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SOCIAL DETERMINANTS AFFECTING UTILIZATION OF MATERNAL HEALTH SERVICES IN AFRICA: A NARRATIVE REVIEW OF THE EVIDENCE

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Abstract: *Despite improvements in maternal health, Sub-Saharan Africa countries still experience high maternal deaths. The provision of quality maternal health services has been adopted as a key strategy to reduce maternal mortality. However, low utilization rates and inequitable access to maternal health services across the region continue to hinder progress. The objective of the study was to synthesize evidence on the social determinants of maternal health services utilization in sub-Saharan Africa. A narrative review of peer-reviewed articles published between 2010 and 2019 was conducted. Peer-reviewed published studies were electronically searched from databases using search terms covering access and use, social determinants, maternal health services, and sub-Saharan Africa. Data were qualitatively analyzed, and results summarized using the World Health Organization's Social Determinants of Health Framework. A total of 36 studies were reviewed. The study identified several social determinants that act as barriers or facilitators to maternal health utilization. Factors identified include socioeconomic status, educational level, women's autonomy, urban residence, gender norms, geographical proximity, access to media, high social capital, social support, exposure to media and functional health system. Maternal healthcare utilization is still low in sub-Saharan Africa and it reflects disparities according to socio-economic status and rural/urban residence. Programs and interventions to improve maternal health should target social determinants that create inequalities in society.*

Keywords: *Sub-Saharan Africa, maternal health, utilization, social determinants*

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1. Introduction

Globally approximately 303, 000 women died in 2017 as a result of complications from pregnancy and childbirth[1]. Sub-Saharan Africa accounts for the largest proportion of global maternal deaths. In 2017, the region alone accounted for roughly two-thirds (196 000) of all maternal deaths[1]. Furthermore, significant disparities in access and utilization of health services exist within and across countries[2]. The major causes of maternal deaths include postpartum hemorrhage, eclampsia, preeclampsia, puerperal sepsis and unsafe abortion[3]. Most of these deaths can be prevented with adequate access to quality maternal health services such as antenatal care, skilled delivery and postnatal care[1]. However, coverage of maternal health among African countries is still low. Less than half of

women in the region receive the recommended number of antenatal care visits and large disparities also exist between different population groups[1]. Achieving the 2063 Africa Agenda, the Sustainable Development Goals (SDGs) targets to reduce MMR to 70 per 100,000 live births and attaining 90% coverage of routine maternity services by 2030 will require focused strategies to address inequitable access to available healthcare services and health outcomes[1].

Although maternal mortality has declined in most sub-Saharan African countries, health disparities still exist according to socio-economic status, geographical region, ethnicity and place of residence. These factors are included in the World Health Organization's (WHO) Social Determinants of Health (SDOH) framework[4]. The framework consists of three levels (the socio-economic and political context that includes governance and public policies; social and structural determinants that include income, education, employment and ethnicity; and intermediary determinants such as health systems, distance to health facilities, social support, care-seeking practices, age and access to quality services[4]. The framework can be used to determine factors that shape inequalities in the use of maternal health services in sub-Saharan Africa. Furthermore, the framework is crucial in closing gaps and identifying areas that need intervention. This will enable the design and provision of maternal healthcare as acceptable by women from different population groups. The provision of quality maternal health services is one of the strategies to reduce maternal mortality under international agreements and is the most important part of the Sustainable development agenda to be achieved by 2030. Therefore, the purpose of this study is to synthesize current evidence on social determinants of access and utilization of maternal health services in Sub-Saharan Africa that can help in bringing the change in the existing situation.

2. Materials and Methods

A narrative literature review was conducted using the SDOH conceptual framework. Studies were retrieved from Science Direct, PubMed, Cochrane and Wiley Online Library. Full-text articles were assessed, and if found suitable were included in the review.

2.1. Search Strategy

Key terms were used to search for articles across the databases. They were grouped into four broad categories: i). terms that describe the type of maternal health services "maternal health", "antenatal care", "prenatal care", "postnatal care", "skilled birth attendant", "delivery", "obstetric care" (ii) access and utilization: "utilization", "access", "use", "barriers", "facilitators" and "decisions" (iii) terms that represent the determinants: "factors" and "determinants" (iv) terms that describe the place of study: "Sub-Saharan Africa", "Africa", "African countries". The search terms were combined using the Boolean characters "AND" and "OR".

2.2. Inclusion and Exclusion Criteria

Peer-reviewed papers on factors/determinants affecting maternal health services utilization were identified. These include antenatal, skilled delivery, postnatal or a combination of these services. Only studies done in any country and/or countries in sub-Saharan Africa per World Bank categorization were included. Studies were included in this review if they were published in the English language and after the year 2010. Qualitative, quantitative and mixed-method studies using both primary and secondary data were eligible for inclusion. Studies in a language other than English were not considered in the

review. Non-peer reviewed, commentaries, letters to the editor, theses, policy reports, conference posters, and presentations were also excluded in the analysis.

2.3. Data Extraction and Analysis/Synthesis

A template was developed in Microsoft Excel to allow for easy management and identification of selected papers. All selected papers were assigned a unique identifying number for ease of reference. Each selected article was reviewed and key findings were extracted into the template including author(s), year of publication, the country/region the study was carried out, data source, study subjects, maternal health service (antenatal, delivery or postnatal), study design and summary findings. Based on previous studies the review followed the SDOH framework to report its findings[5]. In reviewing each article social determinants of health were identified and categorized into barriers and facilitators.

3. Results

A total of 36 studies met the eligibility criteria and were included in the narrative analysis. The majority (25) focused on the socio-economic position including education and income level. Sixteen studies focused on gender and cultural factors while eleven studies focused on health system-related factors. Both material circumstances and behavioral and biological factors were discussed in a total of nine studies. Table 1 shows a summary of studies reviewed according to each social determinant. No studies on macroeconomic frameworks and political contexts were included in this review.

3.1. Structural Determinants

The SDOH conceptual model identifies education, income, occupation, gender, ethnicity, culture and societal values as structural determinants of health. According to the framework income, education and occupation shape socio-economic position. Generally, women of higher socio-economic position i.e. high educational level and income have better access to maternal health services while women with low socio-economic positions report low use of health services[6]. Most of the studies included in this review reported income, education, and occupation in a similar context, so we used education as a proxy for income and occupation

3.1.1 Education and Literacy level

Educational level is closely linked to an individual's social status through income and occupation[4]. Education influences information, knowledge and health-seeking behavior[4]. Most studies found out that women with higher education are more likely to use maternal health services[6]. A study in Uganda found out that women with secondary or higher education used maternal health services five times more than uneducated women[7]. Furthermore, in Ethiopia husbands' occupation and level of education are associated with institutional delivery[8]. On the other hand, low education and illiteracy act as barriers to maternal health service utilization. In Eritrea women with husbands without any formal education were less likely to deliver in health facilities[9].

3.1.2 Wealth status

Numerous countries in sub-Saharan Africa are offering free or reduced user fees for maternal health services to increase utilization rates. However, associated indirect costs that include food, accommodation and productive time lost from work preset high costs that result in the non-utilization of maternal health services. Belonging to a higher wealth quintile was a positive factor for utilizing

maternal health services. A study conducted in Namibia reported that high household wealth was positively associated with all indicators of maternal health services.[20] Another study reported that women from the wealthiest households were six times more likely to use antenatal care compared to women from poorer households[8]. In other studies, women from wealthier households were employed and possess health insurance which facilitated the use of maternal healthcare[7], [8], [9]–[16]. Women from families in the lower wealth quintiles, on the other hand, had higher home deliveries. A multi-country study concluded that 70% of all births from women belonging to poor households took place at home without a skilled birth attended[10]. Women from the lowest quintile experienced financial difficulties and ended up giving birth at home since they had to pay for transport, part of maternity user fees, food and accommodation[9],[12],[21].

3.1.3 Gender, Social and Cultural Values

Gender norms present barriers to women's access to maternal health services. Some African women often have limited autonomy and control over their health. Autonomy and decision making power facilitate the use of health services[12],[13],[16]–[19],[22]–[24]. Studies conducted in Ethiopia[16], Tanzania[22] and Nigeria[17] found a strong association of community-level women's autonomy and maternal healthcare service utilization while others found a weak relationship[23]. On the other hand, lack of power to make decisions[25], no one to assist at the onset of labor at night[18], heavy workloads especially in the rainy season[18], [19], gender-based violence, lack of women empowerment[18], [19], lack of spousal support, lack of support from family and community, require permission from husband or family[19], [21] and health workers' attitudes towards women[12] are gender-related barriers identified in the review. A study in northern Nigeria reported cultural norms that disempower women as contributing to the low utilization of health services[17]. Furthermore, in Africa, some cultural and traditional beliefs are contrary to modern medical practice[19], [24]. Throughout, Africa cultural practices that include child marriages[22], home deliveries[27],[28], social stigma against unmarried women[26], women unable to make decisions[25], preference of traditional healthcare[21], [27], taboo for husbands to get involved in pregnancy issues[29] and strong cultural desire for large families[29] limits women access to health services. In studies in Ghana and Gambia married women with big family sizes were overwhelmed with childcare, household and agriculture tasks which left them with inadequate time to visit health facilities[19], [37]. However, the involvement of male partners significantly increases the use of maternal health services[26].

3.1.4 Ethnicity and Religion

Studies conducted in Nigeria[13], Ghana[28] and Uganda[7] showed that Muslim women had low usage of maternal health services. Barriers faced by these women were linked to religious obligation of maintaining body sanctity through modest dressing and the avoidance of unlawful body exposure or contact with male caregivers[24], lack of privacy in health facilities [28], healthcare providers' insensitivity[30] and insufficient knowledge to meet Muslim women's maternity care needs[27]. The effect of ethnicity on maternal health services utilization showed both positive and negative effects. In a study in Nigeria, women in communities with a high proportion of women from different ethnic groups had a lower likelihood of delivering their babies in a health facility. Furthermore, women from minority ethnic groups tend to use maternal health services more than women from major ethnic groups[13].

3.2. Intermediary Determinants

According to the SDOH conceptual model, intermediary determinants include material circumstances, social capital, biological and behavioral factors, psychosocial factors and health system factors. The main intermediary factors identified in this review include poor health infrastructure, access to quality health services, distance to health facilities, poor road conditions and access to transportation, geographical remoteness, age, parity of women, marital status, spousal support, support from family, exposure to media and strong social networks.

3.2.1 Health System Factors

Several aspects of the healthcare system have an impact on women's utilization of health services. The most common health system barriers identified in the review include insufficient health infrastructure especially in rural areas[31], limited birth choices[28], facilities that close too early[36], absence of female health provider[36], lack of privacy at healthcare facilities[27], [28]. Unpleasant past experiences such as rudeness, scolding and health workers and service providers' negative attitude and behavior towards women discourage the use of health services[12], [28], [31], [34], [35]. Good quality of antenatal care services that include adequate skilled maternity services, counseling on birth preparedness, availability of transport and emergency equipment were closely related to high utilization rates[32], [33]. A study in Ghana showed that limited and unequal distribution of skilled maternity care services was an important health system barrier[28]. Health system based satisfaction factors such as less waiting times, free maternity services, availability of waiting homes, polite and friendly service providers and adequate information for women were closely associated with the use of maternal health services[31],[32]. On the other hand, poorly organized health systems that include the absence of proper referral systems deter women from delivering in health facilities[25]. Health system based costs arising from maternity user fees, blood transfusion and emergency referrals presented barriers for women especially from poor backgrounds from visiting health facilities[36]. In other studies, the removal of user-fees[12], better or perceived good quality of health services[32], friendly service providers and health staff[12] encouraged women to utilize health services.

3.2.2 Biological and Behavioral Factors

Behavioral and biological factors that include young age and low parity were closely associated with healthcare utilization[29]. A study in Swaziland reported that women aged 15-34 tend to give birth in institutions, though this trend declines as women grow older[29]. Higher parity women usually rely more on their experiences and seek maternal healthcare from traditional birth attendants[29]. On the other hand, biological factors such as high parity[36], unmarried[15], second and higher-order births[36], act as barriers to health utilization. Tsawe et al. reported that women in Swaziland with higher parity(6 or more children) were less likely to utilize maternal healthcare services[29]. Similarly, in Nigeria women aged 25–34 years and unmarried women were more likely not to use health services[15]. Cohabiting women[37] and women who use contraceptives[8] were more likely to utilize maternal health services. In some countries, maternal health services utilization was determined by women's previous experiences, for instance, women's knowledge and experience of pregnancy complications[19].

3.2.3 Material Circumstances

Material circumstances identified in the review include the place of residence, exposure to media, road networks, and transport systems. In Uganda women who lived in rural areas were more

likely to utilize maternal health services compared to those in urban areas[7]. Furthermore, the review identified distance to health facilities[25],[35], poor road networks and conditions, absence of a well-organized transport system[24], [25],[28] and indirect and direct costs[35] as barriers to accessing maternity services. Geographical remoteness, absence of appropriate care and emergency transport are the barriers to seeking maternal healthcare[8], [24], [29], [38]. Material factors that facilitate the use of maternal health services include coverage by health insurance[39], exposure to media[24], [29], [34], urban residence[38], [39] and shorter distance to clinics[7].

3.2.4 Psychosocial Factors and Social Capital

Factors such as availability of support[12], the network of friends to provide social, informational and physical support[12],[34],[40], satisfaction with health services[41], perceived quality and subjective norms[35], husband support/involvement[40], women's fear of developing pregnancy-related complications[12] positively influenced the use of maternal health services. Studies in Tanzania, Ethiopia, and Cameroon showed that women who belonged to and participate in large social networks used maternal health services frequently[22], [40],[42]. In Zambia, perceived psychosocial barriers and subjective norms concerning the quality of maternal health services are a barrier to health utilization[35].

4. Discussion

We have conducted a narrative literature review of the social determinants of maternal health services utilization in Sub-Saharan African countries. The review showed that the use of maternal health services is influenced by a complex of interrelated structural and intermediary determinants as explained by the WHO social determinants of health conceptual framework. Structural determinants that acted as facilitating factors to health utilization include high household wealth, higher education, women autonomy and advantage ethnicities[7],[10],[11]. On the other hand, structural determinants that acted as barriers to healthcare utilization include low education, illiteracy, poverty, marginalized ethnicities, unemployment and lack of decision making power within the family [24], [28],[35],[38]. Furthermore, the intermediary level determinants that acted as barriers to healthcare utilization were poorly organized healthcare systems, insufficient infrastructure, rural residence, long-distance from health facilities, poor road networks, and transport systems, rude and disrespectful service providers[8], [27],[28],[29],[34], [35]. Despite an increase in utilization rates across the region, we found strong and consistent evidence showing that the use of maternal health services is still low among the poor, uneducated, disadvantaged and marginalized women across sub-Saharan Africa[12],[20],[22],[35],[38]

The structural determinants contribute to inequalities in healthcare utilization by limiting women's access to power, money, and resources which are important to access health services[4],[6]. Access to power creates unequal social stratification in society that disempower women which leads to poor utilization of health services[4],[24],[28]. Furthermore, unequal distribution of power, trap women in a vicious cycle of intergenerational poverty limiting their access to resources which are important to access health services. The structural determinants act through intermediary factors such as inadequate health infrastructure, long distance to health facilities, poor quality of health services, poor road networks and transport systems to compound inequalities in maternal healthcare utilization[22],[35], [38].

Structural and intermediary determinants acting as facilitators and barriers are interrelated and create inequalities that influence health utilization through material circumstances, psychosocial and

individual characteristics[4]. Women from different social groups have multiple advantages and multiple disadvantages. Some cultural practices disempower women and leave them vulnerable without the power to make decisions over their health [24],[28]. Compared with rural women, urban women have better access to maternal health services as well as other resources necessary to access these services [24]. The quality of healthcare, health infrastructure, roads, transport networks is poor in rural areas thereby discouraging women from using health services[22]. Furthermore, utilization rates remain highly inequitable according to socio-economic position, geographical remoteness, distances to health facilities and access to social capital. In general, women with a high socio-economic position can afford health costs such as user fees, transport and opportunity costs associated with seeking healthcare[20]. On the other hand, women with low socio-economic position have fewer life opportunities which affect their social status, autonomy and decision-making power on when and where to get health services[16], [12].

Similar to other reviews conducted elsewhere our findings reveal the disadvantage among certain social groups across African countries[5]. This review sheds light on intersectional marginalization and identifies important programs and research gaps. This review has implications for future research and policymaking. Sub-Saharan Africa is undergoing major social, political and economic changes, however, relevant studies focusing on the impact of political and governance factors on utilization of maternal health services were not found. Future studies should look at the impact of different macro-level governance and political frameworks on the social determinants of maternal healthcare. Furthermore, there are numerous research and knowledge gaps that need to be filled to understand the context-specific drivers of inequality in different communities and to inform policy-makers. Our review was not able to estimate the extent of health inequity quantitatively since we took multiple outcome variables and included qualitative, quantitative and mixed methods studies. Future reviews should also quantitatively estimate the impact of health inequity among women from different social groups. Furthermore, our review did not consider other dimensions of maternal healthcare utilization such as tetanus injections and iron supplemental which might provide insight into inequity in healthcare.

The present evidence shows that a 'one size fits all' single approach to maternal health programming might not be a suitable approach considering the inequalities and differences among social groups throughout the region. The current maternal health program is suitable for increasing the overall coverage of health services leaving marginalized groups more disadvantaged. Therefore, more effort is needed to address the various structural and intermediary barriers to accessing healthcare utilization among the poorest, uneducated and rural women. This can be achieved through local-level interventions to promote the use of maternal healthcare services and healthcare system interventions aimed at improving quality of care, referral systems, abolishing user fees and upgrading health infrastructure. Barriers to healthcare utilization should be addressed locally considering the diversity of local communities across Africa. For instance, local governments can address social determinants through improving the road and transport networks to shorten the distance to health facilities and improving health infrastructure and systems according to their contexts.

5. Conclusion

Using the WHO SDOH framework our review has highlighted the structural and intermediary barriers women in sub-Saharan African countries face when accessing maternal health services. The

findings show that inequalities in healthcare utilization reflect inequalities in socio-economic position. Local governments should be given the mandate to develop policies to tackle the structural determinants to improve the socio-economic position of women. Policies should address education for women, local development and economic inclusion for marginalized communities. This helps to overcome practices that limit women's access to decision making power and close gaps between rural and urban areas in terms of transport and health infrastructure. Health services should be tailor-made to respond to the specific needs of women especially those from remote areas and minority groups. Finally, new programs and policies should be formulated to target these social determinants from an African perspective.

Table 1. A summary of social determinants of maternal health service utilization in Sub-Saharan Africa.

Determinants	Facilitating Factors	Barriers	Reference
Educational Level [10]	Secondary or higher education for women/ husband	Low/no education for women, illiterate women, uneducated husbands	[6-10, 18, 24, 29, 36, 45]
Wealth Quintile [15]	Belong to a wealthy family, employed women, formal employment, high income	Women from poor households, unemployed, poor women, rural women,	[7]–[21]
Gender and Cultural [16]	Women's autonomy, the power to make decision making power, desire for large families, bigger household size, availability of a female provider	No decision-making power, heavy workloads, suffer gender-based violence, polygamy, taboo to make pregnancy public husband/family did not allow, no female provider, services not part of customs	[10,11, 25– 29, 12, 15, 16, 19, 21–24]
Ethnicity and Religion [6]	Member of a major or minority ethnic group, a Christian woman	Muslim woman, Traditional African religious believer, Being in a minority ethnic group, cultural insensitivity,	[7,16,24, 27,28,30]
Health System Factors [11]	Removal of user-fees, better or perceived good quality of health services, good attitude of health staff, respectful care, politeness, and competent staffs, equipped health facilities, availability of emergency transport	Cultural insensitivity health services, long queues, limited birthing choices, poor quality of health services, bad attitude of health staff, disorganized health system, user fees, inadequate information, experiences of intimidation in healthcare facilities, lack of privacy	[15, 25, 27, 28, 31–36]
Behavioural and Biological Factors [9]	Older women, use of contraceptives, knowledge of pregnancy emergencies, use of electronic media, single women	Married, polygamous union, high parity, unmarried, experienced more than one birth	[7, 8, 12, 18, 29, 34, 36–38]
Material Circumstances [9]	Urban areas, better health facilities, shorter distance to clinics, availability of money, coverage by health insurance, availability of transport	Rural areas, long-distance from health facilities, lack of means of transport, lack of money, remote regions, expensive services, no baby clothes, poor road networks, and fewer health facilities.	[7, 8, 24, 25,28, 29, 35, 38, 39]
Psychosocial Factors and Social Capital [9]	Satisfaction with health services, husband support/involvement, fear of complications, community, and household support, large social networks exposure to media, information, higher social capital, social participation	Poor perceptions of quality (negative attitude), negative opinion (subjective norms), non- exposure to media, low social capital, unsupportive husband or family, fewer friends, small social network	[15, 24, 29, 34, 35, 40–42]

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Conflict of interests

The author declares no conflict of interest

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