REVIEW ARTICLE

Demand-side barriers to access and utilization of skilled birth care in low and lower-middle-income countries: A scoping review of evidence

DOI: 10.29063/ajrh2022/v26i9.4

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Abstract

A myriad of demand-side factors hamper childbearing women from utilizing needed skilled birth care in low and lower-middle-income countries. The objective of this scoping review is to explore the extent of evidence available on the subject matter and identify knowledge gaps in the reviewed literature. We used the Arksey and O'Malley scoping review framework as a guide for this review and conducted searches on four electronic databases: PubMed, Embase, PsycInfo and Google Scholar. Eligible studies were those published in English and French languages between 2013 and 2022 that discussed demand-side barriers to access and utilization of skilled birth care in low and lower-middle-income countries. Five themes emerged as major types of barriers influencing the utilization of skilled birth care in low and lower-middle-income countries. These were socio-economic and socio-demographic status of women; lack of access to healthcare facilities; cost of healthcare services; ineffective healthcare systems and socio-cultural/religious factors. The identified gap in the literature was the lack of studies on the influence of women's behaviour and psychological traits as barriers to the use of skilled birth care among reviewed publications. To design effective interventions, it is important to consider all influential factors that determine the utilization of skilled birth care by women in low-resource settings. *(Afr J Reprod Health 2022; 26[9]: 31-47).*

Keywords: Skilled birth care, skilled birth attendants, maternal healthcare services utilization

Résumé

Une myriade de facteurs liés à la demande empêchent les femmes en âge de procréer d'utiliser les soins d'accouchement qualifiés dont elles ont besoin dans les pays à revenu faible et intermédiaire inférieur. L'objectif de cet examen de la portée est d'explorer l'étendue des preuves disponibles sur le sujet et d'identifier les lacunes dans les connaissances dans la littérature examinée. Nous avons utilisé le cadre d'examen de la portée d'Arksey et O'Malley comme guide pour cet examen et effectué des recherches dans quatre bases de données électroniques : PubMed, Embase, PsycInfo et Google Scholar. Les études éligibles étaient celles publiées en anglais et en français entre 2013 et 2022 qui traitaient des obstacles du côté de la demande à l'accès et à l'utilisation de soins d'accouchement qualifiés dans les pays à revenu faible et intermédiaire inférieur. Cinq thèmes ont émergé comme principaux types d'obstacles influençant l'utilisation de soins d'accouchement qualifiés dans les pays à revenu faible et intermédiaire inférieur. Il s'agissait du statut socio-économique et socio-démographique des femmes ; le manque d'accès aux établissements de santé ; le coût des services de santé ; des systèmes de santé inefficaces et des facteurs socioculturels/religieux. La lacune identifiée dans la littérature était le manque d'études sur l'influence du comportement et des traits psychologiques des femmes en tant qu'obstacles à l'utilisation de soins d'accouchement qualifiés parmi les publications examinées. Pour concevoir des interventions efficaces, il est important de prendre en compte tous les facteurs influents qui déterminent l'utilisation de soins d'accouchement qualifiés par les femmes dans les milieux à faibles ressources. *(Afr J Reprod Health 2022; 26[9]: 31-47).*

Mots-clés: Soins d'accouchement qualifiés, accoucheuses qualifiées, utilisation des services de santé maternelle

Introduction

Each year, approximately 295, 000 women die worldwide from pregnancy and childbirth complications and its management[1]. Over 94% of these deaths occur in low and lower-middle-income countries, reflecting inequalities in access to and utilization of quality maternal healthcare services[1,2]. The World Health Organisation (WHO) estimates that the risk of a woman in a low-income country dying from a maternal-related cause during her lifetime is about 130 times higher when compared to

a woman living in a high-income country[1,2]. The global average maternal mortality ratio in low-income countries is 462 per 100,000 live births while the ratio is 11 per 100,000 live births in high-income countries[1,2].

As part of the continued effort to reduce maternal deaths, the Sustainable Development Goals (SDGs) were launched at the United Nations General Assembly in 2015. Specifically, the SDG 3.1 advocates for a reduction of the global maternal mortality ratio to less than 70 per 100,000 live births with no country having a maternal mortality ratio of more than twice the global average by 2030[3].

To improve the utilization of skilled birth care and reduce maternal deaths at the global level, the WHO initiated the Ending Preventable Maternal Mortality (EPMM) strategies, which are focused on eliminating significant inequities that lead to disparities in accessing and utilizing skilled reproductive and maternal care[4]. Furthermore, at individual country levels, various interventions have been put in place over the last decades in many low and lower-middle-income countries to improve the utilization of skilled birth care[5-8]. For example, Edward *et al.* found that the training of community health workers to deliver health promotion messages to pregnant women resulted in a higher percentage of facility births in Cambodia, Kenya and Zambia[9]. Similarly, Ajayi and Akpan reported that the Abiye initiative that provided cash incentives to traditional birth attendants who referred pregnant women to hospitals in Ondo State, Nigeria, led to an increase in women's utilization of skilled birth care during the study period[10]. However, despite these interventions, a significant number of pregnant women in low and lower-middle-income countries do not utilize the services of skilled healthcare professionals during childbirth[11-13]. This emphasises the need to give attention to all factors that hinder access and utilization of skilled birth care in low and lower-middle-income countries.

In many low and lower-middle-income countries, social determinants of health such as income, education, housing, food, transportation and social support affect a wide range of health functioning and quality-of-life outcomes and risks[14]. When women have access to comprehensive and seamless medical care with links to economic, behavioural, psychological and social support, improving maternal health outcomes and preventing maternal mortality and morbidity is possible[13,14]. In addition to the extensive literature on the effectiveness of skilled birth care utilization in reducing maternal mortality and morbidity, there is consensus on the economic benefits of investing in maternal healthcare services across the continuum of care as healthier women and their children contribute to more productive and sustainable societies[14].

The available literature have identified several demand-side barriers that women in low-resource settings face in accessing and utilizing skilled birth care. Demand-side factors, along with health system factors, influence women's care seeking behaviour in utilization of skilled birth care during childbirth[15]. Demand-side factors are those factors influencing the ability to use healthcare services at individual, household or community level, some of these barriers include the socioeconomic status of women, out-of-pocket payments for healthcare services, perceived distance and cost of transportation to healthcare facility, level of women's autonomy, cultural and religious factors[15]. Other demand-side factors interact with health system determinants to hinder service uptake by women and encapsulate factors such as quality of care rendered in healthcare facilities, level of trust in health care providers, non-availability and inaccessibility of health care services, and cost of health care services[16,17].

In this scoping review, we aim to map out these factors according to their level of frequency and intensity in reviewed studies and identify the gaps in literature. Previous reviews done on the subject area have focused on individual countries within or upon specific regions in low and lower-middle-income countries[18-20]. The objective of this review is two-fold; first, to identify existing empirical evidence on the demand-side factors that influence women's access and utilization of skilled birth care. Second, to identify knowledge gaps in reviewed literature. We focused on low and lower-middle-income countries where preferences for type of assistance during childbirth are determined by a number of individual and contextual factors[18].

The findings from this scoping review will initiate further research in areas where there are identified dearth in the literature and help to propose effective policy actions and interventions targeted at improving utilization of skilled birth care in low resource settings.

Methods

A review of the literature was conducted using a predetermined specific research protocol based on the methodology described by Arksey and O'Malley[21]. Using this method, relevant literature is systematically identified, located and summarised. The purpose of this methodological approach is to explore and chart available evidence in order to provide a broad overview of the literature and identify research gaps. The methods used to identify, select and evaluate the evidence are described below.

Literature search

Four electronic literature databases (PubMed, APA Psych Info, Embase and Google Scholar) were searched using a combination of keywords representing access and utilization of skilled birth care. For every database, a search string was developed with the support of a librarian. Predefined search (titles and abstract), MeSH terms, text words and word variants were used to identify the research objective (Table 1). Reference lists of included studies and excluded review articles were also chain searched for relevant citations. The initial search was conducted in December 2021 with an updated search run in September 2022. Endnote reference software was used to remove duplicates both automatically and manually and to manage the references and keep track of articles.

Study selection

Two research team members conducted Level 1 (title and abstract) and Level 2 (full-text) screening based on the predetermined inclusion criteria. Each of the reviewers selected articles independently and afterwards conducted a comparison check to synchronize the selection process. Discrepancies were resolved by reaching a consensus through discussion and consulting a third reviewer when consensus could not be reached.

Inclusion criteria for articles were: (i) Peer-reviewed research articles focusing on utilization of maternal healthcare services; (ii) Using primary study designs (quantitative, qualitative and mixed methods study) (iii) Focused on low and lower-middle-income countries following the United Nations classification of countries[22]; (iv) Focused on women within the reproductive age of 15 – 49; (v) Primary and secondary research articles excluding reviews; (vi) Written in English or French; (vii) Published between January 2013 and September 2022.

Exclusion criteria for articles were (i) Grey literature (Book reviews, study protocols, commentaries, PhD theses, proposals and editorials); (ii) Articles published before 2013; (iii) Articles published in other languages apart from English and French.

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) was used to guide the reporting of this scoping review[23].

Data charting

Two research team members developed, pilot tested and revised the data extraction form in Microsoft Excel. Data were extracted by one reviewer and verified by a second reviewer. The following general data were extracted: title, author(s), year of publication, country setting and location, study population, study design, study objectives, type of barrier identified, outcome measures and important results.

Results

In total, 1198 studies were retrieved through database searching and 22 articles from chain reference searching. After removal of duplicates and screening, 95 articles met our inclusion criteria (Figure 1). The majority of the studies from the selected articles were conducted in East Africa (n = 38; 42.6%), followed by West Africa (n = 30; 31.7%), South Asia (n = 12; 14.9%), Southeast Asia (n = 4; 3.9%) and South Africa (n = 3; 2.9%). North Africa, Central America, North America and South America each had one study included. Sample sizes from the various studies varied from 300 to 5000 participants. Overall, 85% used quantitative methodology while 15% used qualitative and mixed methods of data analysis.

Themes

We identified five themes as major types of barriers influencing utilization of skilled birth care in low and lower-middle-income countries and charted studies with similar themes together as highlighted in Table 2. These themes include:

Table 1: Search strategy for the scoping review

Database	Key search terms
PubMed	Maternal Health Services/economics"[Mesh] OR "Maternal Health Services/psychology"[Mesh] OR "Maternal Health Services/statistics and numerical data"[Mesh] OR "Maternal Health Services/supply and distribution"[Mesh]) OR (Maternal Welfare[mh] OR Delivery Care[mh])) OR ((Maternal Health Service*[tiab]) OR (Maternal-Child Health Services[tiab] OR Skilled birth attendan*[tiab] OR Facility based delivery[tiab] OR Skilled delivery Care[tiab] OR Institutional delivery[tiab]))) AND ((Poverty[mh]) OR ((Low-Income Population[tiab] OR Low-Income Populations[tiab] OR Low Income Population[tiab] OR Low Income Populations[tiab] OR Indigents[tiab] OR Indigent[tiab] OR Indigency[tiab] OR Absolute Poverty[tiab]) OR (Poverty Areas[tiab]))
Embase	"health care utilization"/exp OR "health resources utilization":ti,ab OR "health service use":ti,ab OR "health service utilization":ti,ab OR ""health service utilisation pattern":ti,ab OR "health services use":ti,ab OR "health services utilization":ti,ab OR "healthcare use":ti,ab OR "healthcare utilization":ti,ab OR "healthcare utilisation":ti,ab OR utilization:ti,ab OR "health care":ti,ab "health care concepts"/de OR "health care access"/exp OR "health care facilities and services"/exp OR "skilled birth attendant*:ti,ab OR "skilled delivery care":ti,ab OR "facility based delivery":ti,ab OR "institutional delivery":ti,ab OR "delivery care":ti,ab OR "pregnancy care":ti,ab OR childbirth*:ti,ab OR "maternal health care":ti,ab OR "maternity care":ti,ab
PsycInfo	*skilled birth attendant*; *developing countries; *LMICs; *low-resource settings, *behaviour OR behavior; *psychological traits; *perception; *preference; *culture; *religion; *health care concepts; *health care access; *health care facilities and services; *quality of care

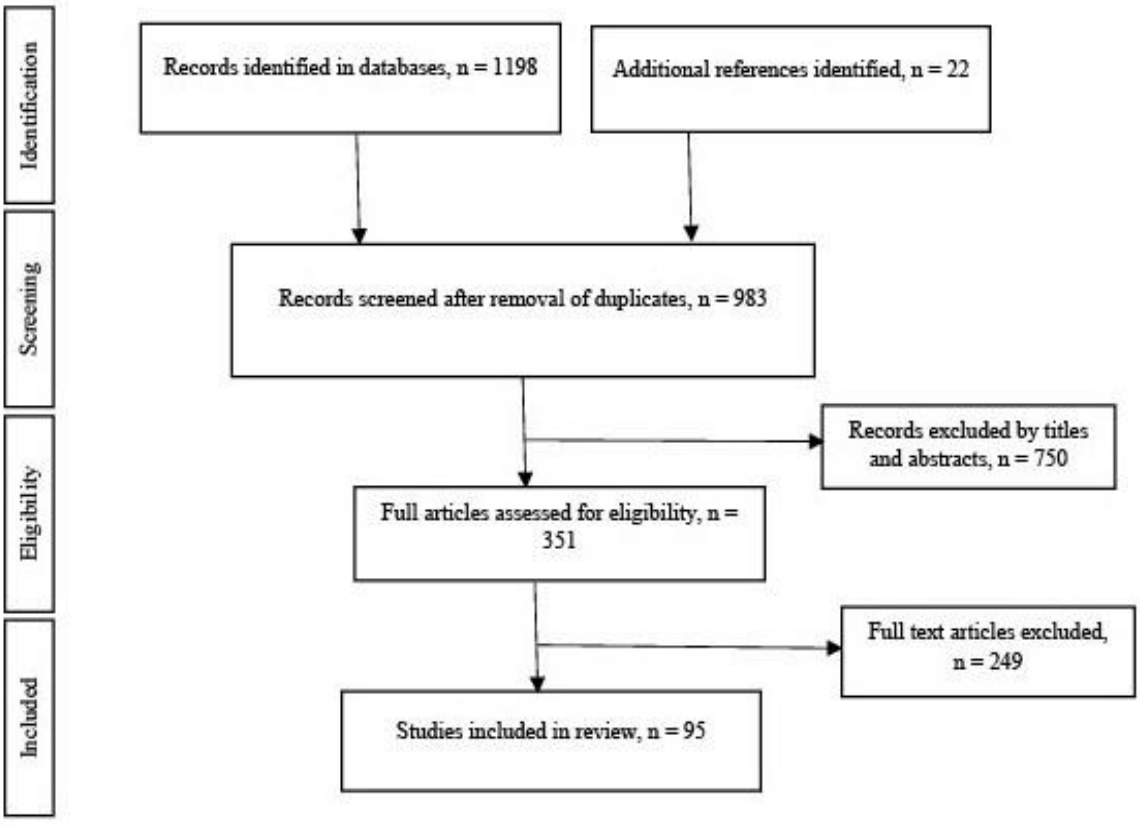

Figure 1: Prisma-ScR flowchart illustrating the article selection process

Table 2: Themes and sub-themes identified from reviewed studies

Themes	Sub-themes	References
Socio-economic factors	Age	[13, 16, 24, 25, 26]
	Education status	[27, 28, 29, 30, 31]
	Occupational status/level of income	[16, 32, 33, 34, 35, 36, 37]
	Marital status	[16, 38, 39, 40, 41, 42, 43-46]
	Parity	[25, 47, 48, 49]
Lack of access to healthcare services	Distance	[46, 50, 51, 52, 53]
	Lack of transport	[54, 55, 56, 57]
	Place of residence	[58, 59, 60, 61-63]
	Women autonomy	[64, 65, 66, 67-69]
Cost of healthcare services	Direct costs	[28, 60, 70, 71, 72]
	Indirect costs	[70, 73, 74]
	Insurance	[75, 76]
Perceived ineffective healthcare systems	Perceived low quality of care	[17, 32, 68, 77, 78, 79]
	Disrespect and trust in healthcare professionals	[80, 81, 82, 83, 84]
	Non-availability of healthcare services	[85, 86, 87, 88]
	Inadequate number of healthcare personnel	[46, 89, 90, 91]
Socio-cultural/religious factors	Cultural factors	[66, 92, 93, 94]
	Religious factors	[31, 95, 96, 97]
	Perceived need for healthcare services	[56, 98, 99]
	Preference in place of childbirth	[13, 100, 101]
	Intention to use skilled birth care	[102]

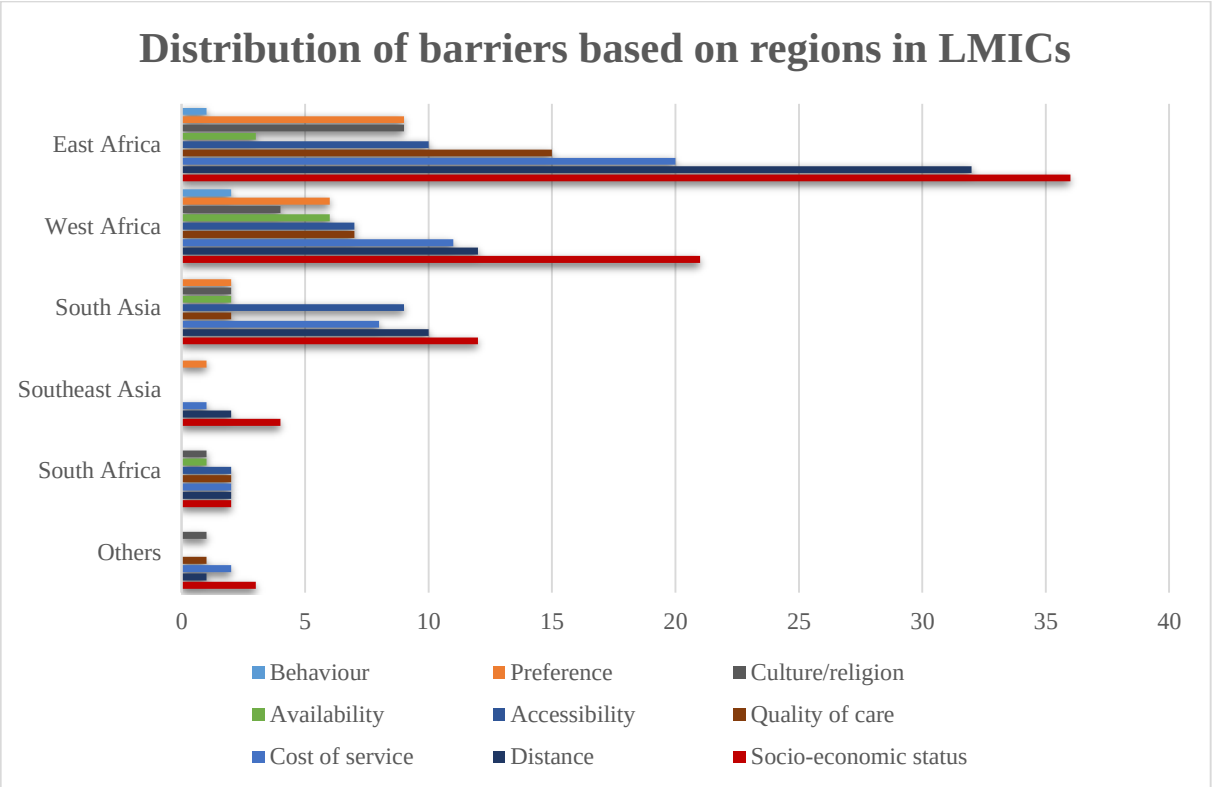

Figure 2: Distribution of types of barriers based on regions in LMICs

I. Barriers related to the socio-economic and socio-demographic status of women such as age, level of education, occupation, level of income, marital status and parity in 76.2% (n = 77) of the studies.

II. Barriers related to lack of access to healthcare facilities. These included distance as measured by the number of kilometres from a respondent's home to the nearest health care facility, non-availability

of transportation to healthcare facilities, geographical location and absence of decision-making autonomy on the part of the woman in 58.4% (n = 74) of the studies.

III. Barriers related to the cost of service. These referred to the amount paid for childbirth services, purchase of drugs and other charges that can be classified as direct and indirect costs as well as availability and ownership of healthcare insurance in 43.6% (n = 44) of the studies.

IV. Barriers related to ineffective healthcare systems. These included the quality of care rendered by health care providers, low levels of trust in healthcare providers, non-availability of healthcare services, inadequate number of healthcare personnel in 38.7% (n = 39) of the studies.

V. Socio-cultural and religious barriers. These included cultural/religious barriers such as preferred birthing position and disposal of placenta 9.1% (n = 10), preferences for place of childbirth and preference for sex of health care provider 6.7% (n = 6), and behavioural barriers such as intention to use or not to use skilled birth care 2.9% (n = 3).

Theme I - Barriers posed by women's socio-economic and socio-demographic status

Age: A significant number of studies reported significant associations between age and utilization of skilled birth care. For example, Tsegaye *et al*. and Asseffa *et al.* in their studies conducted in Ethiopia found that women above the age of 35 had lower odds of utilizing skilled birth care when compared with younger women between the ages of 15 and 19. This was because the younger women had greater levels of exposure, more knowledge of modern health care and had more access to modern education[16,24]. Shiferaw *et al.* also found that although age was not a barrier to utilization of skilled birth care among Ethiopian women in rural areas, it was a barrier for women in the urban areas[13]. Studies from Nigeria found conflicting results of the influence of age on skilled birth care utilization. For example, Ononokpono and Odimegwu found that maternal age was positively associated with health facility childbirth with older women (35-49 years) having higher odds of giving birth in a health facility when compared with younger women aged 15-24 years[25]. On the other hand, Muhammed *et al*. found that women living in the Northern part of Nigeria who were aged between 35 and 49 preferred to give birth without utilizing skilled birth care[26].

Education status: Education was found to be significantly associated with utilization of skilled birth care in several studies. For instance, Mehta *et al.* and Bayo *et al.* in studies carried out in India and South Sudan respectively, found significant differences in the utilization of skilled birth care between literate and illiterate mothers with illiterate mothers less likely to utilize care[27,28]. Similarly, Zhou *et al.* found that having less than secondary education lowered the odds of utilizing skilled birth care by women in Cambodia[29]. Abikar and Karama also found that uneducated women in Kenya were four times less likely to utilize the services of a skilled birth attendant when compared with those who had at least seven years of schooling. They recommended that community based antenatal education should be targeted at poorly educated mothers to enable them to make informed decision about place of childbirth[30]. Similarly, Solanke *et al.* attributed the low utilization of skilled birth care among women in Northern Nigeria to the low level of education usually found among women in the region[31]. Several reviewed studies also found that women whose husbands had less than secondary education had significantly lower odds of utilizing skilled birth care when compared with women whose husbands had higher education[28-30].

Occupational and income status: Studies conducted by Habte and Demissie and Ntenda in Ethiopia and Malawi found that women who were not working had difficulty in saving money for childbirth and were less likely to utilize skilled birth care when compared with working women[32,33]. Exavery *et al.* however, found an insignificant association between utilization of skilled birth care and women's occupational status in rural and urban areas in Tanzania[34]. Significant associations were also found between income and utilization of skilled birth care[35,36]. Studies conducted by Tsegaye *et al.* and Huda *et al.* in Ethiopia and Bangladesh respectively, found that women that were not earning income and those earning lower income were less likely to utilize skilled birth care when compared with women that were earning higher incomes[16,37].

Marital status: Amporfu and Grepin and Dickson *et al.* found significant associations between utilization

of skilled birth care services in Ghana and marital status however, the direction of this association differed in the reviewed studies[38,39]. Studies conducted in Ethiopia and Namibia found that women that were not in legal union had lower odds of utilizing skilled birth care when compared with women in legal unions[16,40,41]. On the contrary, Abebe *et al.*, Aregbeshola and Khan and Tsawe and Susuman found that utilization of skilled birth care was highest among unmarried women and lowest among married women suggesting that the ability to make autonomous decisions had a positive influence on healthcare services utilization[42-44]. However, Ganle *et al.* and Adewemimo *et al*. found no association between women marital status and the use of skilled birth services in Ghana and Nigeria respectively[45,6].

Parity: Disparities were found in the association between parity and utilization of skilled birth care from the reviewed studies. The majority of reviewed studies found that as birth order increased, utilization of skilled birth care decreased. For example, studies conducted by Dankwah *et al.* in Ethiopia and Eshete *et al.* in rural Ghana found that multiparous women had lower odds of utilizing skilled birth care when compared with first-time mothers[47,48]. However, Saaka and Akuamoah-Boateng found that higher parity women in Northern Ghana who had suffered miscarriages or had complications during previous pregnancies had higher odds of utilizing skilled birth care when compared with higher parity women without previous pregnancy complications[49]. In contrast, Ononokpono and Odimegwu in their study conducted in Nigeria found that women who had five or more live births had higher odds of utilizing skilled birth care when compared with women who had one to two live births[25].

Theme II - Barriers posed by lack of access to healthcare facility

Distance: Distance to healthcare facilities has dual influence on utilization of skilled birth care. First, as a barrier to seeking healthcare services and second as an obstacle to reaching healthcare facilities. Reviewed studies reported that living more than three kilometres from a healthcare facility and having limited access to transport reduced the likelihood of utilizing healthcare facilities for childbirth. For example, Dotse-Gborgbortsi *et al.* found that a kilometre increase in distance significantly reduced utilization of skilled birth care by women in the Eastern region in Ghana[50,51]. Similarly, Raymondville *et al.* found that Haitian women who lived more than 10 kilometres from the nearest healthcare facility were less likely to utilize skilled birth care[52]. Shah *et al.* also found that women who reported travelling for more than one hour to the nearest healthcare facility had decreased odds of utilizing skilled birth care[53]. In contrast, findings by Adewemimo *et al.* in a study conducted in Northern Nigeria found that distance to healthcare facilities was not a significant determinant of utilization of skilled birth care[46].

Lack of transport: Several reviewed studies cited the lack of transportation to healthcare facilities as barriers to utilization of skilled birth care in low and lower-middle-income countries. Nigatu *et al*. and Alam *et al.* found that the most prevalent reason for the non-utilization of skilled birth care by women residing in Northwest Ethiopia, Bangladesh and Burkina-Faso was inaccessible transportation services to the nearest healthcare facility[54,55]. Similarly, Tolera *et al.* found that having a form of motorized transportation to the nearest healthcare facility during labour significantly influenced utilization of skilled birth care in Ghana as women who reported not having access to motorized transportation were less likely to utilize skilled birth care[56]. Ntoimo *et al.* also found that women who resided in rural communities in Nigeria reported having difficulty with transportation caused by poor roads and were less likely to utilize skilled birth care[57].

Place/region of residence: Place and region of residence influence the utilization of skilled birth care in many ways. Several studies found that living in rural areas significantly decreased the odds of childbearing women to utilize skilled birth care when compared with women living in urban areas. Nyongesa *et al.* and Rashid *et al.* found that women residing in rural areas in Kenya and Zambia or regions with fewer healthcare facilities had lower odds of utilizing skilled birth care services when compared with their urban counterparts[58,59]. Adedokun and Uthman found that women residing in rural areas in Nigeria were less likely to utilize skilled birth care when compared with women living in urban areas. They attributed this to the difficulty that rural women experience in getting to healthcare facilities and the proliferation of traditional birth

attendants in rural areas[60]. Adu *et al.* also found similar results in Ghana and attributed this to the inadequate financial resources available to women residing in rural areas that makes it difficult for women to afford the cost of transportation to healthcare facilities that were located outside of their catchment areas[61]. Other studies found that poor road networks and remoteness of some communities make rural women face more barriers of physical access to health care services than urban women do[62-63].

Women autonomy: Women's autonomy, as measured by ability to take decisions on matters that affect them directly, has also received significant attention from maternal healthcare literature for its influence on use of skilled birth care and was identified as a barrier in reviewed studies. Several studies found that women who had little or no decision-making ability had lower odds of utilizing skilled birth care when compared with women with greater autonomy. Hou and Ma found that women's autonomy had a significant positive correlation with utilization of skilled maternity care in households where women were involved in decision-making in Pakistan. Whereas in households with influential males, decision-making power had a negative effect on utilization of skilled birth care[64]. Ntoimo *et al.* found that rural Nigerian women who lacked autonomy in making decisions on major household purchases were less likely to utilize skilled birth care[65]. Karanja *et al.* also had similar findings in Kenya. They found that women were less likely to utilize skilled birth care when they were not the primary decision-makers on the place of childbirth[66].

Studies conducted in South Sudan by Kane *et al.* and in Nepal by Bhandari *et al.* found that women were more likely to give birth in healthcare facility if they independently made the decisions about childbirth themselves than if the husband or another relative were involved[67,68]. However, similar studies conducted in India by Bhandari and Srinivasan found an insignificant association between women's autonomy and utilization of skilled birth among women both in urban and rural areas. They found that women who had autonomy in decision making had lower odds of utilizing skilled birth care than women who had little or no autonomy in decision-making[69].

Theme III - Barriers posed by cost of maternal healthcare services

Direct costs: Cost of healthcare services influence the decision to utilize skilled maternal healthcare services[70]. While directly affecting whether a woman can actually reach a facility for childbirth, the anticipation of high costs will also affect her decision to utilize skilled birth care[71]. Several reviewed studies found that prior payments made for childbirth in healthcare facilities increased the risk of home births thereby making women less likely to utilize skilled birth care during childbirth. For instance, Sailubaiye *et al.* in a study conducted in Zambia found that women who worried about their inability to afford baby clothes and other items required for facility childbirths were less likely to utilize skilled birth care[72]. Similarly, Bayo *et al.* in South Sudan found that women who had institutional childbirths reported making more payments (especially unofficial payments) for the service than those who had non-institutional childbirths. Such unofficial payments, including the provision of soaps and confectioneries to healthcare providers, were routine expectations when giving birth in healthcare facilities and often acted as disincentives to utilization of skilled birth care[28]. Adedokun and Uthman also found that women residing in rural communities in Nigeria might opt for other alternatives to utilizing skilled birth care when they consider the cost of healthcare services to be unaffordable[60].

Indirect costs: Utilization of healthcare services might also include other indirect costs in the form of opportunity costs of travel time and waiting time lost from productive activities[70]. Yoseph *et al.* found that opportunity cost in terms of travel time, waiting time and loss of productive activities acted as additional costs for women seeking skilled birth care in Ethiopia[73]. Similarly, Enuameh *et al.* in their study conducted in Ghana found that other economic factors, aside from the actual cost of healthcare services, influenced women's decision-making in utilizing skilled birth care[74].

Insurance: Another cost-related aspect of utilization of skilled birth care in reviewed studies was the lack of ownership of health insurance.

Insurance coverage is an important component of accessing and utilizing healthcare as it reduces the burden of out-of-pocket payments[75]. Several reviewed studies found that not having health insurance decreased the odds of utilizing maternal healthcare service or increased the delay in utilizing healthcare in different population groups. For instance, Khan and Singh found that not having health insurance in Ghana decreased women's likelihood of utilizing skilled birth care by 53%[76]. Brooks *et al*. and Trujillo *et al.* also found that a large proportion of women in low-resource households in Indonesia and Columbia had limited access to skilled maternity care because of their inability to enrol for health insurance[77,78].

Theme IV - Barriers posed by perceived ineffective healthcare systems

Perceived low quality of care: Women's perceptions about the quality of care rendered in a healthcare facility might exert some influence on their utilization of skilled birth care. Several studies found significant associations between the quality of care rendered in a healthcare facility and utilization of skilled birth care. Anastasi *et al*. found that women in Uganda reported underutilizing healthcare facilities closer to their villages because they perceived the quality of care to be low and preferred traveling longer distances to healthcare facilities that offered better quality of care[79]. Bhandari *et al.* cited poor quality service as one of the reasons for the low utilization of skilled birth care in Nepal. They concluded that community perceptions of the quality of the local health system influence women's decision to utilize maternal healthcare services[68]. Other studies found that women reported better quality of care in privately owned healthcare facilities, but that the cost of services prevented them from utilizing such facilities[17,32].

Disrespect and lack of trust in healthcare professionals: The pervasiveness of disrespect and abuse in facility-based childbirth are barriers to utilization of maternal healthcare services in many settings. Ukke *et al.* in a study conducted in Southern Ethiopia found that women who reported feeling disrespected and those who had been physically abused by healthcare providers during previous pregnancies were less likely to utilize skilled birth care as they feared having similar experiences again[80]. Wassihun and Zeleke in Ethiopia found that women that lived in rural areas, women who had complications during previous childbirths and women who had caesarean births were more likely to report having suffered abuse and mistreatment from healthcare providers and thus, were less likely to utilize skilled birth care in subsequent childbirths[81].

Several reviewed studies found that women's level of trust in healthcare professionals influenced their decision to utilize skilled birth care. For example, Siraj *et al.* found that women in Southwest Ethiopia who reported experiencing discrimination on grounds of socio-economic status had lower level of trust in healthcare providers and were less likely to utilize skilled birth care[82]. McMahon *et al.* found that women in Tanzania reported bypassing facilities with unfriendly healthcare professionals because they did not trust them to provide good healthcare services[83]. This elongated the journey to seek healthcare services and reduced the likelihood of utilizing skilled birth care[83]. Atukunda *et al.* in their study conducted in Uganda found that women who reported low level of trust in healthcare professionals complained of experiencing verbal and physical abuse, inadequate care or outright abandonment during the labour process[84]. They reported that women also complained of partial treatment and discrimination, stating that healthcare professionals preferred women who were rich, dressed well and could afford the required items needed for childbirth making them less likely to utilize skilled birth care[84].

Non-availability of healthcare facilities: Non-availability of skilled childbirth services re-echoes the concern that people who live in inner cities and rural areas receive less health care provision than the rest of the population. For example, Atusiimire *et al.* found that women who lived in urban slums areas in Uganda lacked good healthcare facilities and were less likely to utilize skilled birth care[85]. Choulagai *et al.* also found that women in Nepal reported the non-availability and inaccessibility of healthcare services, minimal staff support, lack of medicine and equipment, and inadequacy in the referral systems as reasons for not utilizing skilled birth care[86]. Similarly, Worku *et al*. found that having a healthcare facility that was well equipped with all the signal functions of basic essential obstetric care increased the odds of utilizing skilled birth care by women residing in Northwest Ethiopia[87]. In Kenya,

Kisiangani *et al.* reported that the non-availability of healthcare services was due to insecurity and inter clan conflicts that made skilled birth care services unavailable in various parts of the country especially in hard-to-reach terrains[88]. Women who did not live close to health facilities also reported the absence of healthcare providers during night shifts and weekends as obstacles to utilization of skilled birth care[88].

Inadequate personnel and essential amenities: Some reviewed studies reported that in some cases, the healthcare facilities were available but the lack of skilled personnel, adequate basic facilities and equipment constituted as barriers to utilization. For example, Okonofua *et al.*, Aikpitanyi *et al.* and Adewemimo *et al.* found that the major barriers identified by Nigerian women in accessing skilled birth care was the lack of healthcare providers, lack of essential drugs, inadequate number of beds and childbirth equipment in the available healthcare facilities[89,90,46]. Similarly, Wilunda *et al.* (2014) found that the lack of infrastructure, drugs and supplies at healthcare facilities were major impediments to utilization of skilled birth care in Uganda[91].

Theme V - Socio-cultural and religious barriers

Cultural factors: Several cultural factors including women's health beliefs, attitudes, values and knowledge concerning healthcare systems can influence the utilization of skilled birth care in low and lower-middle-income countries. A community-based study conducted by Adatara *et al.* in Northern Ghana found that women in the community who reported strong beliefs that certain childbirth positions influenced the outcome of pregnancy and labour were less likely to utilize skilled birth care[92]. Inappropriate placenta handling and disposal in healthcare facilities also influenced utilization of skilled birth care, as there was a strong belief in the community that the placenta was the second child and its disposal involved traditional rituals[92]. Munguambe *et al.* in their study conducted in Southern Mozambique found that women whose husbands thought it was inappropriate to reveal their pregnancy early in the gestation period were less likely to utilize skilled birth care for childbirth[93]. Similarly, Sumankuuro *et al.* found that women in rural communities in Ghana who reported having strong beliefs that disclosing childbirth labour to another person would prolong the process of labour were less likely to utilize skilled birth care[94]. Karanja *et al.* also found that women residing in rural communities in Kenya who reported that childbirth could occur impromptu and hence it was a taboo to make birth plans during pregnancy were less likely to utilize skilled birth care[66].

Religious factors: Several studies examined the influence of religion on utilization of skilled birth care with diverse results. For example, Maguranyana in a survey conducted in Zimbabwe on the impact of religion on utilization of maternal and child healthcare services found that there were beliefs by some religious groups that faith in God and command by spiritual leaders were capable of changing a medical diagnosis in cases of obstetric complications[95]. Women believed that obstetric interventions such as caesarean sections were punishment from God, which could be averted by faith healing through the power of prophets[95]. Kabir *et al.* and Ganle in studies conducted in Bangladesh and Ghana found that Muslim women experienced religious-related difficulties that might make them less likely to utilize skilled birth care[96,97]. Some of these difficulties included the avoidance of unlawful bodily exposure and the refusal of male healthcare providers[96,97]. Solanke *et al.* also found that Muslim women residing in Northern Nigeria were less likely to utilize skilled birth care when compared with Christian women residing in Southern Nigeria[31].

Perceived need for healthcare services based on social norms: Some reviewed studies found that women who did not envisage complications during current pregnancy or who had not experienced complications in previous pregnancies had lower need for utilizing skilled birth care and subsequently utilized it less than women who had experienced complications in previous pregnancies. For instance, Tolera *et al.* in their study conducted in Ghana found that women that reported not experiencing complications during previous childbirths had lower perceived need of utilizing the services of skilled birth attendants during childbirth[56]. Konje *et al.* and Speizer *et al.* also found that women in rural communities in Northwest Tanzania and Ghana who thought that childbirth was a normal process were less likely to utilize skilled birth care as they chose to give birth to their babies at home with the

assistance of relatives or with traditional birth attendants[98,99].

Preference in place of childbirth: Preference for home births was found as barriers to utilization of skilled birth care. Mahite *et al*. and Shiferaw *et al.* found that the large presence of traditional birth attendants in rural Tanzania and Ethiopia influenced women's preference in deciding the place of childbirth with many women preferring the services of the traditional birth attendants[100,13]. Similarly, Shehu *et al*. found that having a traditional birth attendant within a community in Northern Nigeria enhanced women's preference for utilizing their services and lowered the odds of utilizing skilled birth care[101].

Intention to use skilled birth care: Creanga *et al.* conducted a prospective study in Kenya to compare women's intention and subsequent behaviour to utilize skilled birth care and actual use of service[102]. They found that women who did not intend to use skilled birth care from the onset of their pregnancies did not utilize the service and gave birth at home themselves or with the help of traditional birth attendant[102].

Discussion

This scoping review identified and mapped the barriers to access to and utilization of skilled birth care in low and lower-middle-income countries. According to their importance and magnitude, these barriers included; socioeconomic and sociodemographic status of women, inaccessibility of healthcare facilities, cost of healthcare services, ineffective healthcare systems and socio-cultural and religious factors. We also identified other barriers including women's perceived need for skilled birth care based on social norms, preference for place of childbirth and intention to utilize skilled birth care.

In this review, we found that childbearing women of low socioeconomic status were less likely to utilize skilled birth care when compared with women with higher socioeconomic status. Socioeconomic status affects healthcare utilization through various pathways. With lower levels of education, literacy and income, women's susceptibility to maternal morbidity and mortality might increase through a mechanism of dependency, vulnerability and lack of opportunities. These social realities are the result of larger power differentials embedded within the various communities. Women with lower socioeconomic status might be less able to assert themselves especially concerning their need for healthcare services. This was reiterated by the study of Milkowska-Shibata *et al*. in Myanmar, which found that uneducated and unemployed women were less likely to seek healthcare services[103]. The study further stated that less empowered women were less likely to advocate for themselves and were less likely to use any form of contraceptives to prevent getting pregnant.

Other significant barriers to utilization of skilled birth care in low and lower-middle-income countries as identified in this scoping review were the lack of access and non-availability of healthcare facilities, lack of transportation and cost of healthcare services. According to the allocation of social roles of women as primary care givers, the amount of time that a woman could spend travelling to get medical care might vary. Essentially, they have to find ways to navigate the obligations of childcare and household duties to enable them create time to visit a healthcare facility. In addition, access to healthcare services might depend not only on household financial resources but also on a woman's societal value and decision-making mechanism that operates within her environment. Thus, utilization of healthcare services may depend on the perceived severity of the situation by the 'significant others' around the woman.

In this scoping review, we also found that cultural and religious norms were significant predictors of utilization of skilled birth care in low and lower-middle-income countries. We found that cultural beliefs such as placenta handling and non-disclosure of labour influenced utilization of skilled birth care. We also found that women in some religious settings were constrained in their choice of skilled birth attendants and might decide against utilizing the services of male healthcare providers. In such instances, women might utilize the services of a traditional birth attendants rather than skilled birth attendants, leading to adverse health outcomes. This review also identified potential links between some of the barriers. For instance, in the study of Solanke *et al*., we found linkages between religion, education and place of residence as cumulative determinants of utilization of skilled birth care. We also found linkages between husbands' education and income and women's ability to access and utilize

skilled birth care[16,26,33]. This reflects that an interplay of factors based on maternal, household and environmental characteristics of women influence access to and utilization of skilled birth care.

While several of the reviewed studies were focused on maternal, household and environmental characteristics as barriers to access to and utilization of skilled birth care, we did not find any study on the influence of behavioural and psychological factors on the utilization of skilled birth care in low and lower-middle-income countries. We identified this as a major gap in the maternal healthcare-seeking literature due to the increasingly recognised influence of behavioural and psychological traits as determinants of healthcare services utilization, particularly in high-income countries. This deficiency could be attributed to the non-inclusion of standardized measures of non-cognitive traits in the nationally collated datasets in low and lower-middle-income countries, which, makes it difficult to carry out empirical studies using data collected on these traits.

A significant number of papers from our scoping review identified socioeconomic status, lack of access to healthcare facilities and cost of healthcare services as prevalent barriers to utilization of skilled birth care in low and lower-middle-income countries. We are of the opinion that the relative ease of measuring socioeconomic status and cost of healthcare services and their inclusion in large surveys such as the Demographic Health Surveys and the Multiple Indicators Cluster Surveys makes them easily studied factors. Our review of literature revealed little about how and why these determinants are responsible for the utilization of skilled birth care. This could be because most of the reviewed publications were studies of associations and correlations, and not causal studies investigating pathways and mechanisms.

We summarized common findings from the reviewed literature but we did not synthesise the results from the various studies as different authors used different sampling techniques and methodology. We however noticed that the emergent themes and sub-themes from our scoping review were prevalent barriers across regions in low and lower-middle-income countries. For example, barriers posed by women's socio-economic status, lack of access to healthcare facilities, cost of maternal healthcare services, ineffective healthcare systems and socio-cultural and religious barriers were common in studies conducted in East Africa, West Africa and Southwest Asia. This revealed that though some variations occur, childbearing women in low resource settings experienced common obstacles in the utilization of skilled birth care. These observed similarities across continents and zones are very useful for policymaking, as it will foster the creation of an acceptable approach to having more skilled birth attendants to women of childbearing age.

Addressing the healthcare needs of childbearing women in low resource settings requires multiple intersecting approaches. It requires a commitment to ensuring effective and efficient healthcare systems that provide quality and responsive healthcare services adapted to meet women and children's needs. To achieve this, we make recommendations to the governments and relevant healthcare stakeholders in low and lower-middle-income countries to be actively engaged in the development of policies and strategies that are targeted at improving maternal health outcomes. Strengthening the human dimensions of quality of healthcare services rendered to women utilizing skilled birth care will help to build trust and confidence in interactions between women and healthcare professionals, which might prompt more women to utilize available healthcare services.

We recommend the provision of culturally sensitive healthcare, tailored to meet the needs of women in communities where strong cultural beliefs are prevalent to increase the likelihood of utilizing skilled birth care. We also recommend the inclusion of standardized questions that measure women's behavioural and psychological traits in large surveys such as the Demographic Health Surveys to generate such data at the population level of low and lower-middle-income countries, as it is important to consider other influential factors that might predict women's access to and utilization of skilled birth care.

This scoping review has some limitations. First is the restriction of our search strategy to four references databases using selected keywords and phrases, however since we used the main medicine and health-related databases as well as a wide range of keyword and phrases, we believe that our review is unlikely to have missed some relevant publications. Second, in keeping with accepted scoping review methodology, we did not appraise the methodological quality of included articles or

limit the inclusion of studies to those meeting a particular quality standard regarding statistical methods and approaches. We had considered using journals' impact-factor ranking to assess the quality of included studies; however, experts' critique influenced our decision of non-utilization of the method. Nonetheless, our strict adherence to our predefined inclusion and exclusion criteria added a quality dimension to this review.

Conclusion

Through this scoping review, we have pulled together and thematically organised the wealth of existing knowledge on the barriers to accessing and utilizing skilled birth care in low and lower-middle-income countries. This focus creates a solid foundation on which future research, practice and policy enhancements could be built. This review will channel policy decisions as it gives a succinct summary of barriers to utilizing skilled birth care that have been studied in low and lower-middle-income countries in their varying proportions. We identified a lack of research on the influence of behavioural and psychological traits on the utilization of skilled birth care in low and lower-middle-income countries. This gap in the literature could be a research area for future studies that might be conducted. Most studies reported associations between predictors and future research would gain from investigating causal pathways and mechanisms influencing utilization of skilled birth care in low and lower-middle-income countries.

Acknowledgements

We are grateful to the librarian at the UCLouvain Health Sciences library for her help in developing the search terms and keywords used in this scoping review. We are also grateful to Fosia Yacin Mohamed for her help with the database search and selection of articles. We also thank the Economics, Health and Inequalities in Louvain (ECHIL) team members (Luigi Boggian, Alexia Bigorne, Charlotte Desterbecq, Rebecca Jones and Aditi Karb) for their feedback on the first draft of this manuscript.

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