINAHL, PubMed and the Cochrane Library, with the search time restricted to studies published on or before 31 December 2023. The search process will commence with an initial informal scoping phase, during which a search strategy will be developed. This will be followed by a more formal main phase to identify and collect eligible research. The scoping stage serves to familiarise oneself with existing literature, refine search parameters, identify MeSH terms and keywords and test the preliminary search strategy (table 1). The findings will inform the main stage of the scoping stage and the search strategy guidelines provided by the Cochrane Collaboration. We selected the database

above, as it is most likely to index studies related to the understanding of suicide attempts among older adults and healthcare professionals. Moreover, research has shown that searches conducted on the Web of Science, PubMed and CINAHL yield the highest number of qualitative health studies.³² Please refer to online supplemental appendices 1 and 2 for detailed search steps.

Selection of studies

All search results will be combined and imported into the EndNote bibliographic software (V.9, Clarivate Analytics, Philadelphia, PA, USA). After screening and removing duplicates, the remaining articles' titles, abstracts and summaries will be assessed against the established eligibility criteria by two independent researchers, R1 and R2. Two authors will evaluate the titles and abstracts of the retrieved references in a blinded manner to determine their potential suitability (online supplemental appendices 2 and 3). Reasons for exclusion will be documented at the full-text screening stage. If consensus cannot be reached, a third reviewer, who is also a study team member, will be consulted to achieve a consensus-based decision on whether the record should be retained or excluded (R3). This evaluation will consider whether the studies meet all predetermined criteria, including (1) research design, (2) participant characteristics, (3) explored interventions or phenomena and (4) assessed outcomes. The selection procedure will be depicted in a PRISMA flow diagram, as illustrated in figure 1.

Assessment of the methodological quality of included studies

The methodological quality of the incorporated articles was assessed using the 10-item Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research.^{33 34} The risk of bias pertains to the appraisal of the selected studies' critical evaluation within the meta-synthesis, aiming to gauge the rigour of the chosen qualitative investigations and ascertain that they are free from methodological concerns that could influence the meta-synthesis's conclusions. R1 and R2 researchers will independently evaluate each article (online supplemental appendix 4). In the event of a discrepancy in scoring outcomes, a third impartial reviewer will be employed for arbitration. Percentage agreement, Cohen's kappa (κ), a measure of agreement adjusted for chance and an intra-class correlation coefficient will be computed to assess inter-rater agreement and reliability.^{35 36}

Data extraction

We will use a data extraction form to collect information about the selected studies. The Qualitative Assessment and Review Instrument (QARI) data extraction tool will be used for data extraction, as it is a template recommended by the Joanna Briggs Institute for Evidence-Based Practice.³⁷ This tool is typically used to help researchers or evaluators collect, organise and analyse qualitative data to gain in-depth insights into specific topics or issues. In this study, two reviewers (R1 and R2)

**Table 1** Search strategy example (PubMed)

Search step	Search query
#1	'Aged' [Mesh]
#2	((((((((((Elderly[Title/Abstract]) OR (the elderly[Title/Abstract])) OR (elderly people[Title/Abstract])) OR (the aged[Title/Abstract])) OR (aging dependents[Title/Abstract])) OR (seniors[Title/Abstract])) OR (senior citizens[Title/Abstract])) OR (older adults[Title/Abstract])) OR (older people[Title/Abstract])) OR (person 65 years[Title/Abstract] AND older[Title/Abstract])) OR (the older population[Title/Abstract])) OR (Geriatric[Title/Abstract])
#3	#1 OR #2
#4	'Family'[Mesh]
#5	((((((((((Families[Title/Abstract])) OR (Family Members[Title/Abstract])) OR (Family Member[Title/Abstract])) OR (Relatives[Title/Abstract])) OR (Filiation[Title/Abstract])) OR (Kinship Networks[Title/Abstract])) OR (Kinship Network[Title/Abstract])) OR (Network, Kinship[Title/Abstract])) OR (Networks, Kinship[Title/Abstract])) OR (Family Life Cycles[Title/Abstract])) OR (Life Cycle, Family[Title/Abstract])) OR (Life Cycles, Family[Title/Abstract])) OR (Family Life Cycle[Title/Abstract])) OR (Family Research[Title/Abstract])) OR (Research, Family[Title/Abstract])
#6	#4 OR #5
#7	'Health Personnel'[Mesh]
#8	((((((((((Personnel, Health[Title/Abstract]) OR (Health Care Providers[Title/Abstract])) OR (Health Care Provider[Title/Abstract])) OR (Provider, Health Care[Title/Abstract])) OR (Healthcare Providers[Title/Abstract])) OR (Healthcare Provider[Title/Abstract])) OR (Provider, Healthcare[Title/Abstract])) OR (Healthcare Workers[Title/Abstract])) OR (Healthcare Worker[Title/Abstract])) OR (Health Care Professionals[Title/Abstract])) OR (Health Care Professional[Title/Abstract])) OR (Professional, Health Care[Title/Abstract])
#9	#7 OR #8
#10	#3 OR #6 OR #9
#11	'Suicide, Attempted'[Mesh]
#12	((((((((((Attempted Suicide[Title/Abstract]) OR (Suicide Attempt[Title/Abstract])) OR (Attempt, Suicide[Title/Abstract])) OR (Parasuicide[Title/Abstract])) OR (Parasuicides[Title/Abstract])) OR (Suicidal ideation[Title/Abstract])) OR (Self-harm[Title/Abstract])) OR (Suicide[Title/Abstract] NOT completed[Title/Abstract])) OR (Suicide Failed[Title/Abstract])) OR (Suicide Survived[Title/Abstract])) OR (suicidal behavior[Title/Abstract])) OR (self-injurious behavior[Title/Abstract]) 84,003 #6 ("Suicide, Attempted"[Mesh]) OR (((((((((((Attempted Suicide[Title/Abstract]) OR (Suicide Attempt[Title/Abstract])) OR (Attempt, Suicide[Title/Abstract])) OR (Parasuicide[Title/Abstract])) OR (Parasuicides[Title/Abstract])) OR (Suicidal ideation[Title/Abstract])) OR (Self-harm[Title/Abstract])) OR (Suicide[Title/Abstract] NOT completed[Title/Abstract])) OR (Suicide Failed[Title/Abstract])) OR (Suicide Survived[Title/Abstract])) OR (suicidal behavior[Title/Abstract])) OR (self-injurious behavior[Title/Abstract]))
#13	#11 OR #12
#14	((((((((((((((qualitative research[Title]) OR (qualitative study[Title])) OR (qualitative studies[Title])) OR (focus group[Title])) OR (interview[Title])) OR (semi-structured interview[Title])) OR (unstructured interview[Title])) OR (narration[Title] OR narrative[Title])) OR (hermeneutic[Title])) OR (phenomenolog[Title])) OR (phenomenological research[Title])) OR (ethnographic research[Title] OR thematic analysis[Title])) OR (ethnographic research[Title] OR thematic analyse[Title])) OR (content analyse[Title])) OR (content analysis[Title])) OR (grounded theory[Title])) OR (experience[Title])) OR (experience[Title])) OR (experiences[Title])
#15	#10 AND #13 AND #14

will independently input data into the online JBI-QARI, and results will then be verified by a third reviewer (R3). If additional information not found within the publication is required, the study's corresponding author will be contacted for clarification. The data extraction sheet will include, at a minimum, the following information: the included methods, phenomena of interest, the setting of the research, geographical context, cultural context, information about participants, data analysis, conclusions of the study and the reviewers' conclusions (online supplemental appendix 5). In addition, we will extract

some details for inclusion in the article, such as source ID, full citations, authors' names, titles, publication years, journal names, publication types, study objectives, study designs, sample sizes and relevant stakeholders.

Data analysis and synthesis

The analysis of the data aims to understand the experiences of older people who have attempted suicide, the experiences of relatives and healthcare workers. The synthesis will adhere to the principles of thematic synthesis and have an epistemological orientation

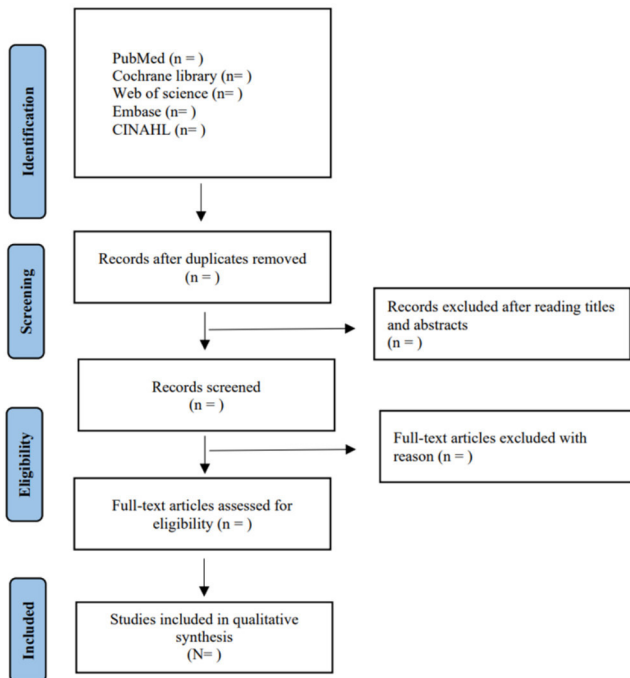


Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram of the study selection process.

consistent with constructivism.^{38 39} Thematic synthesis, as a form of meta-synthesis, aims to amalgamate the findings from primary qualitative studies to yield fresh interpretations, explanations, or hypotheses in alignment with the review's scope. The analysis will comprise three primary stages, using Thomas and Harden's three-stage thematic synthesis approach.³⁹ First, relevant texts will undergo line-by-line coding. The authors will acquaint themselves with the data, and one author will inductively generate initial codes to encapsulate the ideas present in the data. This procedure will be reiterated through multiple iterations until no additional codes are necessary. Individual data fragments may be assigned multiple codes. A second author will review a randomly chosen sample constituting 10% of the coded data to ensure coding accuracy. Discrepancies will be documented and a disagreement score will be computed. Disagreements will subsequently be deliberated and resolved by involving an additional author.

Second, the organisation of codes into descriptive themes will occur. Two authors will independently arrange individual codes into more comprehensive themes. These authors will then collaborate to develop a descriptive theme that accurately mirrors the data and engage in discussions with a broader group of authors. The themes will be refined until optimally aligned with the data. This stage will be interpretive, aiming to generate novel insights.

Lastly, the two authors will independently reevaluate the data organised into descriptive themes to deduce attempted suicide. A separate table will demonstrate how each study's data is represented within the coding. NVivo (V.12) will be employed to facilitate the processing and

analysis of text to generate codes and themes that are more standardised and convenient.

Assessment of confidence in the evidence

The Confidence in the Evidence from Reviews of QUALitative research (GRADE-CERQual) approach will be used to establish the degree of confidence that may be placed in the findings from this systematic review and qualitative synthesis.⁴⁰ The GRADE-CERQual approach was chosen as the preferred method for evaluating the quality of evidence due to its specific emphasis on qualitative research, its incorporation of multiple interdependent components in the assessment of evidence confidence, and its alignment with other established GRADE approaches frequently used for appraising evidence quality. The GRADE-CERQual approach is designed to evaluate the confidence in individual review findings by appraising the methodological limitations of the included studies, coherence (ie, the alignment between primary data and the review finding), data adequacy and relevance (ie, the extent to which data from primary studies supporting a review finding apply to the context specified in the review question). The overall confidence in each review finding (ie, for each generated theme) will be rated as high, moderate, low or very low. GRADE-CERQual assessments will be conducted independently by two authors, Sun and Lei. Any disagreements will be resolved through discussion until a consensus is reached.

Patient and public involvement

The involvement of patients and the public is crucial in conducting relevant, meaningful, and impactful research. In this study, we will solicit advice from relatives of older people and healthcare professionals, all of whom will provide valuable insights with a significant impact on the formation of our study protocol. Their input will also be carefully considered when interpreting and integrating our final findings. They will also be involved in developing dissemination strategies for the assessment results, including working collaboratively on an easy-to-understand summary to share with the public through social media.

Publishing the protocol

Publishing in peer-reviewed journals promotes transparency, credibility, and quality. It enables feedback, increases visibility and advances the field.

Ethics and dissemination

External ethical approval is unnecessary for this review, as it involves retrospective analysis and secondary usage of publicly available primary data. The findings from this review will be shared through publication in a peer-reviewed manuscript, as well as through conference symposia and presentations.

DISCUSSION

As the population ages and the number of older individuals increases, the prevalence of psychological issues



within this demographic also rises.⁴¹ Suicide attempts are significant clinical events that lead to a variety of adverse effects, serving as a primary source of distress, morbidity and economic burden.¹⁹ Also, those who survive attempted suicide may suffer from consequences such as brain injury and broken bones.⁴² Previous research has revealed that approximately 18% of individuals who attempt suicide make a second attempt in the following year.⁴³ In 2013, the total annual estimated economic burden of suicide attempts in the USA exceeded \$8 billion.¹⁸ According to the WHO, it has been estimated that in 2020, there will be 1.53 million suicides, constituting 2.4% of the overall burden of disease.⁴⁴ Hence, preventing suicide is a leading public health and research priority. Studies have indicated that within primary care settings, evidence-based screening tools and structured clinical interviews can aid physicians in accurately identifying cases.⁴⁵ Additionally, having guidelines for addressing various levels of suicidal ideation can assist primary care physicians in making informed treatment and referral decisions.

This study aims to synthesise existing qualitative research on suicide attempts among older adults in order to analyse the primary risk and protective factors. It highlights the importance of examining the underlying causes and motivations for suicide attempts in older adults through the integration of this qualitative research.

In the future prevention of attempted suicide among older adults, proposed preventive and intervention measures include mental health education, the establishment of social support systems and the reinforcement of interpersonal relationships. Consequently, the identification of qualitative evidence proves exceptionally beneficial for healthcare administrators and providers in implementing intervention strategies for older adults, as well as in developing policies and attaining consensus.

Study results may consolidate qualitative research on suicide attempts among older adults to establish a foundation for future suicide prevention strategies, a matter of significant practical importance. Nevertheless, excluding grey literature and non-English language studies may restrict the comprehensiveness of the evidence compiled in this meta-synthesis. In spite of this limitation, we are committed to collaborating with a librarian to ensure a comprehensive search of relevant databases and journals to capture as much relevant evidence as possible. Furthermore, in future studies, it is imperative to maintain ongoing monitoring of the mental health status of older people.

Implications

The results of this qualitative meta-synthesis on suicide attempts among older adults carry several implications for various stakeholders, including researchers, healthcare professionals, policymakers and older adults themselves. This meta-synthesis highlights potential gaps in the current literature on suicide attempts among older adults and can guide future research in this area. Researchers can build on the findings to explore novel preventive and

intervention strategies, as well as investigate the cultural, social and environmental factors that contribute to suicide risk in this population. The insights gained from this meta-synthesis can inform healthcare professionals in developing targeted interventions and treatment plans for older adults at risk of suicide attempts. By understanding the primary risk and protective factors emerging from qualitative research, clinicians can better tailor their approaches to address the specific needs of this population. Policymakers can use the synthesised evidence to create guidelines, policies and initiatives aimed at reducing suicide rates among older adults. These policies may focus on mental health education, social support systems and enhancing interpersonal relationships within this demographic. By raising awareness of the risk factors associated with suicide attempts in older adults, this study can encourage open dialogue among older individuals, their families and caregivers. This can lead to better support networks and facilitate early identification and intervention for at-risk people.

Overall, the significance of this qualitative meta-synthesis will lie in highlighting the importance of a holistic approach to addressing suicide attempts in older adults, with potential areas that may include clinical practice, policymaking, research and community engagement.

Study status

The review is ongoing and is expected to be completed by the end of 2023.

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Contributors The inception of this study was developed by contributors KS and YL, who also composed the initial draft of the protocol. KS, CL, XZ, HL and YL significantly contributed to refining the protocol design and preparing subsequent drafts. All authors have approved the submitted protocol and assume responsibility for its content.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

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