Experiences of Birth Attendants on upward obstetric emergency referrals in low-and-middle-income countries: A scoping review protocol

Final Z Juqu, Esther L Mbobnda Kapche, Olivia B Baloyi, Wilma ten Ham-Baloyi, Geldine Chironda

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Abstract

Background: Every day, approximately 800 women die from pregnancy-related causes, alongside 2.6 million stillbirths and 2.8 million neonatal deaths annually. Inadequate referral by skilled birth attendants hinders timely access to necessary emergency obstetric care, challenging progress towards the maternal health Sustainable Development Goal (SDG 3). The COVID-19 pandemic further disrupted care in low- and middle-income countries, forcing women to rely on traditional birth attendants, thereby affecting the referral system. It is crucial to understand the experiences of both skilled and traditional birth attendants with upward referrals in emergency obstetric care to identify barriers and facilitators within these systems in low- and middle-income countries.

Objective: This study aims to map existing evidence on the experiences of skilled and traditional birth attendants regarding upward referral systems in emergency obstetric care within low- and middle-income countries.

Methods: We will conduct a scoping review guided by the Joanna Briggs Institute's methodological framework. Studies will be included if they report on experiences with upward referral in obstetrical emergencies. We will consider studies published in English and French from 2016 to July 2024. The literature search will be conducted in databases including PubMed, EBSCOhost (Academic Search Complete, CINAHL with full text), Scopus, Web of Science, and Google Scholar. Identified citations will be managed using EndNote version 21 and Rayyan. Two independent reviewers will screen eligible studies, resolving disagreements through discussion with a third reviewer. Data will be extracted using a validated form and analyzed through content analysis, with findings presented narratively. This protocol aligns with the PRISMA-ScR guidelines.

Results: The review will offer a comprehensive narrative on upward referral systems in obstetrical emergencies, focusing on transitions from traditional birth attendants to healthcare facilities and from lower to higher levels of healthcare. Findings will be disseminated through medical education conferences and publications.

Conclusions: This scoping review could significantly impact maternal and neonatal care by identifying the referral experiences of skilled and traditional birth attendants. The insights may inform interventions that integrate traditional birth attendants into healthcare systems, potentially reducing maternal and neonatal mortality. The results will guide future research aimed at developing a model to improve upward referrals for obstetric emergencies in Sub-Saharan Africa. Clinical Trial: Not applicable.

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Scoping review protocol

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Keywords: Referral systems; upward referral; obstetric emergencies; Traditional birth attendants; skilled birth attendants; low-and-middle-income countries

Introduction

Pregnancy and childbirth can pose risks to both the mother and foetus [1], sometimes leading to life-threatening situations known as obstetric emergencies [2]. In such cases, specialized care is necessary, typically provided through a well-established referral system [3]. This system ensures a smooth transfer of patients between different levels of healthcare facilities, optimises service delivery, and reduces the risk of complications [4] that can lead to mortality. Skilled birth attendants (SBAs) and traditional birth attendants (TBAs) are crucial in this process [5,6]. Alongside pregnant women, these frontline caregivers navigate the complexities of pregnancy and childbirth, often requiring swift intervention to ensure positive maternal and neonatal outcomes. However, the varying experiences of different stakeholders can negatively impact the obstetric referral process [7]. Every day, approximately 800 maternal deaths occur due to pregnancy-related causes [8], alongside 2.6 million stillbirths and 2.8 million neonatal deaths annually [9]. The global community is committed to improving healthcare quality to address these alarming statistics [8]. In line with Sustainable Development Goals (SDG) 3, which aims to ensure healthy lives and well-being for all, specific targets highlight the urgency of action. SDG 3, Target 1, aims to reduce the global maternal mortality ratio (MMR) to below 70 maternal deaths per 100,000 live births by 2030. Target 2 seeks to prevent deaths of new-borns and children under five to less than 25 deaths per 1,000 live births and reduce neonatal mortality to 12 deaths per 1,000 live births [10]. However, challenges remain, especially in low- and middle-income countries (LMICs) [8].

Despite the United Nations' recognition of the right to access the highest attainable standard of physical health, including the integration of referral systems [11], obstetric emergencies continue to pose significant threats to the health and lives of mothers and new-borns worldwide [8]. TBAs historically played a pivotal role in maternal healthcare before the formalization of midwifery, but interest in their role has diminished over time [5,12]. Since the 2000s, the focus has shifted toward skilled birth attendance, sidelining TBAs in routine deliveries due to their ineffectiveness in reducing maternal mortality [6]. Nevertheless, a significant proportion of women in LMICs continue to seek TBA services, highlighting their enduring importance [13].

In contrast, SBAs are recognized as a key strategy for reducing high maternal mortality rates and are pivotal indicators of progress in maternal mortality reduction efforts [6]. Addressing high maternal mortality rates through referral systems requires a comprehensive understanding of the experiences of pregnant women, SBAs, and TBAs [6]. However, the current healthcare system operates in fragmented silos, hindering collaboration between different systems. This lack of integration undermines efforts to combat maternal mortality, despite some pregnant women preferring TBA practices over Western medicine [12].

Research based on the Three Delays Model by Thaddeus and Maine highlights challenges affecting the timeliness of obstetric referrals within healthcare facilities. These challenges occur at both patient and institutional levels, impacting the referral process [6]. They include difficulties in identifying and reaching healthcare facilities, often involving TBAs in referrals, and obstacles in receiving adequate care, often linked with SBAs responsible for essential obstetric care during pregnancy [15].

To improve maternal health outcomes, it is crucial to explore and understand the experiences of women, TBAs, and SBAs. Understanding stakeholders' perceptions and navigation of the referral process can help identify gaps in service delivery, such as limited access to emergency obstetric care facilities or communication challenges between healthcare providers and pregnant women. Addressing these challenges can enhance the efficiency and effectiveness of obstetric referral systems, ensuring timely access to needed care for women.

Although previous reviews have examined referrals in obstetric emergencies since the adoption of the SDGs, none have included both SBAs and TBAs in the same review, advocating for an integrated referral system that can save the lives of mothers and babies. Therefore, this review aims to provide a comprehensive overview of the current state of birth attendants' experiences with referral systems in obstetric emergencies in developing countries. By examining existing literature and exploring the experiences and perspectives of birth attendants, the review seeks to highlight intervening factors and offer insights for further research and policy development.

Methods

Study design

Using the steps of Joanna Briggs Institute (JBI) Scoping Review Methods [16] the researchers will examine and map the available literature related to the experiences of birth attendants on upward obstetric emergency referrals in low-and-middle-income countries. A scoping review protocol will be developed and registered with the Open Science Framework (OSF). The protocol will be implemented and the PRISMA-ScR will be used to guide the reporting.

Main objective and review questions

The main objective of the review is to consider available evidence with regards to birth attendants experiences of upward referral systems in emergency obstetric care in Sub-Saharan Africa from inception of the SDGs. Based on the objective of this review, the following research questions were developed:
   1.   What are the publication characteristics of evidence on upward obstetric referrals?
   2.   What are the experiences of birth attendants with regards to upward obstetric emergency

referrals in low-and-middle-income countries?

Eligibility criteria

Eligibility criteria for this review will draw from the JBI mnemonic for the formulation of systematic review questions describing the population, concept, and context of the study [16]. Table 1 summarises the criteria.

Table 1: Eligibility criteria

Criterion	Inclusion	Exclusion
Population		
	Skilled birth attendant Professional healthcare worker who attends to pregnant women Traditional birth attendant Unskilled person who attends to pregnant women	Professional healthcare worker who does not attend to pregnant women Unskilled person who does not attend to pregnant women
Concept		
	Upward referral of women during labour and childbirth Referral of women during pregnancy Referral from TBAs to a healthcare facility	Referral of women outside of the pregnancy and childbirth experience Neonatal emergencies
Context		
	Low-and-middle-income countries	High-income countries
Study designs		
	Qualitative designs Quantitative designs Mixed-methods designs Conference proceedings abstracts Gray literature	Letters to editor Reviews
Time period		

	From January 2016 to July 2024	Before 2024

Population

The scoping review will source all relevant peer-reviewed and grey literature that takes as its objective and the study of upward referral systems in emergency obstetric care in LMICs. The population sample for the review will be birth attendants who include SBAs and TBAs.

Concept

The concept will be guided by the following: Experiences; Perceptions, upward obstetric emergency referrals. According to the World Health Organization [17], "referral can be defined as a process in which a health worker at one level of the health system, having insufficient resources (drugs, equipment, skills) to manage a clinical condition, seeks the assistance of a better or differently resourced facility at the same or higher level to assist in, or take over the management of, the client's case". Furthermore, an obstetric emergency is defined by a complication or situation of a serious and often dangerous nature, developing suddenly and unexpectedly and demanding immediate attention in order to save lives [8].

Context

The context will be low-and-middle-income countries within emergency obstetric care settings.

Types of Sources

This scoping review will consider both experimental and quasi-experimental study designs including before and after studies and interrupted time-series studies. In addition, analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will be considered for inclusion. This review will also consider descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies. Qualitative studies will also be considered that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research and feminist research. In addition, text and opinion papers will also be considered for inclusion in this scoping review.

Search strategy

An initial limited search in PubMed and ScienceDirect was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy (Table 2).

Table 2. Preliminary Search strategy

Date	Database	Search query	Results
29/1/24	PubMed	(("obstetric labor complications"[MeSH Terms] OR ("obstetric"[All Fields] AND "labor"[All Fields] AND "complications"[All Fields]) OR "obstetric labor complications"[All Fields]) AND ("referral and consultation"[MeSH Terms] OR ("referral"[All Fields] AND "consultation"[All Fields]) OR "referral and consultation"[All Fields] OR ("hospital"[All	11

|		Fields] AND "referrals"[All Fields]) OR "hospital referrals"[All Fields]) AND ("developing countries"[MeSH Terms] OR ("developing"[All Fields] AND "countries"[All Fields]) OR "developing countries"[All Fields])) AND (2016/1/1:2024/1/31[pdat])	
3/7/2024	Science Direct	referral OR referral process OR referral pathway OR care pathway) AND obstetric labour complications AND developing countries	712

Secondly, a systematic search will be conducted across four remaining electronic databases, namely EBSCOhost (including Academic Search Complete and CINAHL with full text), Scopus, Web od Science, and Google Scholar.

The search strategy, including all identified keywords and index terms, will be adapted for each included database and/or information source. Peer-reviewed journals will be reviewed for primary studies with a clear empirical base utilising qualitative, quantitative, and mixed methods addressing the research question. Studies will be identified by searching literature from January 2016 to July 2024. In addition, articles will be searched through the "cited by" search as well as citations included in the reference lists of included articles. The search terms will include referral system, LMICs, obstetric emergency, SBAs, TBAs, COVID-19. Boolean terms (AND and OR) will be used to separate the keywords, and Medical Subject Headings (MESH) terms will also be included during the search. The syntax will be modified where needed. Reference lists of selected articles will also be searched for other articles of interest. The services of an experienced subject librarian will be used to ensure that a robust review search strategy is followed. The search strategy will be piloted to check the appropriateness of selected electronic databases and keywords. To compile all relevant evidence sources, identify and remove duplicate records; EndNote X21 reference manager will be used to import and manage eligible studies.

Study/Source of Evidence selection

Following the search, all identified citations will be collated and uploaded into *EndNote version 21 (Clarivate Analytics, PA, USA),* and then *Ryann systematic review app* and duplicates will be removed. Following a pilot test, titles and abstracts will then be screened by FJ and EMK independently for assessment against the inclusion criteria for the review. Potentially relevant sources will be retrieved in full. The full text of selected citations will be assessed independently against the inclusion criteria by FJ and EMK. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved by OB. The results of the search and the study inclusion process will be reported in full in the final scoping review and presented in a PRISMA-ScR flow diagram [18] (see Figure 1).

Figure 1. Prisma 2020 flow diagram
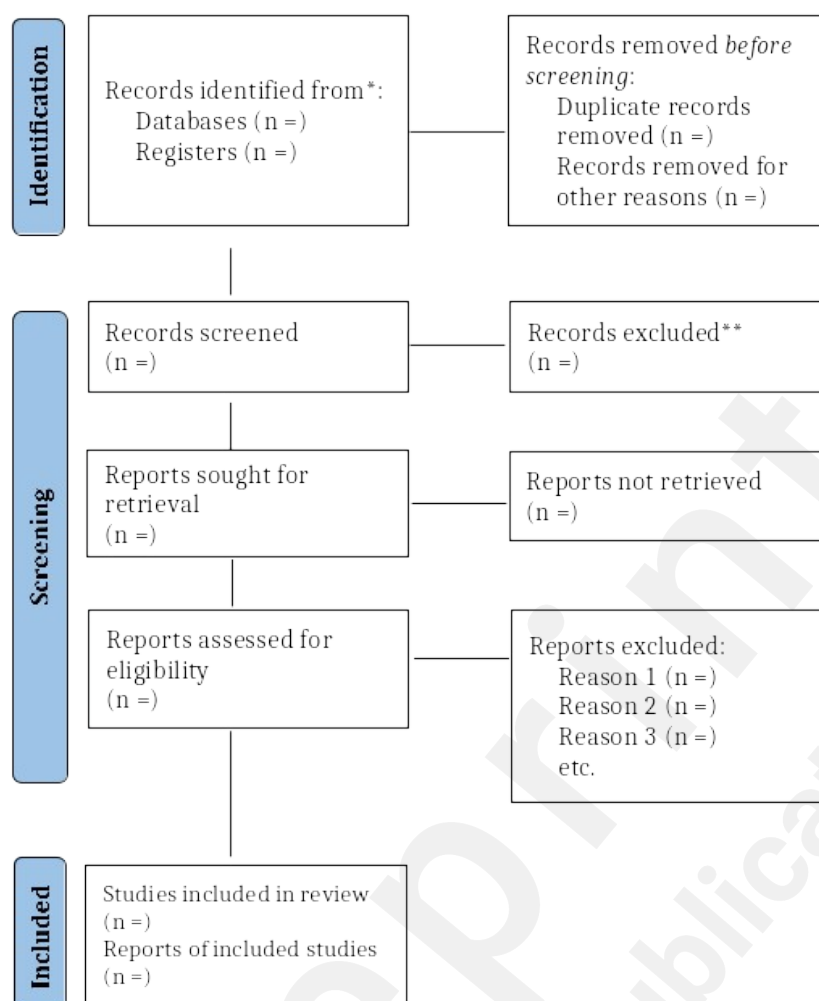
Data Extraction

Data will be extracted from papers included in the scoping review by FJ and EMK independently using a data extraction tool developed by the reviewers. The data extracted will include specific details about the participants, concept, context, study methods, challenges experienced and support identified. Prior to data extraction, the tool will be pilot-tested by the FJ and EMK independently. The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included evidence source. Modifications will be detailed in the scoping review. OB will afterwards check that no relevant information has been omitted. The information to be extracted from this tool is detailed below (Table 3).

Table 3. Initial data extraction tool

Criteria	
Authors/year of publication	
Research design	
Study setting	
Nature of population/sample	
Reasons for referral	
Challenges experienced	
Support experienced	
Recommendations	

Ethics Approval and Consent to Participate

The study was approved by the affiliated university's ethics committee for BioMedical (Ethics approval no BREC/00006633/2024).

Availability of Data and Materials

All data generated and analysed will be included in the published scoping review article and will be available on request.

Data Analysis and Presentation

Data summarization and reporting will adopt a fundamental descriptive approach, employing content analysis [19]. A narrative approach will present the findings from the included studies using thematic content analysis to describe the themes that are relevant to experiences with referral systems in obstetric emergencies in low-and-middle-income countries. Also, any other emerging themes will be reported.

Discussion

This scoping review aims to provide a comprehensive overview of the current knowledge and research on skilled birth attendants' (SBAs) experiences with referral systems in obstetric emergencies in low- and middle-income countries. It has the potential to improve care for mothers and new-borns in several ways.

First, the study will synthesise information on referral systems in obstetric emergencies within resource-constrained healthcare settings. Second, it will identify referrals from both SBAs and traditional birth attendants (TBAs) to healthcare facilities. This information could be used to support the development of interventions that advocate for including TBAs in healthcare systems to reduce maternal and neonatal deaths. Third, the review's findings will inform a future study aimed at developing a model to enhance effective upward referral of women with obstetric emergencies during labour in a Sub-Saharan African country.

Acknowledgements

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Conflicts of Interest

None declared.

Abbreviations

HICs	High Income Countries
JBI	Joanna Bridge Institute
LMICs	Low-and middle-income countries
MICs	Middle- income countries
MMR	Maternal mortality rate
MMR	Maternal mortality ratio
PCC	Population, concept, and context
SDG	Sustainable Development Goals
SA DoH	South African Department of Health
SBAs	Skilled birth attendants
SSA	Sub-Saharan Africa
TBAs	Traditional birth attendants

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Supplementary Files