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Experiences of skilled birth attendants with dissemination strategies and use of maternal clinical guidelines: A qualitative synthesis

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ABSTRACT

Introduction: Despite several evidence-based clinical guidelines aimed at improving the quality of maternal care as well as avert maternal mortality, guidelines frequently fail to reach the intended users. This qualitative synthesis explored experiences of Skilled Birth Attendants (SBAs) dissemination strategies and use of Maternal Clinical Guidelines (MCGs) by SBAs within the primary health care settings.
Inclusion criteria: Studies focusing on experiences of dissemination and use of evidence-based MCGs by SBAs were included. Further, it included studies published in English and those conducted between 2010–2023.
Methods: A search was conducted using search terms “Maternal clinical guidelines “Dissemination” “Use” “Implementation” “Skilled birth attendants” “experiences or perceptions or attitudes or views or feelings or qualitative or perspective”. The search was done via Hinari and EBSCOhost in; Medline, PubMed, CINAHL. Additionally, searches were conducted using reference lists of the selected papers. Grey literature was searched from library repository and google scholar for further information. Search articles were uploaded in Mendeley, and duplicates removed.
Results: We included qualitative studies (10), mixed methods studies (5) and two (2) qualitative systematic syntheses because of paucity in qualitative only articles. Johanna Briggs Institute (JBI) Sumari appraisal tool was used to conduct the appraisal. All the articles included in this study were all imported to ATLAS ti for data management. The articles were code, grouped and themes developed. Three themes emerged: Dissemination strategies of MCGs, Use of MCGs (SBAs health systems factors), Improved utilization of maternal clinical guidelines.
Conclusions: The findings of this study show experience in terms of facilitators and barriers to dissemination and use of guidelines. The study found Guidelines factors, Health systems factors, Skilled birth attendants’ factors and Community factors as the main facilitators and barriers for dissemination and use of guidelines. Future primary research may focus on, dissemination methods, actual use, and the outcomes of use. Additionally, the importance of appropriate use of maternal clinical guidelines needs to be emphasized early in midwifery competency education and more emphasis during in-service education.

1. Introduction

Globally, maternal mortality is still a challenge. The World Health Organization (WHO) (World Health Organization, 2018) recorded about 830 women die every day due to pregnancy and childbirth related complications around the world meaning that a woman dies every two minutes. The last global statistics estimated that 303, 000 women died from perinatal related causes. In Africa, the ratio is at 525 deaths per 100,000 live births (WHO, 2020). This is far beyond the Sustainable development goals (SDG) three that targets the ratio of maternal mortality to be less than 70 per 10,000 live births by the year 2030. Most of these deaths can be averted with strategies that have been found to be effective.Table 1..

Maternal Clinical Guidelines (MCGs) have been found to be one of the key strategies for dissemination and use of evidence in clinical areas (Dumont, Fournier, Abrahamowicz, Traoré, Haddad & Fraser, 2013).

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Table 1

THEMES	SUB-THEMES
Dissemination strategies of MCGs	Challenges with Dissemination Strategies for Implementation Monitoring and Evaluation of MCGs
Use of MCGs (SBAs health systems factors)	Issues with human resources supplies and support structures Government endorsement,
Improved utilization of maternal clinical guidelines	Support with competence Interprofessional collaboration

They are statements developed from systematic reviews and other evidence to guide care during different circumstances and settings (Stokes, Shaw, Camosso-Stefinovic, Imamura, Kanguru & Hussein, 2016a). MCGs in maternal health have been developed to avert mortality, especially in emergency, prenatal, perinatal, and postnatal care. However, while they are key in averting maternal morbidity and mortalities, implementation of MCGs remains a challenge.

A systematic review by (Stokes, Shaw, Camosso-Stefinovic, Imamura, Kanguru & Hussein, 2016b) examining barriers and enablers for guideline implementation strategies to improve obstetric care practice in low- and middle-income countries showed low implementation of clinical guidelines. Stokes and colleagues in the systematic review identified intrinsic and institutional barriers in dissemination and use of clinical guidelines. Other studies conducted have similar results with some audits showing lack of knowledge and adherence to use of maternal clinical guidelines (Heslehurst, Rankin, McParlin, Sniehotta, Howel, Rice & McColl, 2018; Kinuthia, Stephenson & Maogoto, 2019; Ogawa, Shimoda, Wei & Püschel, 2019). While there are agreements on lack of uniform dissemination and use of clinical guidelines, there is lack of consensus on effective dissemination and use strategies.

Effective dissemination strategies and use of maternal clinical guidelines remains one of the key strategies in ensuring sustained implementation of the guidelines in clinical settings. Systematic reviews conducted by (Grimshaw, Thomas, MacLennan, Fraser, Ramsay, Vale, Whitty, Eccles, Matowe & Shirran, 2004; Medves, Godfrey, Turner, Paterson, Harrison, MacKenzie & Durando, 2010) highlighted the need for implementation strategies that will ensure provider behaviour change. They further made recommendations to Cochrane Collaboration's effective practice organisation of care (EPOC) group. Strategies identified include distribution of education materials, education meetings, local consensus process, local opinion leaders, audit and feedback, reminders, team communications, continuity of care. While these strategies have been utilised in some settings effectively, there is lack of clarity in the most effective method for dissemination and use of clinical guidelines. Moreover, the limitations of these studies are that the included papers did not specify the settings of the research. While some studies have been conducted in hospitals and showed audit and feedback as one of the effective ways of sustainability, Primary healthcare facilities may indicate a different picture.

The WHO recognizes the fundamental role of primary health care in achieving SDG goal three (Gardner, Banfield, McRae, et al., 2014). Subsequently, policies and guidelines have been developed to ensure equity and equality of care across health systems. The guidelines developed aim to improve health outcome of population by providing; curative, promotive, rehabilitative, and palliative care (Arthur & Goddard, 1981). Maternal health remains central as an indicator of a country's wellbeing (Gitobu, Gichangi & Mwanda, 2018). It is therefore important that the evidence-based guidelines related to maternal health reach the skilled birth attendants at primary health facilities timely and in a way that they can be easily implemented. Skilled birth attendants are the primary healthcare providers for women and their experience in the dissemination and use of clinical guidelines is significant. This qualitative synthesis explored experiences for dissemination strategies and use of maternal clinical guidelines by skilled birth attendants within the primary health care settings.

2. Methods

This qualitative synthesis was conducted in line with the Joanna Briggs Institute (JBI) methodology for qualitative review JBI (2020 pg. 45–70).

2.1. Search strategy

The search strategy aimed to locate both published studies. An initial limited search of MEDLINE and CINAHL was undertaken to identify appropriate MeSH terms. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles was used to develop a full search strategy for Pubmed and CINAHL (see Appendix 1). The search strategy, including all identified keywords and index terms, was adapted for each included database and/or information source. The reference list of all included sources of evidence was screened for additional studies.

Studies published in English language were included. Studies published 2010–2022 were included to give a broad enough period for the included as justify date range and any language limitations).

Google Scholar (scholar.google.com) is an eliminate academic search engine that provides an option for accessing hand-picked abstracts from references and expert suggestions, though again there may be validity issues (Gerrish & Lathlean, 2015). Therefore, it is important to use the internet with caution and, if possible, to appraise the information found on the internet (Boland et al., 2017).

Suitable key words were used in the search for the articles. Recognizing appropriate keywords not only limits the period used but also lessens selection of inappropriate literature. Choice of some words may, however, eliminate certain articles that may be relevant to the study. Therefore, we used Boolean operators such as 'AND', 'OR' and 'NOT'. In addition, wild cards to incorporate alternative words in the search, which may include plurals for example:(/*/$.).

2.2. Information sources

Articles were searched from different databases. We also searched literature from Hinari and EBSCOhost Research Platform for; Pubmed, CINAHL, Google Scholar.

We searched the references from identified articles to ensure we exhaustively acquire the required information. Grey literature such as university repository was searched to ensure exhaustive literature search.

2.3. Study selection

Identified studies were uploaded in Mendeley citation manager and duplicates removed. EA and DK independently reviewed the titles, abstracts and full texts of the studies that met the criteria. In case of disagreements between the reviewers, a third reviewer, TM, counter checked and arbitrated the articles. Studies that did meet the criteria were removed with reasons such as methodological issues and unclear titles.

2.4. Assessment of methodological quality

Qualitative papers (and qualitative component of mixed methods papers) selected for retrieval was assessed by two independent reviewers for methodological validity prior to inclusion in the review using the standardized critical appraisal instrument from JBI.

Authors of papers were contacted to request missing or additional data for clarification, where required. Any disagreements that arose between the reviewers was resolved through discussion, or with a third reviewer. The results of critical appraisal were reported in narrative

form and in a table.

All studies, regardless of the results of their methodological quality, underwent data extraction and synthesis through JBI SUMARI. Results of the critical appraisal are incorporated into the review as shown in table 2. Following critical appraisal, studies that do not meet a certain quality threshold were excluded.

2.5. Data extraction

For the qualitative component, data was extracted from qualitative and mixed methods (qualitative component only) studies included in the review by two independent reviewers using the standardized Joanna Briggs Institute data extraction tool in JBI. The data extracted included specific details about the population, context, culture, geographical location, study methods and the phenomena of interest relevant to the review objective. Findings, and their illustrations were extracted and assigned a level of credibility.

Any disagreements that arose between the reviewers was resolved through discussion, or with a third reviewer. Authors of papers were contacted to request missing or additional data, where required.

2.6. Data synthesis

This review follows a convergent segregated approach to synthesis and integration according to the JBI methodology for qualitative review using JBI SUMARI (Peters et al., 2020). This paper is part of series of reviews from a mixed methods review.

2.7. Qualitative synthesis

Qualitative research findings were, where possible pooled using JBI SUMARI with the *meta*-aggregation approach. This involved the aggregation or synthesis of findings to generate a set of statements that represent that aggregation, through assembling the findings and categorizing these findings based on similarity in meaning (Joanna Briggs, 2020). These categories are then subjected to a synthesis to produce a comprehensive set of synthesized findings that can be used as a basis for evidence-based practice. Where textual pooling was not possible the findings are presented in narrative form.

3. Results

3.1. Overview of the study types and settings

The search yielded 212 titles and abstracts. Out of these, ten qualitative papers are included, five mixed methods and two systematic syntheses. The search and selection summary are detailed in PRISMA flow chart (Fig. 1). The studies were published between the years 2013 and 2023. Study characteristics and summary are described in table two. The studies are described in terms of Methods for data collection and analysis, Country, phenomena of interest, Participant characteristics and sample size.

Of the studies included, five are from sub-Saharan Africa (Ghana, Uganda, South Africa, Tanzania and Ethiopia), five from Europe (United Kingdom, Kosovo, Spain, Canada and Dominican republic) and three from Asia (Afghanistan, Nepal, Thailand, Philippines and Indonesia) and two are systematic synthesis of literature.

Majority of the studies included (six) explored the barriers and enablers for guidelines use. Others explored the adherence, implementation, adoption, and implementation strategies effects on practice. See table 1 for further details.

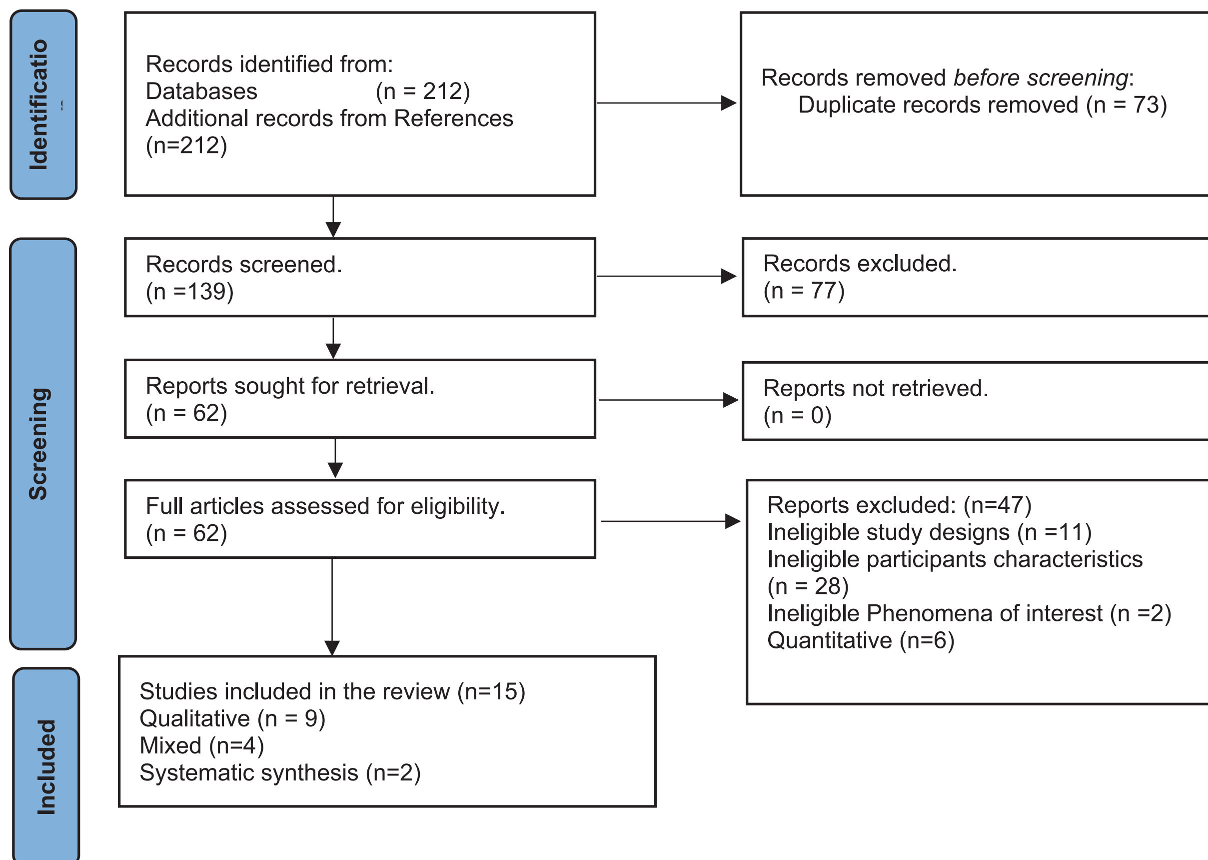

Fig. 1. PRISMA flow diagram.

3.2. Quality of included studies

We included qualitative studies (9), mixed methods studies (4) and two systematic syntheses. JBI Sumari appraisal tool was used to conduct the appraisal. The JBI qualitative appraisal tool revealed that majority of the studies lacked a statement locating the researcher culturally or theoretically. The influence of the researcher on the research and vice versa was not adequately placed in the studies. Some of the studies lacked congruity between the stated philosophical perspectives and the research methodology.

All the articles included in this study were all imported in ATLAS ti and results coded. The codes were examined and grouped in categories then further into subthemes and finally three themes were developed. In line with the objective of this research, we identified three (3) main themes and six (13) subthemes indicated on table 1. The themes were deduced from the quantitative study [dissemination strategies of MCGs, use of maternal clinical guidelines by SBAs, and improved utilization of maternal clinical guidelines], as the qualitative study sort to explain the quantitative results. based on explanatory approach with the qualitative results. The subthemes emerged from the qualitative results.

4. Results

While examining factors related to guidelines dissemination strategies and use, we came up with subthemes as follows: ambiguity of guidelines, implementation methods and monitoring and evaluation.

4.1. Challenges with dissemination of guidelines

Guidelines that are clear and related to knowledge required by skilled birth attendants were thought to be a facilitator for use (Turner & Short, 2013). A study by (Graham, Tokhi, Edward, Salehi, Turkmani, Duke & Bartlett, 2015) showed that guidelines which showed improved client outcomes were more likely to be used.

“Especially for something like BMI where there’s not so many clear-cut guidelines; what one experienced midwife does is very different than the next, …some, of course, are more medicalized than others, and it can be challenging to…navigate that when there’s discrepancy between people.” P34 (Graham et al., 2015)

Graham et al., 2015, further showed that when clinicians are involved in the development of the guidelines, they are more likely to own them and use them. According to one of the studies sited by Murray-Davis (2021) and Scholin (2021) the SBAs felt the need for clear guidelines.

“The Royal College of Obstetricians and Gynaecologists, they say that the advice is no alcohol, but NICE guidelines say that there is no evidence that two units per week is harmful to the baby. So, our guidelines conflict with each other. Midwife 3” Scholin (2021)

However, in cases of unclarity, this factor that was thought to be a barrier to guidelines use. Results in the studies by (Schölin, Watson, Dyson & Smith, 2021; Murray-Davis, Darling, Berger, Melamed, Li, Guarna, Syed, Barrett, Geary, Mawjee & McDonald, 2022) indicated that uncertainty with guidelines and their unfamiliarity was more likely to lead to non-use.

There was a need for clear MCGs enabled by involvement of the users in the development of the guidelines. Further usefulness of the guidelines is based on how clear the guidelines are at the point of care.

4.2. Implementation of MCGs

SBAs acknowledged the presence and importance of clinical guidelines. However, they agreed that there were inconsistencies in implementation with others preferring their previous knowledge. Implementation in this study are the methods employed to promote the uptake of maternal clinical guidelines (Braddick, Tuckey, Abbas, Lissauer, Ismail, Manaseki-Holland, Ditai & Stokes, 2016).

“…some of the participants were aware of the existence of national guidelines for the prevention and management of PPH, descriptions of the guidelines were superficial and there were discrepancies as to which ones were used in clinical practice. It was also unclear to the staff if copies of the guidelines were available at healthcare facilities. Some participants were not following best practice as advocated by the guidelines; rather, they were adhering to what they had been taught at midwifery school.” (Braddick et al., 2016) Pg. 92.

There were disagreements on the most effective dissemination methods. In a study by (De la Rosa, Mordan, Barinas, Toribio, Mancebo, Rodríguez & Pacheco-Herrero, 2021) SBAs preferred digital format like; mobile app devices while in (Graham et al., 2015) the SBA preferred paper format guidelines. They, however, agreed that the guidelines need to be in shortened forms.

Suggestions to improve implementations of guidelines were made such as use of mass media, social media like televisions and incorporating guidelines updates in school curriculums (Graham et al., 2015). Further, (Straus, Moore, Uka, Marquez & Gülmezoglu, 2013; Vogel, Moore, Timmings, Khan, Khan, Defar, Hadush, Minwyelet, Terefe, Teshome, Ba-Thike, Then, Makuwani, Mbaruku, Mrisho, Mugerwa, Puchalski Ritchie, Rashid, Straus & Gülmezoglu, 2016; Schölin et al., 2021; Murray-Davis et al., 2022) agreed that webinar, continuous training and workshops are effective methods of guidelines dissemination and use.

Braddick et al., 2016 in their mixed methods, staff preferred workshops, continuing professional education, workshops, and collaborative meetings as effective methods of dissemination of guidelines. However, they indicated that independent learning, use of internet, textbooks and informal sharing were more effective methods in dissemination and use of guidelines (Straus et al., 2013; Braddick et al., 2016).

4.3. Monitoring and evaluation of MCGs

Monitoring and evaluation are thought to be a key factor in dissemination strategies and use of guidelines. (Straus et al., 2013) in their study, identified the need for monitoring and evaluation as a crucial factor for in determining implementation of maternal guidelines. They highlighted the importance of monitoring and evaluation both at the guideline’s formulation level and implementation site.

‘The Ministry of Health should manage health policies at the Kosovo level … the professional associations should deal with the professional side, drafting, formulation of protocols and then monitoring of implementation for its own, its own field.’ (Straus et al., 2013)

‘That’s why there is a need to have a mechanism which measures, uh, the impact and then reports back on, on the outcomes, and then you get to the revision.’(Straus et al., 2013)

In conclusion dissemination strategies require effective implementation, monitoring and evaluation of the guidelines at the point of care.

4.4. Use of MCGs

Skilled birth attendants agreed that there are issues that influence the use of guidelines at primary health facilities. Use of MCGs in this study refers to the process of utilising the guidelines as they are intended or otherwise.

The use of MCGs emerged with four subthemes: human resource factors, health systems factors, government endorsement & support and consequences of clinical guidelines.

4.5. Issues with human resource

Four studies examined human resources factors in relationship with guidelines dissemination and use. (Braddick et al., 2016; Ramos-Morcillo, Harillo-Acevedo, Armero-Barranco, Leal-Costa, Moral-García & Ruzafa-Martínez, 2020) in their studies found out that staff shortage is

one of the barriers for use of MCGs recommendations.

“It’s a big problem because we are understaffed and there are so many patients delivering at the same time. So, we hardly spend much time with the patients for observation.” (Participant 2, midwife) [B]” P.91

Vogel et al., (2016); Ramos-Morcillo et al., (2020); Schölin et al., (2021); Smith, Dyson, Watson & Schölin (2021) in their studies lack of time as one of the barriers for use of guidelines. In one of the studies, the participants highlighted that too much time is required to learn and implement new guidelines which when coupled with staff shortage if a barrier to use of MCGs (Schölin et al., 2021).

4.6. Supplies and support structures

Seven of the articles included described health system factors as a barrier or facilitator for use of guidelines. In a study by (Braddick et al., 2016) government provision of supplies supported postpartum hemorrhage guidelines use in referral facilities while in community settings, the supplies were constrained hence inhibited the use of the guidelines. (Murray-Davis et al., 2022) in their study found out that limited resources for sharing the guidelines was a barrier to guidelines implementation.

Two studies (Musie, Peu & Bhana-Pema, 2019; Ramos-Morcillo et al., 2020) identified facilities, equipment, and economic resources as both facilitators and barriers for use of guidelines. Musie and colleagues considered lack of facilities and equipment as a barrier to implement alternative birth positions in their settings. Braddick in their study highlighted the challenge clients are faced with in procuring resources not in the hospital as well as understaffing issues.

“It’s a challenge when you tell them go and buy this drug because the hospital can’t provide it and they discover that it’s expensive. The hospital provides it sometimes, but sometimes it runs out.” (Participant 12, junior doctor) [B]

Institutional strengthening of teams for use of guidelines was reported to be one of the facilitators for use of guidelines (Medves et al., 2010; Turner & Short, 2013; Graham et al., 2015; De la Rosa et al., 2021). In a study by Graham and colleagues, supportive management system in maternity hospitals is one of the main facilitators for guideline use.

4.7. Government endorsement

Three articles considered government endorsement and support as facilitators for the use of guidelines (Straus et al., 2013; Graham et al., 2015; Aniteye, O’Brien & Mayhew, 2016). In the three studies, the authors recognized the importance of official endorsement of guidelines by local ministries. It was reported that the guidelines endorsed by governments were more likely to be used.

Two studies identified articulation of consequences of clinical guidelines utilization nonuse as one of the factors for implementation and use of guidelines (Delarosa2021; Turner, 2011). De La Rosa in their study to examine the acceptability and adoption of clinical practice guidelines and treatment protocols on preeclampsia in Dominican Republic identified that legal implications and coerciveness for use of guidelines are facilitators for use of guidelines. Turner in their study, however, identified that clarity on consequences of some practice of perineal care needs to be clear and agrees with De la Rosa on legal implications for non-use of guidelines in practice. While consequences are well articulated by the government at development and dissemination phase, community and client involvement is important as they are the end users and beneficiaries of guidelines.

Involvement of clients and community in implementing the guidelines could potentially improve guidelines use (Ramos-Morcillo et al., 2020; Schölin et al., 2021). In a study by Morcillo colleagues on barriers perceived by managers and clinical professionals related to the implementation of breastfeeding guidelines, they identified that lack of community involvement can potentially lead to resistance of implementation of guidelines. Schölin et al. (2021) in their qualitative study examining Midwives views on barriers and facilitators to implementation of alcohol guidelines with pregnant women, identified close family members involvement and communication with users as one of the key facilitators to use of guidelines. Moreover, sociocultural and religion of some of the SBAs may affect the use and nonuse of guidelines.

The practice of midwives especially in implementing some guidelines are shaped with stigmatizing socio-cultural and religious norms. Aniteye et al. (2016) in their study exploring the challenges for abortion service providers in Ghana identified social cultural and religious norms as a barrier to abortion guidelines implementation. Musie et al. (2019) in their study on factors hindering midwives’ utilization of alternative birth positions identified language and communication as a barrier to utilization of guidelines in labour wards.

5. Improved utilisation of MCGs

This theme is a synthesis of four subthemes: Support with Competence, Individual health worker factors, Interprofessional collaboration and computer literacy.

5.1. Competence support

Two studies identified competence support as one of the factors that is either a facilitator or a barrier to use of guidelines (Short, McDonald, Turner & Martis, 2010; Musie et al., 2019). Turner in their study identified support with access to knowledge as a facilitator to use of evidence-based practice in perinatal care. Musie and colleagues on the other hand identified lack of necessary skills, competence, and lack of practice as factors hindering midwives’ utilization of guidelines on birth positions during labour.

Six of the selected studies highlighted individual SBAs issues as either facilitators or barriers to use of guidelines. Attitude towards change by older SBAs was one of the factors reported by (Schack, Elyas, Brew & Pettersson, 2014; Aniteye et al., 2016; Rana, Brunell & Målqvist, 2019; Ramos-Morcillo et al., 2020; De la Rosa et al., 2021) as a barrier to implementation of clinical guidelines. The authors recorded that younger SBAs were more likely to accept and use newer guidelines. According to a study by De la Rosa et. al. (2021) it was difficult to change the norm of the old generation as they are stuck with previous experience.

“There is often resistance on the part of staff with longer time in service”, who hold the view that “what I used to do is right and I will keep on doing it.”

Beliefs and attitudes of SBAs were recorded as some of the factors influencing dissemination and use of guidelines (Murray-Davis et al., 2022).

Computer literacy may support the competence of individual SBA to gain confidence in access and use of clinical guidelines. In a SEA-ORCHID project by Turner et. al (2013) identified that in perinatal settings where the SBAs had computer literacy to access the guidelines, the dissemination, implementation, and use was also quicker. However, SBAs with minimal computer literacy were less likely to access and implement MCGs.

5.2. Interprofessional collaboration

Seven articles reported interprofessional collaboration as one of the facilitators for dissemination of maternal clinical guidelines (Schack et al., 2014; Graham et al., 2015; Braddick et al., 2016; Rana et al., 2019; Ramos-Morcillo et al., 2020; Murray-Davis et al., 2022). Two authors commented that collaboration in educating SBAs and other professionals was an effective strategy for dissemination and use of guidelines.

"And that makes a huge difference too, is just really knowing, on a personal level, the docs, and the nurses. And it makes it easier to work with them, you know, in an interdisciplinary role. And I think it's nicer for the client, too, because they can see that you have a relationship with the nursing staff." P105. Murray-Davis et al., 2022

One author commented on the importance of two-way information sharing between midwives and doctors as an effective way of guideline dissemination and use (Rana et al., 2019). Two authors commended task shifting of some duties as a sustainable way of use of disseminating active management of third stage of labour guidelines (Schack et al., 2014; Vogel et al., 2016).

6. Discussion

The aim of this qualitative systematic review was to explored experiences for dissemination strategies and use of maternal clinical guidelines by skilled birth attendants within the primary health care settings. Although the setting was supposed to be primary health care facilities, following search of literature, there was paucity of literature on this are within primary health care facilities. We hence expanded to all health care facilities. The findings of the search highlighted experiences for dissemination and use of clinical guidelines under four themes as either facilitators or barriers: Guidelines factors, health systems factors, skilled births attendants' factors and community factors.

This study findings are like other systematic synthesis of literature in low- and middle-income countries (Medves et al., 2010; Stokes, Shaw, Camosso-Stefinovic, Imamura, Kanguru & Hussein, 2016a). While these studies majorly focused of the strategies to improve obstetric practice and not dissemination aspects, the findings of the use of multiple strategies in improving implementation of guidelines is agreed on. While they did not major on the experiences, the barriers, and facilitators for use of clinical guidelines were quite similar with the findings of this study. Some of the findings of this study however were not reported in the Medves et al and Stokes et al studies such as importance of community involvement and sociocultural factors. While these factors were not highlighted, they are significant in the uptake of clinical guidelines (Manyanga, da Silva, Ferraro, Harvey, Wilson, Ockenden & Adamo, 2015). Dissemination and use of guidelines in settings such as low- and medium-income countries will be determined partly with community involvement and understanding of the culture of the community as well as skilled birth attendant (Brach Cindy, Hall Kendall & Fitall Eleanor, 2019). Beliefs and culture of an individual SBA can influence the use of certain guidelines even one they are evidence based such as implementation of abortion(Aniteye et al., 2016).

Guideline factors such as, ambiguity of guidelines, dissemination and implementation methods, monitoring and evaluation were found to affect the guidelines use. Skilled birth attendants in this study were reported to use guidelines that were clear, lack of legal ambiguity and with less stigma. When the skilled birth workers seemed to be less familiar with the guidelines, they were less likely to implement them. The use of multiple dissemination implementation educational strategies was found to be effective in demystifying the ambiguities. These findings are like the systematic review by (Medves et al., 2010; Asonganyi, Vaghasia, Rodrigues, Phadtare, Ford, Pietrobon, Atashili & Lynch, 2013; Stokes et al., 2016a; Kroll-desrosiers, Moore Simas, Flynn & Kroll-desrosiers, 2018). This study, however, highlights the importance of collaborative educational sessions with multidisciplinary teams. This method seems to be effective as the teams will be able to have similar information which facilitates more accountability in implementation.

Health system factors seems to be a universal finding in most studies highlighting human resource shortage and supplies as factors influencing the use of guidelines. These factors are significant in facilitating the SBAs to use the guidelines. Staff shortage and time constraints were highlighted to affect the use of clinical guidelines. However, the studies reported that government endorsements (Straus et al., 2013; Graham et al., 2015), management support and institutional strengthening has a great role in ensuring the uptake of clinical guideline (Braddick et al., 2016). One of the ways the government and institutional support is through trainings, adequate staffing and ensuring adequate supplies. Articulation of consequences for use and lack use of guidelines was thought to be an effective method of supporting use (Turner & Short, 2013; De la Rosa et al., 2021). However, this method can work well if the healthcare system if well supported through trainings, adequate supply, and adequate staffing.

Skilled birth attendants' factors such as competence support, individual health worker factors, interprofessional collaboration and computer literacy are some of the factors highlighted as influencing the use of maternal clinical guidelines. These findings are like those in previous studies and support frequent updates and trainings as effective methods in improving competence of SBAs in use of maternal clinical guidelines (Salvador, Dumas, Davies, Emard & Lortie, 2016; Harvey, 2018). Interprofessional collaborations between midwives and obstetricians in improving attitude, competence and literacy has been found to be an effective method in improving experience of SBAs in use of guidelines (Friedman & D'Alton, 2019). Hegemony in healthcare can be disempowering in use of guidelines as SBAs who feel more superior may have outdated information but may fail to learn from a more updated junior staff (Karunatilake, 2021). Interprofessional collaboration is one of the ways that can allow synergism in use of clinical guidelines. A good example is computer literacy among the younger healthcare professionals who may find updated guidelines in time and fail to share because of hierarchy in healthcare systems. However, if collaboration is encouraged, sharing of information will be better and more effective.

6.1. Strengths and limitations

This study utilized a rigorous method in search and analysis of secondary data on experiences of SBAs in used and dissemination of maternal clinical guidelines. However, during the search, we noticed that there was paucity of literature published for primary health care facilities in this area. We then went ahead to expand our search using references from studies that met the criteria and still had similar challenges on research in areas of maternal clinical guideline.

7. Conclusion

This qualitative systematic review explored experiences for dissemination strategies and use of maternal clinical guidelines by skilled birth attendants within the primary health care settings. The findings of this study show experience in terms of facilitators and barriers to dissemination and use of guidelines. The themes synthesized in this study are: Guidelines factors, Health systems factors, Skilled birth attendants' factors and Community factors.

Primary research needs to focus on dissemination and use of maternal clinical guidelines at the primary healthcare facilities as this is where maternal mortality can be averted in low- and middle-income counties. More focus may be on, dissemination methods, actual use, and the outcomes of use of maternal clinical guidelines at primary healthcare facilities.

There is a need to include maternal clinical guidelines in the curriculums so that one SBAs get to clinical areas, they understand the importance of use of clinical guidelines in provision of care. More emphasis on collaborative care may be inculcated in the learners during trainings so that it is norm during practice.

CRediT authorship contribution statement

Eunice Nyasiri Atsali: Writing – review & editing, Writing – original draft, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Doreen Kaura:** Writing – review & editing, Supervision, Project administration, Conceptualization. **Mark**

Tomlinson: Writing – review & editing, Supervision, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix 1. . Search Strategy/Terms

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Data Base	URL	Search strategy/Terms	No. of hits
Pubmed	https://www.ncbi.nlm.nih.gov/pmc/?term=(experiences%5BAll + Fields%5D + AND + skilled%5BAll + Fields%5D + AND+(%22parturition%22 %5BMeSH + Terms%5D + OR+%22parturition%22 %5BAll + Fields%5D + OR+%22birth %22 %5BAll + Fields%5D) + AND + attendants%5BAll + Fields%5D + AND + dissemination%5BAll + Fields%5D + AND+(%22mothers%22 %5BMeSH + Terms%5D + OR+%22mothers%22 %5BAll + Fields%5D + OR+%22maternal% 22 %5BAll + Fields%5D) + AND + clinical%5BAll + Fields%5D + AND+(%22guideline%22 %5BAll + Fields%5D + OR+%22guidelines + as + topic%22 %5BMeSH + Terms%5D + OR+%22guidelines%22 %5BAll + Fields%5D)) + AND+(primary%5BAll + Fields%5D + AND+(%22health + facilities%22 %5BMeSH + Terms%5D + OR+(%22health% 22 %5BAll + Fields%5D + AND+%22facilities%22 %5BAll + Fields%5D) + OR+%22health + facilities%22 %5BAll + Fields%5D))&cmd = DetailsSearch	(experiences[All Fields] AND skilled [All Fields] AND ("parturition"[MeSH Terms] OR "parturition"[All Fields] OR "birth"[All Fields]) AND attendants [All Fields] AND dissemination[All Fields] AND ("mothers"[MeSH Terms] OR "mothers"[All Fields] OR "maternal"[All Fields]) AND clinical [All Fields] AND ("guideline"[All Fields] OR "guidelines as topic"[MeSH Terms] OR "guidelines"[All Fields])) AND (primary[All Fields] AND ("health facilities"[MeSH Terms] OR ("health"[All Fields] AND "facilities"[All Fields]) OR "health facilities"[All Fields]))	124
Medline	https://lwwreprints.ovidds.com/discover/results?q = Dissemination + and + use + AND + maternal + clinical + guidelines + AND + skilled + birth + attendants + AND + health + facilities+&page = 3	Dissemination and use AND maternal clinical guidelines AND skilled birth attendants AND health facilities	61
CINAHL	https://web.b.ebscohost.com.ez.sun.ac.za/ehost/resultsadvanced?vid = 2&sid = 32bbbb6c-b219-454c-b8d8-05012f007e5b%40pdc-v-sessmgr03&bquery = Maternal + clinical + guidelines + AND + Dissemination + AND + Use + OR + Implementation + AND + Skilled + birth + attendants + AND+(+experiences + or + perceptions + or + attitudes + or + views + or + feelings + or + qualitative + or + perspective +)&bdata = JmRiPWNpbjIwJnR5cGU9MSZzZWFyY2hNb2RlPVN0YW5kYXJkJnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl	Maternal clinical guidelines AND Dissemination AND Use OR Implementation AND Skilled birth attendants AND (experiences or perceptions or attitudes or views or feelings or qualitative or perspective)	27

Appendix 2:. Characteristics of included studies

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Table A2
Characteristics of Included Studies – Interpretive and Critical Research Form.

Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
Aniteye P, O'Brien B, Mayhew SH. 2016.	A descriptive qualitative study using in-depth interviews.	Ghana	Challenges to providing safe abortion services from the perspective of health providers in Ghana	The study was conducted in three (3) hospitals and five (5) health centres in the capital city of Ghana	Participants (n = 36) consisted of obstetricians/ gynaecologists, nurse-midwives and pharmacists.	The ambiguities in Ghanaian abortion law and lack of overt institutional support for practitioners increased reluctance to provide for fear of stigmatisation and legal threat openly. Negative provider attitudes that stigmatised women seeking abortion care were frequently driven

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Table A2 (*continued*)

Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
						by socio-cultural and religious norms that highly stigmatise abortion practice. Exposure to higher levels of education, including training overseas, seemed to result in more positive, less stigmatising views towards the need for safe abortion services. Nevertheless, physicians open to practising abortion were still very concerned about stigma by association. Proper dissemination of existing guidelines and overt institutional support for the provision of safe services also needs to be rolled out.
Musie MR, Peu MD, Bhana-Pema V. 2019.	qualitative, exploratory, descriptive and contextual design.	South Africa	factors hindering midwives' utilisation of alternative birth positions during labour	a specific public hospital located in the Central Tshwane sub-district with an estimated population of more than 400 000 people	professional nurses with midwifery training who completed either the four-year degree or 3-year diploma course and advanced midwives with a speciality in midwifery registered by the South African Nursing Council. This equated to 30 midwives working in the labour ward.	Data from the interviews revealed two main themes: 1. midwives' perceptions of alternative birth positions further explained by two sub-themes; midwives' personal convenience and comfortability and women's choice of birth position. 2. barriers to the utilisation of alternative birth positions further explained with three sub-themes; lack of necessary skills and training, lack of facilities and equipment, and communication difficulties between midwives and women.
Schack SM, Elyas A, Brew G, Pettersson KO. 2014.	a qualitative research design, applying in-depth individual interviews.	Ghana	factors determining Ghanaian midwives' level of adherence to the AMTSL guidelines it was deemed pertinent to explore their experiences of using the procedure	They took place at two district hospitals with three and six delivery beds, respectively, and one regional hospital with 10 delivery beds. The three hospitals were located in Accra Metropolis; the capital of Ghana, which has a total population of approximately 1.7 million [22]. The number of births in 2010 ranged from 2318 at one of the district hospitals to 8133 at the regional hospital.	Midwives with a range of experience of AMTSL i.e. between half a year to three years and representing all shifts	The following themes and sub-themes were identified: 1. Expressing confidence but revealing knowledge gaps in how to manage the AMTSL procedure: Lingering doubts despite increasingly positive experiences of AMTSL •Perceiving effectiveness in prevention of PPH •Feeling of security and control Disclosing shortcomings in managing AMTSL •Demonstrating incorrect CCT technique •No implementation of uterine massage 2. Facing reality when attempting to implement AMTSL: Striving to meet high

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Table A2 (*continued*)

Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/culture	Participant characteristics and sample size	Description of main results
						demands •Need to put trust in herself in stressful working situation •Preparedness facilitates use of AMTSL Prioritizing AMTSL in perceived risk cases •Prioritizing asphyxiated baby over AMTSL •Providing AMTSL to women with risk-factors only Encountering challenges of being a novice midwife •Fearing repercussions when correcting seniors •Working under supervision of less knowledgeable colleagues Identifying varying attitudes towards implementation of AMTSL •Requesting a more pedagogical approach to continuous education on AMTSL •Efforts to implement guidelines varying between maternity units •Inadequate dissemination of knowledge 3. Suggesting task shifting as a possible way forward Enhancing proper use of AMTSL by delegating parts of the procedure •Assistant provides steps of AMTSL to support midwife •No consensus on the assistants' competence Engaging women in labor – securing better control of uterine contraction •Achieving women's cooperation by communicating •Informing women about the progress of labor facilitates midwives' work
Schölin L, Watson J, Dyson J, Smith LA. 2021.	Focus groups and individual interviews	United Kingdom	implementation of the Guidelines in antenatal care	UK	22 midwives working in maternity and educational settings in the UK	Conflict between guidelines from different sources and lack of knowledge of the abstinence advice issued in the Guidelines were barriers to discussing abstinence. Communication with women and building relationships were key facilitators supporting alcohol discussions. How alcohol was addressed appeared to vary across the UK with no uniform approach. Building a trusted relationship was believed to be the way

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Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
						in which women can disclose alcohol use, though the first antenatal contact was not always viewed as the best time to discuss what was considered a personal matter.
De la Rosa A, Mordan J, Barinas I, Toribio M, Mancebo D, Rodríguez A, et al. 2021.	A qualitative study was conducted, using semi-structured interviews and focus groups in five maternity hospitals.	Dominican Republic	Estimate the acceptability and adoption by health care workers of clinical practice guidelines and treatment protocols for women with preeclampsia/eclampsia and identify the facilitating factors and barriers to their implementation.	Maternidad de Los Mina, in Santo Domingo (the country's capital), with 10 921 births per year; Maternidad René Klan, in Santiago Province, the province with the second largest population in the Dominican Republic, with 7 380 births; Maternidad Juan Pablo Pina de San Cristóbal, in the country's southwestern region, with 4 584 births; Maternidad Jaime Sánchez, in Barahona Province (the area bordering Haiti), with 3 986 annual births; and Hospital Antonio Musa de San Francisco de Macorís, located in the northeastern region of the country. The perspectives of the 70 providers were obtained in 2018.	23 nurses, 12 obstetrics gynecology (OB-GYN) residents, 12 OB-GYNs, 10 health managers, and two senior policymakers, for a total of 52 female and 18 male participants.	The majority of workers and managers were aware of the existence and content of clinical practice guidelines (CPGs) for preeclampsia/ eclampsia, especially the participants with more time in the health service. With respect to facilitating factors, both medical and nursing staff were positive about continued development and implementation of high-quality CPGs. There was consensus that limitations exist, especially with respect to a lack of the necessary medicines, supplies, and equipment to meet and implement the established recommendations.
Graham H, Tokhi M, Edward A, Salehi AS, Turkmani S, Duke T, et al. 2015.	A qualitative study design was chosen, using focus group discussions to collect data and a content analysis approach to objectively identify key themes. This was accompanied by site visits to record objective evidence of guideline use and supplementary meetings with relevant MoPH officials (directors of child health, maternal health and quality improvement sections).	Afghanistan	the perceived value, role and reported use of clinical guidelines by clinicians in urban paediatric and maternity hospital settings, and the effect of current implementation strategies on clinician attitudes, knowledge and behaviour.	Afghanistan's 2 largest paediatric referral and teaching hospitals, 2 largest obstetric referral and teaching hospitals, 2 district-level urban hospitals and 1 private hospital.	A total of 63 clinicians from 7 paediatric and maternity hospitals in Kabul, Afghanistan participated in structured focus groups; A total of 22 focus group discussions were conducted in January 2013 and involved 63 clinicians, including 43 doctors and 20 nurses/midwives	Seven sets of guidelines, protocols or standards were identified (including 5 WHO-endorsed guidelines). However, most are failing to achieve high levels of use. Factors associated with guideline use included: clinician involvement in guideline development; multidisciplinary training; demonstrable results; and positive clinician perceptions regarding guideline quality and contextual appropriateness. Implementation activities should fulfil 3 major objectives: promote guideline awareness and access; stimulate motivation among clinical guideline users; and actively facilitate adherence to guidelines.
Braddick L, Tuckey V, Abbas Z, Lissauer D, Ismail K, Manaseki-	Mixed-methods study: Using direct observation of deliveries at a Ugandan healthcare facility	Uganda	Level of adherence to postpartum hemorrhage clinical guideline recommendations and to explore context-specific barriers and facilitators to	three government-funded healthcare facilities in Uganda. One facility was an urban regional referral hospital,	Observation of nine midwives, one nurse-midwife and one doctor on management of PPH among 154 deliveries	Of 154 women, individual AMTSL, in the form of administering a uterotonic during the third stage of labor,

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Table A2 (*continued*)

Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
Holland S, et al. 2016.			evidence-based obstetric care	serving an area with a population of over 5 million. The obstetric unit provides 24-hour emergency care and, in 2013, performed 7932 vaginal deliveries. In this facility, midwives were responsible for assisting in the majority of vaginal deliveries with the obstetricians' and other medical officers' roles focused on surgical obstetric care	Qualitative component 18 interviewees, 15 were employed by the regional referral hospital (one senior doctor, three intern doctors and 11 midwives). A further three midwives were recruited from the two community health centers.	controlled cord traction, or delayed cord clamping, occurred in 105 (68.2 %), 119 (77.3 %), and, of a subset of 60 patients, 37 (61.7 %) individuals, respectively. However, only 18 of 53 (34.0 %) individuals observed for receipt of all of the three AMTSL components received all of the essential elements of AMTSL. Three major themes influencing the uptake of evidence-based practice were identified through 18 interviews: healthcare system issues; current knowledge, awareness, and use of clinical guidelines; and healthcare practitioner attitudes to updating their clinical practice.
Straus SE, Moore JE, Uka S, Marquez C, Gülmezoglu AM. 2013.	The study involved a survey, individual interviews, focus groups, and a consensus meeting with relevant stakeholders, including clinicians (obstetricians, midwives), managers, researchers, and policy makers from the national Ministry of Health and theWorld Health Organization office in Pristina, Kosovo.	Kosovo	To explore implementation of guidelines, including determinants of uptake and methods of contextualisation	study was focused in Kosovo and was conducted within the GREAT initiative framework, and represents a partnership with the Li Ka Shing Knowledge Institute of St. Michael's Hospital in Toronto, the WHO headquarters in Geneva and its Kosovo office.	Phase one: Participants consisted of family physicians and general practitioners (47 %), obstetricians (22 %), midwives (16 %), nurses (6 %), a pediatrician (3 %), a biochemist (3 %), and a medical student (3 %). Participants had been in practice for an average of 11.6 years (range 1 to 31 years). Phase 2: unclear participant characteristics Phase three: A total of 19 people participated in the two focus groups. Participants' demographic characteristics are: Eighty-nine percent of participants were from Pristina. Participants included gynecologists (37 %) and midwives/nurses (26 %). Forty-two percent of participants worked in a hospital setting.	Participants identified several important barriers to implementation. First, lack of communication between clinicians and ministry representatives was seen as leading to duplication of effort in creating or adapting guidelines, as well as substantial mistrust between clinicians and policy makers. Second, there was a lack of communication across clinical groups that provide obstetric care and a lack of integration across the entire healthcare system, including rural and urban centers. This fragmentation was thought to have directly resulted from the war in 1998 – 1999. Third, the conflict substantially and adversely affected the healthcare infrastructure in Kosovo, which has resulted in an inability to monitor quality of care across the country. Furthermore, the impact on infrastructure has affected the ability to access required medications consistently and to smoothly transfer patients from rural to urban centers. Another issue raised during this project was the appropriateness of

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Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
						including guideline recommendations perceived to be 'aspirational'.
Rana N, Brunell O, Målqvist M. 2019.	Qualitative design: focus group discussion (FGD) and key informant interview (KII)	Nepal	Explore delivery care staff's perceptions and attitudes towards changes in practice of umbilical cord clamping in order to identify work culture barriers and enablers for improved clinical practice and implementation of the new guidelines on cord clamping.	The study was carried out at two large referral hospitals in Kathmandu, Nepal. PMWH is a publicly funded maternity hospital for gynecological and obstetrics services with around	20,000 deliveries per year. It serves as a central referral hospital and training site for reproductive health, and one of the training centers for SBA. It has two separate delivery units, a labor room for high-risk deliveries and Maternal and Neonatal Service Center (MNSC) for low-risk deliveries, also called the 'birthing unit'. Tribhuvan University Teaching Hospital (TUTH) is a non-profitable hospital with about 7,500 deliveries per year. It is a central referral hospital which deals with all types of medical services, including maternity services. The hospital has two distinct functions, as a teaching hospital and as a national hospital. The hospital is also one of the SBA training centers. This hospital has two delivery units, a high-risk labor room and a low risk birthing center. Birthing centers at both hospitals are managed by SBA trained nursing staff, except in the case of unexpected emergencies when extra staff may be brought in.	Eight focus group discussions altogether with 34 delivery care staff working in the labor room and birthing units, and 12 key informant interviews with skilled birth attendant trainers/ supervisors and ward in-charges from both hospitals participated in the study. Participants had positive attitudes towards delayed cord clamping as it was not perceived to be a difficult task and as they perceived it to be beneficial for mother and child. The "will to do good", and a high level of trust both in the hierarchical system as well as in scientific evidence were identified as promoters of change. Several barriers were mentioned, such as maternal or fetal medical conditions and physical settings, as constraints to perform delayed cord clamping. They also mentioned difficulties in adopting new guidelines due to habitual practice, lack of formal training and poor coherence within the work team. In order to bring change to the practice, participants highlighted that officially approved national and institutional protocols and regular training are crucial.
Turner and Short, 2013.	semistructured, face-to-face interviews	SEA-ORCHID was a 5-year collaborative project (2004–2008) between four countries in SEA: Thailand, Malaysia, Philippines and Indonesia	Awareness and experience of: 1 EBP; 2 accessing evidence; 3 applying evidence; 4 changing practice; 5 doing clinical research; and 6 developing guidelines or protocols.	SEA-ORCHID was a 5-year collaborative project (2004–2008) between four countries in SEA: Thailand, Malaysia, Philippines and Indonesia; supported from Australia. By establishing a network of researchers, clinicians and teachers of evidence-based health care in nine hospitals, across these countries, SEAORCHID aimed to improve clinical practice in management of	Participants were clinicians working in the maternal and neonatal departments of the SEA-ORCHID hospitals. At each hospital, we aimed to interview two junior and two senior doctors, and two junior and two senior nurses or midwives from each of the obstetrics and neonatal departments. We also interviewed clinicians who had undertaken EBP training fellowships during the project and	The interviews identified several factors that participants believed had a substantial impact on the effectiveness of the SEA-ORCHID intervention. These included knowledge, skills, hierarchy, multi-disciplinarity and leadership, beliefs about consequences, resources, and the nature of the behaviours. The success of the SEA-ORCHID intervention in improving practice may reflect the extent to

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Table A2 (*continued*)

Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
				pregnancy and childbirth, and so enhance the health outcomes of mothers and infants in SEA.	members of the SEA-ORCHID project team at each of the hospitals. Interviews were most often conducted with individuals or pairs of clinicians; however, some group interviews were also conducted. A total of 179 people were interviewed in 75 individual, 25 pair and 11 group interviews conducted in the nine SEA-ORCHID	which tailored strategies were effective in overcoming these barriers.
Vogel JP, Moore JE, Timmings C, Khan S, Khan DN, Defar A, et al. 2016.	A mixed-methods (qualitative and quantitative) study	Myanmar, Uganda, Tanzania and Ethiopia	To describe barriers, facilitators and strategies for implementing WHO maternal health guidelinesidentified in a mixed-methodsstudy in four low and middleincome countries	In Myanmar, the activity was conducted in the context of a Ministry of Health initiative to improve the coverage of basic maternal and newborn healthcare nationwide, with particular emphasis on task-shifting from midwives to auxiliary midwives (AMWs). Uganda, Tanzania and Ethiopia were identified as priority countries within the UN Commission on Life Saving Commoditiesfor Women and Children, which aims to improve access to 13 essential commodities (including the maternal health commodities oxytocin, misoprostol and magnesium sulfate). In-country activities were conducted in Myanmar in June 2014, Uganda in August 2014, Tanzania in November 2014 and Ethiopia in May 2015.	In each country, stakeholder surveys, focus group discussions and prioritization exercises were used, involving multiple groups of health system stakeholders (including administrators, policymakers, NGOs, professional associations, frontline healthcare providers and researchers). Participants per each workshop: 1. Myanmar- 42 2. Uganda 34 3. United Republic of Tanzania 32 4. Ethiopia 19 Total: 127 participants	Despite differences in guideline priorities and contexts, barriers identified across countries were often similar. Health system level factors, including health workforce shortages, and need for strengthened drug and equipment procurement, distribution and management systems, were consistently highlighted as limiting the capacity of providers to deliver high quality care. Evidence-based health policies to support implementation, and improve the knowledge and skills of healthcare providers were also identified. Stakeholders identified a range of tailored strategies to address local barriers and leverage facilitators.
Ramos-Morcillo AJ, Harillo-Acevedo D, Armero-Barranco D, Leal-Costa C, Moral-García JE, Ruzafa-Martínez M. 2020.	A qualitative approach was used, and an inductive thematic analysis	spain	the barriers identified by the managers and health professionals involved in the implementation and sustainability of a CPG for Breastfeeding in a medium-sized hospital in Spain under the auspices of the Best Practice Spotlight Organization program	The study was conducted within the National Health System (Spain) in a 300-bed hospital. This center is not an accredited baby-friendly hospital. The Care Quality Department of the hospital prioritized the promotion of breastfeeding because the exclusive breastfeeding rate at discharge was only around 40 %. In Spain, the rate of	he participants in the study were managers involved in the BPSO® implementation program and health professionals from the maternity and pediatric units at the hospital where the CPG for BF was implemented, included health assistants, nurses, midwives, pediatricians, and gynecologists 20	Twenty interviews were conducted, which defined four major themes: (1) Lack of resources and their adaptation; (2) Where, Who and How; (3) Dissemination and reach of the project to the professionals; and (4) The mother and her surroundings. This research identifies the barriers perceived by the health professionals involved in the implementation, with the addition of the

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Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/ culture	Participant characteristics and sample size	Description of main results
				breastfeeding at 3 months is 72.4 %. This hospital adhered to the Best Practice Spotlight Organization (BPSO®) Madrid, Spain, coordinated by the Nursing and Healthcare Research Unit of the Carlos III Health Institute (Investen-isciii), in collaboration with the Registered Nurses Association of Ontario (RNAO)	participants were involved in the study	managers as well. Novel barriers appeared such as the ambivalent role of the midwives and the fact that this CPG is about promoting health.
Murray-Davis B, Darling EK, Berger H, Melamed N, Li J, Guarna G, et al. 2022.	Mixed methods design using a sequential, explanatory approach. Surveys conducted with midwives were administered using an online platform, followed by semi-structured interviews to understand the perspectives elicited in the survey in greater detail.	Ontario, Canada	to understand the barriers, enablers, and knowledge gaps that influenced experiences of midwives in Ontario, Canada when providing care to clients impacted by obesity	The survey link was sent to all registered midwives in Ontario by email through the provincial association's biweekly newsletter for a period of three months. Convenience sampling was also used, where advertisements for the study were sent via social media, institutional department bulletins, and through the local midwifery education program email distribution list for preceptors across Ontario.	144 midwives completed the survey and 20 participated in an interview	144 midwives completed the survey and 20 participated in an interview. The participants described their clinical management when caring for those with obesity which included considerations regarding additional tests/investigations, consultation and transfer of care, and place of birth. Up to 93 % of surveyed midwives believed that clients with obesity were appropriate for midwifery-led care however there was less certainty about suitability as BMI increased to higher ranges such as > 45). The care management was influenced by beliefs and attitudes, knowledge, and system-level factors. Midwives experienced barriers such as inconsistent practices and role confusion, and felt ill equipped to care for pregnancies affected by obesity due to unclear guidelines.

Table A3
Characteristics of Included Studies – Systematic Review and Research Syntheses Form.

Study	Review objectives	Descriptions of interventions/ phenomena of interest	Descriptions of outcomes included in the review	Descriptions of contexts included in the review	Search details	Number of studies and participants included	Appraisal instruments used	Description of main results
Feyissa GT, Balabanova D, Woldie M. 2019.	assess the effectiveness of mentorship programs among healthcare workers in Africa	Mentoring program of any type was considered for inclusion.	The review considered studies that include the following outcomes: competence (knowledge and	This review considered mentorship interventions conducted in healthcare facilities in all	The search strategy aimed to identify both published and unpublished studies and it involved three-steps. An initial	The search yielded a total of 496 records. After removing duplicates, 413 records were screened. After reading the titles	The papers retrieved were critically appraised by two reviewers independently using the Joanna Briggs Institute	Diverse approaches of mentorship were reported: a) placing a mentor in health facility for a period of time (embedded mentor), b) visits by a mobile

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Table A3 (*continued*)

Study	Review objectives	Descriptions of interventions/ phenomena of interest	Descriptions of outcomes included in the review	Descriptions of contexts included in the review	Search details	Number of studies and participants included	Appraisal instruments used	Description of main results
			skills, adherence to standard protocols), and institutional/staff performance. Patient outcomes were not included in the review	African countries	limited search of CINAHL and MEDLINE was undertaken followed by an examination of the text words contained in the title and abstract, and of the index terms used to describe the articles. A second search using all identified keywords and index terms was then undertaken across all included databases. Third, the reference list of all identified reports and articles was searched for additional studies. Both published and unpublished papers reported in English were searched with no restriction according to age, country, and date of publication. The databases searched were: EMBASE, CINAHL, CENTRAL, and MEDLINE. Additional search was conducted in Google Scholar. A detailed search strategy for each database is reported in Supplementary materials 2. The search was conducted by GTF. The search was conducted from Feb 7 to Feb 9, 2018. Similar key terms were used across all databases. The search in PubMed was conducted with the following MESH terms, keywords and limits.	and abstracts, 163 records were retained for further examination, out of which 30 articles reporting on 24 studies met eligibility criteria. After a critical appraisal, all 24 articles were included in the analysis	(JBI) appraisal checklists	mentor, c) a mentoring approach involving a team of mobile multidisciplinary mentors, d) facility twinning, and e) within-facility mentorship by a focal person or a manager
Stokes T, Shaw EJ, Camosso-Stefinovic J, Imamura M, Kanguru L,	to synthesise qualitative evidence on guideline implementation strategies to improve obstetric	Eligible interventions included one of the following seven implementation strategies to change health care provider behaviour, either alone	The majority of studies (7) evaluated one particular guideline implementation strategy: clinical	Studies from LMIC (World Bank Definition: https://data.worldbank.org/news/new-co	The search was conducted in CINAHL (inception to September 2014) and MEDLINE (inception to April	9 studies were included, all were based in Sub-Saharan Africa, 6 were set in low income countries (Somalia,	Four researchers (TS, EJS, MI and LK) independently assessed the quality of the included studies	Nine studies were included: all were based in Sub-Saharan Africa and in hospital health care facilities. The majority of studies

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Table A3 (*continued*)

Study	Review objectives	Descriptions of interventions/ phenomena of interest	Descriptions of outcomes included in the review	Descriptions of contexts included in the review	Search details	Number of studies and participants included	Appraisal instruments used	Description of main results
Hussein J. 2016.	care practice in LMIC in order to identify barriers and enablers to their successful implementation. To undertake a complementary quantitative systematic review to determine whether strategies to promote the use of guidelines improve obstetric practices in LMIC	or in combination (terms and definition according to Cochrane Effective Practice and Organisation of Care (EPOC)—taxonomy https://epoc.cochrane.org/epoc-taxonomy): 1. Distribution of educational materials—published or printed, audio-visual materials—delivered personally or through mass mailings 2. Educational meetings, conferences, lectures, workshops or traineeships and training if provided in the context of evidence-based packages 3. Local consensus processes around identifying and agreeing important clinical issues and management approaches 4. Educational outreach visits, which could include feedback on provider performance 5. Local opinion leaders 6. Audit and feedback 7. Reminders, including obstetric protocols, checklists, diagnostic/ decision flowcharts, or decision aids	audit and feedback (both criterion-based audit and maternal death reviews) (intervention type f). Two studies used an educational intervention (intervention types a and b) (1,7). (UNCLEAR)	untry-classifications-2015) were included. Eligible practitioners were health professionals and paramedical professionals located in health facilities from tertiary to primary level and those working in primary care (e.g. auxiliary nurse midwives, clinical officers and medical assistants) in LMIC. The type of care targeted was all pregnancy care relating to antenatal, labour, delivery and the immediate postnatal periods for prevention, diagnosis, referral, treatment and general clinical management of obstetric complications	2014). Three published search filters in were used in the search strategy: the Cochrane EPOC Group LMIC filter, designed to help identify studies relevant to low- to middle-income countries (https://epoc.- cochrane.org/lmic-filters) and qualitative filters for use with CINAHL [16] and MEDLINE [17]. No date or language restrictions were applied. Through an iterative process, additional, qualitative research terms, used in studies meeting the inclusion criteria, were identified and employed alongside the qualitative filter. These two search elements were then combined with maternal mortality search terms and with implementation strategies search terms. The aim was to identify as many relevant studies as possible and reduce the risk of missing potentially eligible studies (that is to maximise sensitivity rather than precision). We also asked relevant content experts if they knew of additional relevant studies not already identified through the database searches.	Tanzania, Burkina Faso and Benin) (1,4,5,6,8,9), 1 in a lower middle income country (Senegal) (3) and 2 in upper middle income country (South Africa) (2,7). All studies were based in hospital health care facilities, with one study including community health clinics (1). Study participants were medical practitioners (primarily obstetricians) and midwives. The majority of studies (7) evaluated one particular guideline implementation strategy: clinical audit and feedback (both criterion-based audit and maternal death reviews) (intervention type f). Two studies used an educational intervention (intervention types a and b) (1,7).	using the Critical Appraisal Skills Programme (CASP) quality assessment tool for qualitative studies (https://www.caspuk.net/#!casp-tools-checklists/c18f8).	(seven) evaluated one particular guideline implementation strategy: clinical audit and feedback (both criterion-based audit and maternal death reviews), and a minority (two) evaluated educational interventions. A range of barriers and enablers to successful guideline implementation was identified. A key finding of the framework synthesis was that "high" and "low" intrinsic health care professional motivation are overall enablers and barriers, respectively, of successful guideline implementation. We developed a modified "stages of change" model to take account of these findings.

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