Patient-Reported Maternal Care Quality Measures: A Scoping Review Protocol

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Protocol

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Abstract

Background

Despite the global decline in maternal mortality ratio, the burden of this global health problem differs considerably by a country's economic development status and geographic region. Research suggests that ensuring high-quality maternal care services is crucial for significantly reducing the global maternal mortality ratio. Health practitioners and researchers must be able to measure and assess maternal care quality in facilities; yet, there are many challenges such as lack of consensus on definitions and measures that may not be practical in facility settings. Whereas previous work has focused on clinical indicators used to measure maternal care quality in developing countries, this scoping review will be the first to address the ways in which patient-reported maternal care quality is defined, conceptualized, and measured across low-, middle-, and high-income countries; and to identify, evaluate, and summarize existing patient-reported measures of maternal care quality.

Methods

For this scoping review, we will conduct searches for peer-reviewed studies from Ovid MEDLINE, Embase, Amed, WHO Global Index Medicus, and grey literature sources. Published studies in English until August 31, 2020 focused on the measurement of maternal care quality will be included. Screening and data extraction will be completed independently by two members of the review team. We will analyze the evidence using a critical appraisal tool and best practice guideline for developing and validating scales.

Discussion

The review will provide researchers and practitioners with a summary of existing definitions, frameworks, and measures for assessing maternal care quality along with associated psychometric evidence. The review will also lay the groundwork for developing a comprehensive patient-reported maternal care quality measure.

Background

In the last 25 years, the global maternal mortality ratio (MMR) declined nearly 44%.[1] Despite this global decline, the burden of maternal mortality differs considerably by country economic development status and geographic region.[1] For example, low- and middle-income countries (LMICs) account for approximately 99% of global maternal deaths.[1] Among high-income countries (HICs), MMR rates steadily declined from 1990 to 2015, with the United States having the highest rates of maternal deaths compared to its peer HICs.[2] In 2015, all United Nations member countries adopted the 2030 Agenda for Sustainable Development.[3] The agenda outlines 17 Sustainable Development Goals (SDGs) and 169 targets that represent a call to action for all countries—developed and developing—to “ensure healthy
lives and promote wellbeing for all at all ages”. [3] In particular, the aim of SDG Target 3.1 is to “reduce the global maternal mortality ratio to less than 70 maternal deaths per 100,000 live births by 2030. [3] Available evidence suggests that if all participating countries meet SDG Target 3.1, the lives of an estimated 1.6 million women could be saved. [4] There is growing consensus that targeting maternal care quality will be a necessary approach to achieving the SDG Target 3.1. [5–7]

The burgeoning literature suggests that increasing maternal healthcare access alone is insufficient for achieving SDG Target 3.1. [6] First, access to maternal healthcare services does not guarantee high quality care. For example, women across multiple country contexts report experiences of poor quality maternal care which often can deter them from seeking or utilizing necessary maternal care services even if they are readily accessible. [5, 8–11] Second, access to maternal healthcare does not appear to guarantee significant reductions in maternal mortality. For instance, one study found that high coverage of essential maternal health interventions was not associated with reduced maternal mortality in over 300 health facilities across 29 countries. [12] The authors suggest that both maternal healthcare access and maternal care quality need to be addressed in order to dramatically reduce adverse maternal health outcomes. [12] Thus, targeting maternal care quality may be a crucial step towards reducing the global burden of maternal mortality. [6]

In order to reduce the global burden maternal mortality and achieve SDG Target 3.1, health practitioners and researchers must be able to continuously measure and assess maternal care quality. This requires appropriate indicators that will facilitate the identification and tailoring of suitable maternal and child health interventions. To date, there is no gold standard for the definition, conceptualization, and measurement of maternal care quality. An example of a contemporary definition of maternal care quality is “the degree to which maternal health services for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights.” [13] Several frameworks have also been developed to conceptualize maternal care quality. [13–16] Based on the literature, maternal care quality is a multidimensional, contested and complex concept that presents challenges in conceptualization and measurement. [17] A key example is the work of Donabedian (1988) that outlined three components of care quality: structure (e.g., material resources, human resources, organizational structure), process (e.g., what is done in giving and receiving care), and outcomes (e.g., effects of care on the health status of patients and populations). [14] However, there have been challenges with the measurements of these domains either separately or holistically. The lack of consensus and heterogeneity in theoretical frameworks limits studies’ generalizability and comparability. [15, 18]

In terms of measurement, most of what has been developed are clinical indicators that focus either on a single or multiple aspects of maternal care quality. Less is known about patient-reported measures of maternal care quality, which can be useful for monitoring and improving factors known to influence women’s health outcomes and healthcare utilization behaviors. Furthermore, there are a number of limitations that beset existing measures and clinical indicators. Most of these constructs and indicators do not have formative work, have not been systematically validated for assessing routine antenatal,
intrapartum, and immediate postpartum care, and differ in geographical use. Also, existing measures and indicators are often long, difficult to administer, and require significant financial and human resources to implement. The large number of indicators increases difficulty with routine assessment and the likelihood of measurement errors.

Scoping Review Objectives

The objectives of this scoping review are to (1) understand how maternal care quality has been defined, conceptualized, and measured; and (2) identify, evaluate, and summarize existing patient-reported measures of maternal care quality.

Prior reviews on maternal care quality and measurement have largely focused on clinical indicators rather than patient-reported measures; and developing countries rather than multiple country contexts. To our knowledge, our scoping review will be the first to summarize the ways in which patient-reported maternal care quality is defined, conceptualized, and measured across low-, middle-, and high-income countries; and to provide a summary of existing high-quality, validated patient-reported measures and their corresponding country context.

Methods And Design

Design and Registration

We considered scoping review to be the most appropriate approach for addressing the broad aim of the planned review. A scoping review is a type of knowledge synthesis used for mapping fundamental concepts and identifying gaps in the literature by systematically examining, selecting, and integrating existing heterogeneous research studies. This protocol is based on the scoping review methodology endorsed by the Joanna Briggs Institute (JBI). [27] We used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Protocols (PRISMA-P) reporting guideline to draft this protocol.[28] The protocol was registered on the Open Science Framework on 10 June 2020.[29]

Eligibility Criteria

Participants

This review will consider any source that focuses on the measurement of maternal care quality among pregnant or postpartum women.

Context

This review will include studies from countries with low-, middle-, and high-incomes as defined by World Bank classifications, which categorize nations based on their gross national income per capita. Studies will be included regardless of country of origin or socio-cultural setting.

Concept
The concept of interest is perceived maternal care quality, generally defined as the extent to which antepartum, intrapartum, and/or postpartum health services provided to women are delivered in a safe, effective, timely, efficient, equitable, and patient-centered manner.

**Outcomes**

There will be no exclusions or restrictions on health effects studied, as the review will include all relevant human health outcomes.

**Types of Sources**

All peer-reviewed publications published at any time up to the onset of the review.

This review will include experimental studies, quasi-experimental studies, analytical observational studies (including prospective and retrospective cohort, case-control and cross-sectional studies), and descriptive observational studies. To avoid publication bias, unpublished studies and grey literature will be included in this review. This review will also include studies published in English.

Since the aim of this review is to identify quantitative instruments, qualitative studies, systematic reviews, meta-analyses, and scoping reviews will be excluded from this review. However, the authors will review these sources to identify citations. Editorials, letters, and case reports will be excluded.

**Search strategy**

The research team will collaboratively identify the key terms for the search strategies; and the research librarians will develop strategies, utilizing input from all authors and testing for maximum sensitivity, keeping in mind specificity. Specificity will be calculated by dividing the total number of records identified by the number of relevant records identified. Once the central search strategy is developed, it will be peer-reviewed by an expert medical librarian before being translated for use in the other databases.

The librarians will have strategies for each database, searching for peer-reviewed publications in the following databases: Ovid MEDLINE, Embase, Amed, WHO Global Index Medicus, Grey: BioMed Central Journals, Google Scholar, and ProQuest Dissertations and Theses. The World Health Organization International Clinical Trials Registry Platform (ICTRP) was not used because it is currently closed to non-WHO staff due to high use during COVID-19 pandemic. Our central search strategy is available in Supplemental file 1.

Metadata from all identified records will be collected and uploaded to EndNote and duplicates removed. Once duplicates are removed, the librarians will export the remaining records from EndNote and import them into Zotero. This review will use a two-stage screening process as a large number of studies are expected. The first screening phase will consist of reviewing the titles and abstracts of each record and removing articles that are irrelevant. The second screening phase will consist of reviewing the full text of included articles. After reading each paper, further irrelevant articles will be removed from the study sample. The remaining articles will have relevance to the study question and will be put forward for data
extraction. Each stage of this process will be completed by two reviewers (KB and GB) independently with disagreement resolved initially by consensus and if needed by a third reviewer. A summary of the study selection process will be presented as a PRISMA flowchart. A table of excluded studies and reasons for exclusion will be provided.

**Extraction of the results**

Information about each article included in the review will be extracted using a data extraction tool adapted from JBI. Result details will include: (1) database searched, (2) search date, (3) search string with limiters, (4) results retrieved, and (5) number of duplications removed. The data extraction tool will be piloted by two reviewers on two papers initially and where indicated, modifications will be made. However, there may be further refinements added to include any relevant data that was not initially included during the extraction process. Data from all included studies will then be charted by the first reviewer (KB) and extraction checked by the second reviewer (GB). The data extraction form will contain the following fields:

- Author
- Year of Publication
- Origin/Country
- Country Income Status
- Publication title
- Aim/Purpose
- Sample Characteristics
- Sample Size
- Context
- Definition of Maternal Care Quality
- Concept used
- Instrument developed or used
- Instrument development methodology (Is there evidence that best practices were applied?)
- Number of items
- Instrument Constructs
- Instrument Dimensions
- Instrument Psychometric Properties (content validity, construct validity; reliability)
- Limitations and Challenges
- Implications for researchers and clinicians
- Recommendations for Further Study

**Analysis of the evidence**
A formal assessment of methodological quality is not a typical feature of a scoping review. However, for the purposes of this review, the reviewers (KB and GB) will evaluate the methodological quality and risk for bias in each included study independently. To evaluate the methodological quality and risk for bias for observational studies, the reviewers will use the Appraisal tool for Cross-Sectional Studies (AXIS).[30] We will also assess whether existing constructs on maternal care quality have been robustly developed by Boateng and colleagues.[31] Following the three phases and nine steps, we will determine whether the constructs developed in phase 1 had the domains and items identified based on inductive and deductive techniques, with the content validity assessed; in phase 2, we will assess whether scale items were pretested and how items were systematically generated; in phase 3, we will evaluate the constructs to determine their methodological quality; i.e., whether they are reliable and were tested for internal and external validity. Disagreements will be resolved by consensus or involvement of a third reviewer, if needed.

Presentation and synthesis of the evidence

A descriptive table will be developed to summarize information such as the instrument name, country of origin, sample characteristics, maternal care quality definition, instrument constructs and dimensions, number of items, whether the instrument was developed using best practices, psychometric properties, and quality rating. The descriptive table will be organized to indicate whether the instrument was developed for women living in low-, middle-, or high-income country contexts.

A narrative synthesis of included studies will focus on overarching similarities and differences in maternal care quality definition, conceptualization, and measurement across global contexts (e.g., low-, middle-, and high-income countries). The narrative synthesis will also discuss, based on information provided in included studies, existing limitations and knowledge gaps in this topic area.

Protocol amendments

If there is a need to amend this protocol following its publication, we will provide the date of each amendment, describe the change(s), and report the reason for the change(s) in future publications based on this protocol.

Discussion

The results from this scoping review is expected to provide a comprehensive understanding of the ways in which maternal care quality is defined, conceptualized, and measured across multiple global contexts. In addition, the review results will potentially make it easier for researchers and practitioners to identify high quality, contextually appropriate measures for maternal care quality. Finally, the review results will lay the groundwork for developing comprehensive patient-reported maternal care quality measures that are cross-culturally relevant.

Abbreviations
Declarations

Ethics approval and consent to participate

This scoping review does not require ethics approval.

Consent for publication

All authors have provided consent for publication.

Availability of data and materials

Not Applicable.

Competing interests

The authors declare that they have no competing interests.

Funding

The authors have no funding source to declare.

Authors’ contributions

KB and GB conceptualized the review study, developed the initial protocol draft, and co-wrote the manuscript. POW and LH co-edited the protocol, co-developed and co-tested the peer-reviewed search strategy, and contributed to manuscript feedback and edits. All authors approved the final manuscript before submission.

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