

Barriers and Facilitators to the Implementation of Midwife-Led Care for Childbearing Women in Low- and Middle-Income Countries: A Mixed Methods Systematic Review Protocol

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The midwife-led model of care refers to the care given by a lead midwife to childbearing women throughout pregnancy starting from the initial booking to the post-natal period. Research from high-income countries has demonstrated that women receiving midwife-led care are eight times more likely to receive care from a known midwife during delivery, and spontaneous vaginal birth increased significantly (nine trials; N= 10,926; RR=1.04; 95% CI, 1.02–1.06; fixed-effect analysis) (Sandall et al, 2010). A Cochrane Systematic Review also showed foetal loss before 24 weeks of pregnancy is 21 percent less likely to happen among women receiving midwife-led continuity of care. Additionally, these women are 19 percent less likely to have regional analgesia, 14 percent less likely to have instrumental delivery, and 18 percent less likely to have an episiotomy (Sandall et al, 2013). Most of the evidence from high-income countries demonstrates improvement in maternal and neonatal health and shows midwife-led care as crucial to meet the Sustainable Development Goals by all countries (Renfrew et al, 2014).

Objective

The primary objective of the review was to identify and synthesize existing research on the barriers and facilitators to the implementation of midwife-led care in low- and middle-income countries (LMICs).

Despite the scientific evidence from high-income countries, resistance to implementing midwife-led care in low- and middle-income countries (LMICs) remains (UNFPA, 2014). The World Health Organization (WHO) in 2011 reported that every year over half a million women die during pregnancy and delivery and most of these deaths happen in LMICs (Afulani et al, 2019). To prevent these deaths the WHO identified midwifery care to all women and adolescents' girls as a priority (Shetty, 2013). Training midwives is also considered essential to improve the quality of midwifery care. Additionally, educating and training midwives to international standards helps to provide 87 percent of essential childbirth services to pregnant

women.

Enabling continuity of midwifery care, in the least developed and many developing countries face serious challenges. Developing countries such as India, China, and Brazil have shown rapid economic development in the late 20th century, but concerning midwifery care, the contribution is absent and maternal mortality rates remain high (Renfrew et al, 2014). To promote high-quality midwifery care, and to resist the barriers that prevent implementation, a system-wide effort is required. The scientific evidence on the effectiveness of midwife-led care to improve maternal and new-born health is mostly from high-income countries and very limited research is available about midwife-led care from LMICs (Michell-Schuldt et al, 2020). Besides, the Lancet Midwifery Series (2014) emphasises the need to overcome barriers that prevent the implementation of high-quality midwifery care. To tackle the barriers, it is first important to understand what they are. This review systematically identifies and synthesises the available evidence on factors that influence the implementation of midwife-led care to outline the barriers and facilitators to the implementation of midwife-led care for childbearing women in LMICs.

Methodology

This systematic review protocol has been developed using the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines (Shamseer et al, 2015) and will be reported following the PRISMA Checklist (Liberati et al, 2015).

Inclusion and Exclusion criteria: The inclusion and exclusion criteria are described using the PICOS elements shown in Table 1 & 2.

Search Strategy

The search strategy made use of all available literature to date that investigates the facilitators and barriers to implementing midwife-led care in LMICs. The following seven electronic databases were searched during the systematic review: MEDLINE, EMBASE, Psych INFO, CINAHL, Maternity and Infant Care database (MIDIRS), Global Health, and Web of Science.

The search strategy was done by making use of Index-MeSH terms and free-text words using appropriate Truncation (*/\$) and Wildcard (?) to identify alternative spellings. Each term was combined using

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the Boolean operator 'OR' and to combine the facets 'AND' was used. Based on the eligibility criteria the primary resources were searched in the database and limited to English and Spanish languages and human subjects. A reference list of identified studies was additionally searched to include all applicable studies. Rerunning of the search strategy done to identify all studies and the search was repeated until before doing final analyses to ensure no relevant studies are excluded.

Data Extraction

Study selection: The studies were retrieved using the search strategy and were done only after having a detailed inclusive and exclusive criterion written. The titles and/or abstracts were screened by the lead author to identify whether studies met the inclusion criteria of the systematic review. Studies that are highly irrelevant to the topic discarded at this stage. The full text of potentially eligible studies was then retrieved and assessed for eligibility by two reviewers independently. At this stage, any discrepancies over the eligibility of specific studies were resolved with the help of a third reviewer. If required, the study authors contacted for further information. The final set of studies was included in the review and produced. A flow diagram using PRISMA guidelines (SURE Collaboration, 2011) was reported to show the number of studies screened and finalised.

Data extraction: The data extraction was done using the Supporting the Use of Research Evidence (SURE) framework (SURE Collaboration, 2011) and by developing a structured data extraction form to extract information from the selected studies. The SURE framework focuses on barriers to implementing healthcare interventions and included the following factors:

- a. Knowledge and skills; attitudes regarding programme acceptability, appropriateness, and credibility; and motivation to change or adopt new behaviours among recipients of care, providers of care, and other stakeholders;
- b. Health system constraints (including the accessibility of care, financial resources, human resources, educational system, clinical supervision, internal communication, external communication, allocation of authority, accountability, management or leadership (or both), information systems,

facilities, patient flow processes, procurement and distribution systems, incentives, bureaucracy, and relationship with norms and standards); and (c) social and political constraints (including ideology, short-term thinking, contracts, legislation or regulations, donor policies, influential people, corruption, and political stability).

The key characteristics of the included studies were extracted and provided in a structured table in excel spreadsheet and included the (i) bibliographic references such as author(s), year of publication, the title of article, journal volume, and pages; (ii) study aim and objectives; (iii) study design; (iv) population: sample size; (v) characteristics of sample age and ethnic group; (vi) the country study conducted; (vii) data collection method; (viii) data analysis; (ix) intervention including duration and period of intervention; (x) outcome measures such as barriers and facilitators to implementing midwife-led care; (xi) source of funding and any (xii) other additional comments.

A pilot trial of a data extraction form was done to check the adequacy and for any amendments if necessary. Additionally, if any new areas identified were added to the derived SURE framework. For qualitative studies, the quotes and summaries from findings and discussion sections were extracted; for quantitative research, descriptive findings was extracted. To improve the quality of the review the concerned authors from included studies contacted for any missing data and further clarifications.

Quality Assessment

The Mixed Methods Appraisal Tool (MMAT) version 2018 (Hong et al, 2018) were used to appraise the quality of the studies. MMAT is a unique tool to critically appraise the methodological quality of five types of studies: qualitative research, randomised controlled trials, non-randomised studies, quantitative descriptive studies, and mixed methods studies. The MMAT has two screening questions and nineteen questions corresponding to the five different study designs based on which reviewers will quality score the included studies. The quality assessment was done independently by two review authors and any disagreements will be resolved with adequate discussion with a third reviewer.

Data Synthesis

The framework thematic synthesis was used to synthesise qualitative data (Brunton, 2020). The five stages of framework synthesis were followed as:

- i. Familiarisation with the data: The review author began to familiarise with the included studies based on the aims and objectives of the review.
- ii. Identifying a thematic framework: The SURE framework was used as an a priori framework of themes and categories. As this framework focuses to

Table 1: PICOS elements

Elements	Description
P	Population
I	Intervention
C	Context
O	Outcomes
S	Study design

Table 2: Inclusion and exclusion criteria

PICOS element	Inclusion criteria	Exclusion criteria	Justification
Population	Studies expressing views of those involved in or affected by the implementation of midwife-led care. Childbearing women of any age receiving midwife-led care, partners/family members, midwife or nurse-midwives, the multi-professional team as obstetricians, midwifery department heads, general practitioners and other specialists, stakeholders including community health committees, community leaders, programme managers, policymakers, and any others involved in or affected by the implementation of midwife-led care will be included as participants	Studies on pregnancy care given by auxiliary nurse midwives, traditional birth attendants, nurses with no midwifery experience or license to practice, and students will be excluded	As midwife-led care is to be given by a trained registered midwife, the review will include studies wherein midwifery care has been given by a trained midwifery professional only
Intervention	Midwife-led care and continuity midwifery care including team midwifery and caseload midwifery	Obstetric-led care and care given during abortion, and/or with gynaecological problems	The topic of interest to be reviewed is midwife-led care in LMICs
Context	Studies from LMICs. Literature involving care of pregnant women by a lead midwife or nurse-midwives in home, community, all levels of health care centres and hospitals from urban and rural setting will be included	Studies from high-income countries	The systematic review aims to bring out the factors influencing implementation of midwife-led care in LMICs and hence excludes studies from developed countries
Outcomes	Barriers and facilitators to the implementation of midwife-led care in LMICs	-	The review will clearly outline the barriers and facilitators to implementation of midwife-led care in LMICs
Study design	All primary research studies including quantitative, qualitative, and mixed-methods studies	Secondary research such as editorials and systematic reviews	Primary research answers more specifically to the review question

identify and describe barriers to implementing strategy especially in LMICs it will be used to guide the analysis.

iii. Indexing: The extracted data will be reviewed and a deductive process was employed to fit the themes influencing implementation of midwife-led care into the specific SURE framework. Any revision of the framework was done only after discussing and agreeing with the review team. All the studies will be read and re-read until no new emerging themes. Data coding will be done based on the themes identified and every individual study was indexed using the codes related to the themes of the framework.

iv. Charting: The thematic synthesis was developed by rearranging the data to the appropriate part of the thematic framework to which they relate and will be charted in a table. The columns and rows of the table could reflect the studies and the related themes. At this charting stage, any differences underlying in implementing midwife-led care between LMICs were identified and indicated in the results.

v. Mapping and interpretation: Using the charts, the concepts were defined and the nature of phenomena will be mapped. Any associations arising between

themes was developed further to explain the findings. The findings were interpreted using the review objectives and emerging themes.

For quantitative studies, descriptive findings of the numerical data about the factors facilitating and hindering implementation was stated.

Results

This review is a protocol and hence there are no results to publish.

Discussion

The State of the World's Midwifery (SoWMy) 2021 reports that globally around 810 maternal deaths occur each day, and about 2.4 million new-born deaths each year. Global estimates also show that one in five women deliver their baby without support from a skilled healthcare provider. Likewise, the caesarean section (CS) rate is also found to increase with an estimation that by 2030, nearly 38 million caesareans might occur annually across the globe. Women birthing without midwife assistance and the rising CS, increases the possibility of Sustainable Development Goals 3 and 5 (SDGs) being

unmet by 2030 (Bet ran et al 2021). Strengthening the capacity of midwives prevents 65 percent of maternal and new-born deaths and hence is featured as a priority by health organisations worldwide (Nove et al, 2021). Further, a modelling study led by UNFPA, ICM and WHO in 88 low-and middle-income countries (LMICs) estimated that universal reach of midwife-led care would prevent 67 percent of maternal deaths, 64 percent of neonatal deaths, and 65 percent of stillbirths and save 4.3 million lives every year by 2035. To improve women and children health, the LMICs are investing in midwives and this systematic review helped to strengthen the investment by identifying the barriers and facilitators to the successful implementation of midwife-led care.

Nursing Implications

The review findings will help policymakers, local government officials, administrators, practitioners, researchers and midwives to better understand the potential barriers and facilitators involved in the implementation of midwife-led care. As the review is based on the SURE framework it will help key stakeholders to get an insight into the complexities of implementation. Additionally, a deeper understanding of the factors will help to formulate a strategic framework that would promote successful implementation of midwife-led care in many other LMICs.

Conclusion

This systematic review will provide a comprehensive understanding on the factors that influence the implementation of midwife-led care in LMICs. In LMICs midwife-led care faces challenges in implementation due to the variation existing in the provision of care as well as a lack of supportive environment. By making use of the SURE framework this review will identify and address the barriers and facilitators from the perspectives of three groups such as care providers, care recipients and stakeholders. Besides, the framework will also list the environmental factors to be considered to enable successful implementation of midwife-led care in LMICs.

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