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Constraints to Get Access in Maternal Healthcare: A Review from Lower-middle-Income Countries

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Abstract
The purpose of this study is to explore the basic constraints to get access to maternal healthcare utilization during the pre- and post-delivery period of women in selected lower-middle-income countries around the world. This paper is a review of the literature of previous articles published from 2000 to 2019 in different database. The findings of the study show that different types of intervening factors including socioeconomic status, health literacy of the women and their husband, education, employment status, decision-making power of the women and religion significantly influence the full and free access to the maternal health care facilities in lower-middle-income countries.

Keywords: Maternal Health Service, Socio-Economic, Determinants, Accessibility

1. Introduction

1.1 Introduce the problem

Regardless of overall endeavours, maternal mortality remains a noteworthy medical issue in many lower-middle-income countries around the world where approximately half of the maternal death occurs only because of pregnancy-related complexities (Houweling et al., 2007; Hwang & Park, 2019; Pulok et al., 2018; Stephen &

Joshua, 2016; Woldemicael, 2010). Perfect maternal care includes initial and attentive ANC (antenatal care), delivering under skilled birth attendants, and utilized post-natal care (Muzyamba et al., 2019). Maternal health is considered very crucial (Wong et al., 2017) because in most cases maternal and neonatal death ensued during this period (Khaki & Sithole, 2019). And it is evident that nearly half of all maternal death happened within the first 24 hours of delivery and in the first week after delivery of a newborn child (WHO, 2013). In fact, in MDGs (Millennium Development Goals) crucial efforts have been made to reduce maternal mortality rates for 15 years but the majority of the lower-middle-income countries failed to achieve the target (Wehrmeister et al., 2016), as a result, the UN additionally incorporated this objective in its Sustainable Development Goals (SDGs) in 2015 to 2030 as a major aspect of the target of ensuring the wellbeing of all people (Hwang & Park, 2019) in which improvement of the maternal health remains a global priority (Novignon et al., 2019). On this note, the main objective of maternal healthcare is based on early recognition and management of pregnant women (Abor et al., 2011). Though, significant improvements to decline maternal mortality over the last three decades have been achieved, millions of women in lower-middle-income countries still experiencing life-threatening and other serious health problems related to pregnancy or childbirth. On top of that, pregnancy and childbirth complications result in more deaths and disabilities than any other reproductive health problems (Pulok et al., 2018). On this ground, though the SDG target 3.1 aimed to reduce the maternal mortality to70 women per 1000,000 live births by the year 2030 but still over the globe, pregnancy-related complications causes 216 deaths of women per 1000,000 live births (Khaki & Sithole, 2019). An approximately 287,000 maternal deaths are reported annually, of which 99% happened only in developing countries (Srivastava et al., 2015). Moreover, in some developing countries, one woman out of ten dies of a pregnancy-related cause during her childbearing years (Abor et al., 2011). In this regard, records of moms' wellbeing conditions are significant for the accomplishment of these objectives since they demonstrate not just the adequacy of every single nation's human services' framework yet additionally the condition of a state's general social and financial conditions (Hwang & Park, 2019). In such a situation, ensuring access to maternal healthcare services is undeniable for timely achievement of SDGs.

On this ground, the purpose of this review is to identify the factors that act as constraints for the women to get full access and utilize the maternal health care services in some selected lower-middle-income countries. In this regard, depending on the articles reviewed, we tried to clarify some basic contributing factors including socioeconomic status, health literacy, education, employment, decision making power, and religion which create inequality in the utilization of the highest possible maternal care services.

1.2 Defining Maternal Health Care

In recent decades, maternal health has gone through a significant epidemiological transition and become a global concern because through maternal healthcare we can save the lives of millions of women (Kifle et al., 2017; Knaul et al., 2016). However, the present maternal health only focuses on a narrow period of women's lives: pregnancy, childbirth, and six weeks postpartum. So, maternal healthcare should include the antenatal care, delivery care and postnatal care of women (Kifle et al., 2017; Knaul et al., 2016; Langer et al., 2015; R. Zhang et al., 2018).

Maternal healthcare in relation to pregnancy and childbirth reflects the inequalities which affect the women especially in lower-middle-income countries (Knaul et al., 2016; Langer et al., 2015; Rosenfield & Maine, 1985). On top of that, a low level of maternal healthcare is the main reason for maternal mortality in developing countries (Berhan & Berhan, 2014). Moreover, breast and cervical cancers are now the leading causes of mortality among reproductive-aged women in lower-middle-income countries (Bonita et al., 2013). So maternal healthcare should not only address the agenda associated with pregnancy and childbirth but also focus on the expanding diseases and injuries which threaten girls and women throughout their life cycle.

2. **Methodology**

2.1 Search strategy

We have conducted this study by using secondary literature which has already published on this topic all around the world. More precisely, we tried to focus on the factors which influence the access of maternal healthcare in pre-delivery, during delivery and post-delivery periods.

We reviewed the literature systematically from those published from 2000 to 2019 in English language. Apart from this, we have considered One paper published before 2000; as the article is very relevant to the issue we have discussed here. We searched through seven electronic databases including PubMed, Science Direct, Scopus, Emerald Insight, EBSCO, JSTOR, and Google Scholar by developing search strategies specific to their subject headings and text word. In this study, searches were conducted by using the keywords including "socioeconomic inequalities" or "socioeconomic factors" or "inequalities" or "determinants" or "constraints" or "barriers" "maternal health" or "maternal healthcare" or "prenatal care" or "antenatal care" or "maternal care" or "pregnancy outcome" or "health outcome" or "maternity care", and "developing countries" or "middle-income countries" or "low-income countries" or "poor countries". Searches were carried out with the Boolean operators "OR" and "AND" between the main phrase and the aforesaid keywords. It is noteworthy to mention that, we obtained only those articles that were more likely to meet the objective of our study. Besides, we also went through the reference arrangements of the selected articles which were further screened for important papers. We only consider those articles reported in English and undertaken in developing countries and which reported the non-clinical factors on the use of maternal healthcare access.

2.2 Analytical Framework

We used an extended version of the analytical framework which only focused on findings that explain the socioeconomic status and other related variables that influence the utilization of maternal healthcare in lower-middle-income countries.

On that note, we retrieved over 1600 articles using advanced search strategy of which only 84 articles were included in the review. Most of the articles were excluded after screening the title and abstracts. Apart from this, we also screened out a good number of articles due to duplication and irrelevant to our issues.

3. **Results and Discussion**

In many parts of the globe, predominantly in rural areas, the utilization of these services are substandard as well as these specific services are being hampered (Yaya & Ghose, 2019; C. Zhang et al., 2019; R. Zhang et al., 2018) by numerous socioeconomic, cultural, demographic and community-level factors (Fenny et al., 2019; Rajesh Kumar Rai et al., 2012) which make difficulties for the poor and vulnerable groups to get full access and ideal use of maternal healthcare (Novignon et al., 2019). However, Yaya and Ghose (2019) have been found that significant inequalities exist especially in Asian and African context and the severity reach its pick in Afghanistan, Somalia, and South Sudan.

3.1 Socioeconomic status (SES)

Socioeconomic status (SES) of women and their household is frequently connected with different types of health risks and lower utilization of maternal health services in low-middle-income countries (De Groot et al., 2019; Solanke, 2018; X. Wang, 2017; Yaya et al., 2019). In contrast with the developed nations, in the lower-middle-income countries, the scarcity of the resources such as infrastructural, skilled human personnel, technological and financial barriers and weak health care policies create impediments to accessibility and affordability of the poorer section of the society (De Groot et al., 2019; Elmusharaf et al., 2015; Green, 2018; Hwang & Park, 2019; Kanengoni et al., 2019; Pulok et al., 2018; Tesfahun et al., 2014; Yaya & Ghose, 2019) and limiting the optimum uses of maternal health care. In lower-middle-income countries, insufficient fund allocation in health sector drives the poor people away from the health services, which results in imbalanced health outcomes (Green, 2018; C. Zhang et al., 2019), where maternal health care especially during delivery and after the delivery period is most neglected (Koroma et al., 2017).

However, in this part, we include different factors like income, wealth, geographical location or place of residence of the people, the distance between service provider institution and users, and availability of the health insurance as the indicators of socioeconomic status of the users.

3.1.1 Income

Income of the general people has a direct connection with healthcare service utilization (Devkota & Upadhyay, 2015). Linking with this point, financial drawbacks deprived women from antenatal, delivery, and postnatal services in many lower-middle-income countries (Koroma et al., 2017). Consequently, women from lower socioeconomic strata are generally exposed to various types of perinatal complexities including premature birth, low birth weight, restricted growth in intra-uterine, antenatal and neonatal mortality, etc. (De Groot et al., 2019; Paredes, 2016; Zere et al., 2013).

There are a number of studies all around the globe that have already looked up the measure to find out the role of income inequalities in the utilization of maternal health care. In this context, Ambel et al. (2017), Fenny et al. (2019) and Novignon et al. (2019) in their research in Ghana, with the same data set, found that the pro-rich characteristics of the household significantly ensure the utilization of ANC services than their poorer counterparts. The same situation exists in Bangladesh, a South-Asian country, the evidence of which is explored in the study of Pulok et al. (2018), Rana et al. (2019), according to these studies, women from higher income strata are more likely to get access in maternal health-related services both from public and private service providers in comparison with their poor counterparts. In this ground, Rahman et al. (2017) claimed that the difference between rich and poor class is very common in the utilization of ANC - at least four times; the probable cause is the modern outlook along with better education which makes the rich class willing to tear out the traditional barrier and seek better maternal health services (Houweling et al., 2007). These findings are also in line with the study of Ononokpono and Azfredrick (2014), Stephen and Joshua (2016), Solanke (2018) and Koroma et al. (2017) from Nigerian context along with many other sub-Saharan African countries.

3.1.2 Wealth

Novignon et al. (2019) argued that inequality in wealth has its peak in the African context. Evidence from sub-Saharan Africa showed that the poor women are the worst sufferer of maternal health complexities due to out of pocket health payments (McKinnon et al., 2016; C. Zhang et al., 2019) as a result women from families having less wealth are at higher risk of death (Paredes, 2016; Rajesh Kumar Rai et al., 2012; Walton & Schbley, 2013). This is the picture of Pakistan also, along with other lower-middle-income countries in South-Asia (Mumtaz et al., 2014), besides, the study of Zere et al. (2013) and Walton and Schbley (2013) demonstrated that in Bangladesh, the use of ANC is more common among women from wealthier section than the poor counterparts. Additionally, women from well off families generally take maternal healthcare service from professional doctors and nurses which is considered as the foundation of safe motherhood. This finding is also matching with different lower-middle-income country perspectives as stated in the study of Houweling et al. (2007). Furthermore, the study of Dalinjong et al. (2018) revealed that the rich often live in urban territories with greater availability, better framework, and sufficient resources which enable them to access better health services comparing with the poor people living in rural settings. These findings are in line with the findings of (Iacoella & Tirivayi, 2019; Muzyamba et al., 2019; Rahman et al., 2017; Stephen & Joshua, 2016; W. Wang et al., 2017; X. Wang, 2017; Yaya et al., 2019). The wealthier section can likewise more promptly manage the cost of services and the persevering out of pocket expense for specific deliveries and so more likely to get maternal health services (O. E. Banke-Thomas et al., 2017; Dalinjong et al., 2018; Haider et al., 2017; Iacoella & Tirivayi, 2019; Koroma et al., 2017; McNamee et al., 2009; R. K. Rai et al., 2013; Wong et al., 2017; Yaya et al., 2019), these findings are also documented in the literature of Anyait et al. (2012), Kitui et al. (2013), Ononokpono and Azfredrick (2014) and Shahjahan et al. (2017). In lower-middle-income countries, poor women are reluctant to utilize the formal health sector in the event that they should pay for maternal health services (Koroma et al., 2017; Stephen & Joshua, 2016).

3.1.3 Geographical location

The decision of taking healthcare services is implanted and interweaved not only with social and cultural practices but also with the distance of the service provider institutions (Elmusharaf et al., 2015; McNamee et al., 2009; Walton & Schbley, 2013). The study of Blanchet et al. (2012), Sahoo et al. (2015) and Yaya et al. (2019) unfold that the characteristics of the region like the doctor to population and nurse to population ratio along with feeble infrastructure, distance, fragile transportation making the health service to be utilized, particularly for the vulnerable groups living with limited medical resource facilities (Ambel et al., 2017; Faye et al., 2013; Gage, 2007; Haider et al., 2017; McKinnon et al., 2016; Shahjahan et al., 2017; Yaya et al., 2019). In the Ethiopian context, the distance between house and health service provider organizations had an impact on the use of maternal service including ANC, delivery, and PNC. Another study of Faye et al. (2013) in Senegal demonstrates that women in rural area cross more than 5 kilometres on feet to get medical facilities only due to fragile road transport and lacking the way of transportation. Similar types of findings also derive from Indonesia, Bangladesh, Nepal, and Uganda (Tesfahun et al., 2014; Walton & Schbley, 2013). The study of Moindi et al. (2015) and A. Banke-Thomas et al. (2017) argued that due to distance a majority of the women in Kenya are reluctant to get maternal health service. In the context of Bangladesh, the distance along with poor transport and communication system is one of the entree fences to the maternal health care service in rural parts (Haider et al., 2017; Pulok et al., 2018; Walton & Schbley, 2013). As a result, a high percentage of the rural women deprived of having proper examination during pregnancy (X. Wang, 2017). Kanengoni et al. (2019) explored that due to the unavailability of ambulance or high price, Zimbabwean women are deprived of receiving health service during emergencies (Hwang & Park, 2019; Shahjahan et al., 2017). On the other hand, the utilization of health care is most often depended on the location of the service provider, for instances, in Bangladesh, a majority of the modern health facilities are located in the capital city which deprive the people living in other locations (Rana et al., 2019; Shahjahan et al., 2017; Walton & Schbley, 2013).

3.1.4 Health Insurance

Health insurance is another factor initiated from socioeconomic inequality which, in most cases, ensures the highest level of healthcare service utilization in developed, developing, and underdeveloped countries. Usually, people having enough health coverage always get the highest level of service facilities. Regarding this, Bonfrer et al. (2016), Browne et al. (2016) and Novignon et al. (2019) found a strong relationship between essential ANC visits and health insurance in Ghana.

Access and use of maternal health care services are possible through removing financial constraints in the health care sector by providing subsidies and health risk protection scheme to the vulnerable and poorer section, who are unable to bear the health-related cost (Novignon et al., 2019). Because, exemption from paying the premium by the pregnant women (Blanchet et al., 2012), mostly poor and vulnerable group, encourage them to seek pregnancy-related healthcare during complications.

3.2 Health Literacy

In the context of health literacy including poor knowledge regarding health, mother's educational level, husband's educational background and level along with behavioural attitude towards maternal health also play a pivotal role to create inequality in the maternal health sector (Yaya & Ghose, 2019). On this ground, Elmusharaf et al. (2015) stated that a lack of understanding regarding the significance of proper medical service during the time of pregnancy affects health-related decisions. In Ghana, Ethiopia, Guinea-Bissau and Burkina Faso factors like misconceptions, lack of knowledge, etc. reduce the frequency of utilization of maternal health services (Enuameh et al., 2016; Hwang & Park, 2019; Yaya et al., 2019; C. Zhang et al., 2019). Access to media, in this regard, can be a good solution to increase health literacy, particularly for the poorer section. In their study, Iacoella and Tirivayi (2019) claimed that exposure to media played a potential role to increase health knowledge of the women in comparison with those who do not have access to media. Studies of R. K. Rai et al. (2013) and A. Banke-Thomas et al. (2017), claimed that knowledge regarding health through media can be an influential predictor to increase consciousness about the utilization of maternal health care services, mainly among the women in Kenya and Malawi. The possible explanation could be the effectiveness of the media to disseminate

information that obviously makes the women conscious about medical facilities available and also accelerate inter-personal communication that would help behavioural change (Rajesh Kumar Rai et al., 2012).

On this ground, Akhter and Dasvarma (2017) claimed that in Bangladesh along with other lower-middle income countries, lesser access to information regarding health along with lower literacy regarding health are the significant variables of a lesser number of skilled birth attendance during delivery which increase the maternal mortality rate.

3.3 Education

Education, regardless of gender difference, is considered as a significant variable to take the health-related decision (Enuameh et al., 2016; McNamee et al., 2009; Stephen & Joshua, 2016). Education plays an important role to determine the maternal health care around the globe. According to Gage (2007), McNamee et al. (2009), Rajesh Kumar Rai et al. (2012), Shahjahan et al. (2012), Gupta et al. (2014), Ononokpono and Azfredrick (2014), Sahoo et al. (2015), Paredes (2016), Stephen and Joshua (2016), Green (2018), C. Zhang et al. (2019); R. Zhang et al. (2018), Muzyamba et al. (2019), Iacoella and Tirivayi (2019) and De Groot et al. (2019) educating the women can be an important determinants to utilize maternal health care services throughout the developing world. The possible explanation could be that advanced education encourages women to oppose inconsistent power relations that encroach on their health and enable them to extract health-related information very proficiently, particularly when to seek and how to use it. In this context, different literature, for example, the studies of , Babalola and Fatusi (2009), R. K. Rai et al. (2013), Tesfahun et al. (2014), Ambel et al. (2017), Rahman et al. (2017), Haider et al. (2017), Shahjahan et al. (2017), W. Wang et al. (2017), Bonfrer et al. (2016), Yaya et al. (2019) and Khaki and Sithole (2019) described that educated women, in Rwanda, Uganda, Ghana, Ethiopia, Guinea-Bissau, Zambia, Malawi, Indonesia, Nepal, and Bangladesh are more likely to take maternal health care during the ANC and PNC period than their less-educated counterparts. In this regard, the study of Yaya et al. (2019) reveals that in Guinea-Bissau about 75 percent of the educated women are prone to get maternal health care facilities compared with those women who have no education at all whereas, in Zambia, higher levels of education upsurge the probability of utilizing the post-natal maternal health service. Shahjahan et al. (2017) found a solid and critical relationship between education ANC and PNC practice in rural Bangladesh. On the other hand, it is evident from Bangladesh that women with higher level of education usually take at least four ANC comparing with those women who had no formal education. Not only this, the frequency of utilizing health facilities from qualified doctors and nurses are 1.8 percent higher among the women who completed secondary or higher education than their uneducated counterparts (McNamee et al., 2009). This result is similar with the findings of the studies conducted in Indonesia and other different countries with similar socioeconomic backgrounds (Gupta et al., 2014; Shahjahan et al., 2012).

On this ground, husband's education also plays a critical role. In most cases, educated or highly educated husbands always seek better care for their wives as evident from the study of Rajesh Kumar Rai et al. (2012), R. K. Rai et al. (2013), Browne et al. (2016), Enuameh et al. (2016), Iacoella and Tirivayi (2019) and Hwang and Park (2019). O. E. Banke-Thomas et al. (2017). These studies indicated that husband's education is the most influential predictor to ensure the highest frequency of maternal health care utilization in deferent parts of lower-middle-income countries. Sahoo et al. (2015) concluded that educated husbands may likewise put few imperatives on their wives' decisions regarding health issues which ultimately encourage the highest possible care-seeking behaviour.

3.4 Employment

Employment is another factor that ensures the maximum use of maternal health care all around the world. The study of Rana et al. (2019) explained employment as a possible cause of empowerment which enables women to decide fertility choice and access to maternal health services. Studies of Khaki and Sithole (2019) and Iacoella and Tirivayi (2019) in Malawi found a strong relationship between women's employment and utilization of post-natal care. These findings are also similar in the context of Ethiopia, Nepal, and many other lower-middle-income countries (Babalola & Fatusi, 2009; Dhaher et al., 2008; Dhakal et al., 2007). The study of Khanal et al.

(2014) in Nepal explained that the paid employment status of women increases higher chances of getting maternal health services. Husbands are generally unwilling to pay health cost for their wives, unless she is employed or serve the demands of husbands particularly in Bangladesh (Walton & Schbley, 2013).

The study of R. Zhang et al. (2018) claimed that employed women generally take sufficient prenatal visits to the doctor which usually starts from the first 12 weeks and continues after the delivery period than their unemployed counterparts. And here the possible explanation could be the incapability of the jobless women to meet the expenses related to maternal health service.

Besides, the employment status of women and their husband's is also a crucial factor for the utilization of maternal health care services (Dhaher et al., 2008; Dhakal et al., 2007; Sahoo et al., 2015). In this connection, Jithesh and Ravindran (2016) indicated that the maternal mortality rate is seven times higher among women whose husbands or partners are unemployed.

3.5 Decision-making power

Women's autonomy is regarded as one of the significant features to motivate their health-seeking behaviour (Woldemicael, 2010). Different studies including, Tesfahun et al. (2014), Kanengoni et al. (2019) and Iacoella and Tirivayi (2019) suggest that the utilization of healthcare services often depend on the decision-making power of the women, particularly, economic independence, in most cases, ensure higher rate of maternal health care utilization but it is also true that unemployed women, to some extent, get full access to reproductive health service, particularly when the decision regarding health depends on her husband and herself jointly (Khaki & Sithole, 2019). Besides, the economic independence and education also enable women strongly to participate in decision-making process both in the public and family spheres and ensures better access to health-related services which is evident from sub-Saharan African countries (Iacoella & Tirivayi, 2019; Woldemicael, 2010).

3.6 Religion

Religion, interestingly both in Asian and African continents, is regarded as an important determinant of maternal health service utilization (Iacoella & Tirivayi, 2019). In Bangladesh there has been found an association between maternal health care practice and religion. According to the findings of Shahjahan et al. (2017), Muslim women, in general, are more likely to use maternal health care compared with the non-Muslim group who are usually attached to traditional practices. These findings are also similar with the study of Mekonnen and Mekonnen (2003) who claimed that between 25% and 28% of the Ethiopian Muslim women take maternal health care from the professional service providers in comparison with only 11% of non-Muslim women which is contradictory with the findings of Stephen and Joshua (2016) in Nigeria where both ANC and PNC is determined by religion; the findings of the study explored that the majority of the Christian women utilize skilled medical service provider than their Muslim counterparts. Besides, Adjiwanou and LeGrand (2014), in their study told about the practice of *purdah* as a means of women's seclusion from society, particularly, in Muslim community in Bangladesh, India, Nigeria along with other Muslim countries. These findings match with the study of Desai and Andrist (2010).

4. Recommendations

Based on the review, we recommend some strategies that can ensure the maximum possible utilization of maternal health care services in lower-middle-income countries which are highlighted in Table 1.

Table 1. Themes and subthemes related to policy suggestions to improve maternal health care outcomes in lower-middle income countries

Main themes	Subthemes
Free maternal health care	Free antenatal visit, delivery and postnatal care, free medicine and other supplies
Economic incentives	Conditional cash transfers, voucher scheme, community-based health insurance scheme
Broad outreach and education	Spousal, family and community inclusiveness (in reproductive health and maternal plan of care)

4.1 Free Maternal Healthcare

The recommendation for free maternal health care is justified because evidence from Ghana showed that introducing the provision of free maternal care under the delivery exemption policy in 2004 increased the use of antenatal care (Aboagye & Agyemang, 2013). Apart from this, Nigeria introduced a cost-removal policy since 2009 which provides free maternal health services and removes the direct cost of maternal health services resulted in increasing the number of women who utilize antenatal care, delivery and postpartum care at health facilities (Edu et al., 2017). Similarly in Kenya, to promote health facility in the sector of delivery service and to reduce pregnancy-related mortality, the government abolished delivery fees in all public health facilities since 2013 and got a significant (29.5%) increase in the number of facility-based deliveries (Gitobu et al., 2018).

4.2 Economic incentives

Financial incentives is, so far, the most common form of a mediator to improve and increase the utilization of maternal and reproductive health care service that published in the literature which includes "conditional cash transfers, voucher schemes, and Community-based health insurance" (Elmusharaf et al., 2015). Evidence showed that, conditional cash transfer generally increases household income and overall nutrition and consumption (Kabeer et al., 2012). In addition, it also increases the access to healthcare for hard-to-reach groups as well as improving health status and maternal health (Knaul et al., 2012; Lagarde et al., 2007).

Another vital form of economic incentives is the voucher scheme which has been introduced to provide access to pre-defined services to the communities that are hard to reach (Elmusharaf et al., 2015). Introducing a voucher scheme in India increases the institutional delivery for emergency obstetric care for the poor (Bhat et al., 2009). In Cambodia, vouchers were used to improve access, efficiency and disparities of selected maternal health care services (Bellows et al., 2011). Moreover, Eastern Uganda experienced the effect of the voucher scheme on improving institutional delivery and enhancing maternal follow-up. The success of the voucher scheme is also evidenced from Pakistan where this technique increases institutional delivery from 31% to 47% among the poorest group along with lessening the inequalities between rich and poor women from 33% to 16% (Mumtaz et al., 2014).

Similarly, community-based health insurance (CBHI) scheme is contributing to financial protection as well as increasing both the demand for maternal health services and the rate of delivery with skilled birth attendants (Elmusharaf et al., 2015).

4.3 Broad outreach and education

In order to improve reproductive and maternal health outcomes, spousal, family, and community inclusiveness in the care plan are essential. It is proved that reproductive problems are not only the problems of women but also the collective problem for everyone in the community. For this reason, family members and the larger community should be targeted by delivering health talks at social and religious gatherings. On top of that, education is highly recommended for creating awareness regarding family planning, antenatal care, sexually

transmitted diseases such as HIV/AIDS and dietary needs during pregnancy (Ezeonwu, 2014; Weitzman, 2017). A recent study in Malawi has found that knowledge regarding the expansion of antenatal care to men can help to overcome the barriers to improve maternal health at a community level (Aarnio et al., 2013).

5. Conclusion

It is, in fact, universal truth that universal health access won't be accomplished until women are being taken care of in their own networks and are enabled to take decisions regarding their reproductive health within a friendly environment. The accomplishments in maternal wellbeing are an after effect of political responsibility, viable arranging and deliberate exertion among different stakeholders. So, it is necessary for all the individual countries to adopt specific indicators of their own, based on the resource's availability. In fact, the utilization of maternal health care is not solely related to health-related objectives as opposed to bringing down dissimilarity in the use of facilities. To accomplish a quicker rate of progress, the health policy makers, particularly in lower-middle-income countries which are still lagged behind to achieve the desired targets to ensure universal maternal health service, must have to think about the guaranteed access to basic social insurance benefits by all, irrespective of class, race, religion, ethnicity, culture and monetary status of family units. Additionally, the behavioural factors, which are frequently mentioned to as a successful way of increasing consciousness, ought to consolidate two-route correspondence between the suppliers and the clients of the facilities to guarantee better quality and use.

Author's contributions and Acknowledgement

TEAS: Conceptualized and conducted the literature search, writing - methodology, original draft, review, editing the manuscript structure, and approved the final manuscript. **NF:** Review the original draft. **AAJT:** Literature search, writing – original draft. **ZFK**: Writing original draft. **MHH:** Critical review of original draft, editing and approved the final manuscript.

References

Aarnio, P., Chipeta, E., & Kulmala, T. (2013). Men's perceptions of delivery care in rural Malawi: exploring community level barriers to improving maternal health. *Health Care for Women International, 34*(6), 419-439. doi:10.1080/07399332.2012.755982

Aboagye, E., & Agyemang, O. S. (2013). Maternal health-seeking behavior: the role of financing and organization of health services in Ghana. *Global Journal of Health Science, 5*(5), 67. doi:10.5539/gjhs.v5n5p67

Abor, P. A., Abekah-Nkrumah, G., Sakyi, K., Adjasi, C. K. D., & Abor, J. (2011). The socio-economic determinants of maternal health care utilization in Ghana. *International Journal of Social Economics, 38*(7), 628-648. doi:10.1108/03068291111139258

Adjiwanou, V., & LeGrand, T. (2014). Gender inequality and the use of maternal healthcare services in rural sub-Saharan Africa. *Health & Place, 29*, 67-78. doi:10.1016/j.healthplace.2014.06.001

Akhter, S., & Dasvarma, G. (2017). Whither MDG 5 in Bangladesh and its regions? *Journal of Population Research, 34*(3), 279-301. doi:10.1007/s12546-017-9185-4

Ambel, A. A., Andrews, C., Bakilana, A. M., Foster, E. M., Qaiser, K., & Huihui, W. (2017). Examining changes in maternal and child health inequalities in Ethiopia. *International Journal for Equity in Health, 16*, 1-16. doi:10.1186/s12939-017-0648-1

Anyait, A., Mukanga, D., Oundo, G. B., & Nuwaha, F. (2012). Predictors for health facility delivery in Busia district of Uganda: a cross sectional study. *BMC pregnancy and childbirth, 12*(1), 132.

Babalola, S., & Fatusi, A. (2009). Determinants of use of maternal health services in Nigeria-looking beyond individual and household factors. *BMC pregnancy and childbirth, 9*(1), 43.

Banke-Thomas, A., Banke-Thomas, O., Kivuvani, M., & Ameh, C. A. (2017). Maternal health services utilisation by Kenyan adolescent mothers: Analysis of the Demographic Health Survey 2014. *Sexual & Reproductive Healthcare, 12*, 37-46. doi:10.1016/j.srhc.2017.02.004

Banke-Thomas, O. E., Banke-Thomas, A. O., & Ameh, C. A. (2017). Factors influencing utilisation of maternal health services by adolescent mothers in Low-and middle-income countries: a systematic review. *BMC pregnancy and childbirth, 17*(1), 65. doi:10.1186/s12884-017-1246-3

Bellows, B., Warren, C., Vonthanak, S., Chhorvann, C., Sokhom, H., Men, C., . . . Rathavy, T. (2011). Evaluation of the impact of the voucher and accreditation approach on improving reproductive behaviors and status in Cambodia. *BMC Public Health, 11*(1), 667.

Berhan, Y., & Berhan, A. (2014). Antenatal care as a means of increasing birth in the health facility and reducing maternal mortality: a systematic review. *Ethiopian journal of health sciences, 24*, 93-104.

Bhat, R., Mavalankar, D. V., Singh, P. V., & Singh, N. (2009). Maternal healthcare financing: Gujarat's Chiranjeevi Scheme and its beneficiaries. *Journal of Health, Population, and Nutrition, 27*(2), 249.

Blanchet, N. J., Fink, G., & Osei-Akoto, I. (2012). The effect of Ghana's National Health Insurance Scheme on health care utilisation. *Ghana medical journal, 46*(2), 76-84. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3426378/pdf/GMJ4602-0076.pdf

Bonfrer, I., Breebaart, L., & Van de Poel, E. (2016). The effects of Ghana's national health insurance scheme on maternal and infant health care utilization. *PLoS One, 11*(11), e0165623. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5106190/pdf/pone.0165623.pdf

Bonita, R., Magnusson, R., Bovet, P., Zhao, D., Malta, D. C., Geneau, R., . . . Hospedales, J. (2013). Country actions to meet UN commitments on non-communicable diseases: a stepwise approach. *The Lancet, 381*(9866), 575-584.

Browne, J. L., Kayode, G. A., Arhinful, D., Fidder, S. A., Grobbee, D. E., & Klipstein-Grobusch, K. (2016). Health insurance determines antenatal, delivery and postnatal care utilisation: evidence from the Ghana Demographic and Health Surveillance data. *BMJ open, 6*(3), e008175. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4800135/pdf/bmjopen-2015-008175.pdf

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2018). Has the free maternal health policy eliminated out of pocket payments for maternal health services? Views of women, health providers and insurance managers in northern Ghana. *PLoS One, 13*(2), e0184830. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5794072/pdf/pone.0184830.pdf

De Groot, A., Van de Munt, L., Boateng, D., Savitri, A. I., Antwi, E., Bolten, N., . . . Browne, J. L. (2019). Equity in maternal health outcomes in a middle-income urban setting: a cohort study. *Reproductive health, 16*(1), 84. doi:10.1186/s12978-019-0736-3

Desai, S., & Andrist, L. (2010). Gender scripts and age at marriage in India. *Demography, 47*(3), 667-687.

Devkota, S., & Upadhyay, M. (2015). How do income and education affect health inequality: evidence from four developing countries. *Applied Economics, 47*(52), 5583-5599. doi:10.1080/00036846.2015.1054069

Dhaher, E., Mikolajczyk, R. T., Maxwell, A. E., & Krämer, A. (2008). Factors associated with lack of postnatal care among Palestinian women: a cross-sectional study of three clinics in the West Bank. *BMC pregnancy and childbirth, 8*(1), 26.

Dhakal, S., Chapman, G. N., Simkhada, P. P., Van Teijlingen, E. R., Stephens, J., & Raja, A. E. (2007). Utilisation of postnatal care among rural women in Nepal. *BMC pregnancy and childbirth, 7*(1), 19.

Edu, B. C., Agan, T. U., Monjok, E., & Makowiecka, K. (2017). Effect of free maternal health care program on health-seeking behaviour of women during pregnancy, Intra-partum and Postpartum Periods in Cross River State of Nigeria: A Mixed Method Study. *Open access Macedonian journal of medical sciences, 5*(3), 370. doi:10.3889/oamjms.2017.075

Elmusharaf, K., Byrne, E., & O'Donovan, D. (2015). Strategies to increase demand for maternal health services in resource-limited settings: Challenges to be addressed. *BMC Public Health, 15*(1). doi:10.1186/s12889-015-2222-3

Enuameh, Y. A. K., Okawa, S., Asante, K. P., Kikuchi, K., Mahama, E., Ansah, E., . . . Nanishi, K. (2016). Factors influencing health facility delivery in predominantly rural communities across the three ecological zones in Ghana: A cross-sectional study. *PLoS One, 11*(3), e0152235. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4816577/pdf/pone.0152235.pdf

Ezeonwu, M. (2014). Policy strategies to improve maternal health services delivery and outcomes in Anambra State, Nigeria. *Health Care for Women International, 35*(7-9), 828-844. doi:10.1080/07399332.2014.925454

Faye, A., Diouf, M., Niang, K., Leye, M. M., Ndiaye, S., Ayad, M., & Tal-Dia, A. (2013). Social inequality and antenatal care: Impact of economic welfare on pregnancy monitoring in Senegal. *Revue d'Épidémiologie et de Santé Publique, 61*(2), 180-185. doi:10.1016/j.respe.2012.08.005

Fenny, A. P., Asuman, D., Crentsil, A. O., & Odame, D. N. A. (2019). Trends and causes of socioeconomic inequalities in maternal healthcare in Ghana, 2003–2014. *International Journal of Social Economics, 46*(2), 288-308. doi:10.1108/IJSE-03-2018-0148

Gage, A. J. (2007). Barriers to the utilization of maternal health care in rural Mali. *Social Science & Medicine, 65*(8), 1666-1682. doi:10.1016/j.socscimed.2007.06.001

Gitobu, C., Gichangi, P., & Mwanda, W. (2018). The effect of Kenya's free maternal health care policy on the utilization of health facility delivery services and maternal and neonatal mortality in public health facilities. *BMC pregnancy and childbirth, 18*(1), 77. doi:10.1186/s12884-018-1708-2

Green, T. L. (2018). Unpacking Racial/Ethnic Disparities in Prenatal Care Use: The Role of Individual-, Household-, and Area-Level Characteristics. *Journal of Women's Health (15409996), 27*(9), 1124-1134. doi:10.1089/jwh.2017.6807

Gupta, S., Yamada, G., Mpembeni, R., Frumence, G., Callaghan-Koru, J. A., Stevenson, R., . . . Baqui, A. H. (2014). Factors associated with four or more antenatal care visits and its decline among pregnant women in Tanzania between 1999 and 2010. *PLoS One, 9*(7), e101893. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4103803/pdf/pone.0101893.pdf

Haider, M. R., Rahman, M. M., Moinuddin, M., Rahman, A. E., Ahmed, S., & Khan, M. M. (2017). Impact of maternal and neonatal health initiatives on inequity in maternal health care utilization in Bangladesh. *PLoS One, 12*(7), 1-15. doi:10.1371/journal.pone.0181408

Houweling, T. A. J., Ronsmans, C., Campbell, O. M. R., & Kunst, A. E. (2007). Huge poor-rich inequalities in maternity care: an international comparative study of maternity and child care in developing countries. *Bulletin of the World Health Organization, 85*(10), 745-754. doi:10.2471/BLT.06.038588

Hwang, W. J., & Park, Y. M. (2019). Factors Influencing the Accessibility of Maternal Health Service in Cambodia. *International journal of environmental research and public health, 16*(16), 2909. Retrieved from https://www.mdpi.com/1660-4601/16/16/2909

Iacoella, F., & Tirivayi, N. (2019). Determinants of maternal healthcare utilization among married adolescents: Evidence from 13 Sub-Saharan African countries. *Public Health, 177*, 1-9. doi:10.1016/j.puhe.2019.07.002

Jithesh, V., & Ravindran, T. K. S. (2016). Social and health system factors contributing to maternal deaths in a less developed district of Kerala, India. *Journal of Reproductive Health and Medicine, 2*(1), 26-32. doi:10.1016/j.jrhm.2015.12.003

Kabeer, N., Piza, C., & Taylor, L. (2012). What are the economic impacts of conditional cash transfer programmes? A systematic review of the evidence. *EPPI CENTRE, SOCIAL SCIENCE RESEARCH UNIT, INSTITUTE OF EDUCATION & UNIVERSITY OF LONDON (eds.)*.

Kanengoni, B., Andajani-Sutjahjo, S., & Holroyd, E. (2019). Women's experiences of disrespectful and abusive maternal health care in a low resource rural setting in eastern Zimbabwe. *Midwifery, 76*, 125-131. doi:10.1016/j.midw.2019.06.003

Khaki, J. J., & Sithole, L. (2019). Factors associated with the utilization of postnatal care services among Malawian women. *Malawi medical journal : the journal of Medical Association of Malawi, 31*(1), 2-11. doi:10.4314/mmj.v31i1.2

Khanal, V., Adhikari, M., Karkee, R., & Gavidia, T. (2014). Factors associated with the utilisation of postnatal care services among the mothers of Nepal: analysis of Nepal demographic and health survey 2011. *BMC women's health, 14*(1), 19.

Kifle, D., Azale, T., Gelaw, Y. A., & Melsew, Y. A. (2017). Maternal health care service seeking behaviors and associated factors among women in rural Haramaya District, Eastern Ethiopia: a triangulated community-based cross-sectional study. *Reproductive health, 14*(1), 6.

Kitui, J., Lewis, S., & Davey, G. (2013). Factors influencing place of delivery for women in Kenya: an analysis of the Kenya demographic and health survey, 2008/2009. *BMC pregnancy and childbirth, 13*(1), 40.

Knaul, F. M., González-Pier, E., Gómez-Dantés, O., García-Junco, D., Arreola-Ornelas, H., Barraza-Lloréns, M., . . . Juan, M. (2012). The quest for universal health coverage: achieving social protection for all in Mexico. *The Lancet, 380*(9849), 1259-1279.

Knaul, F. M., Langer, A., Atun, R., Rodin, D., Frenk, J., & Bonita, R. (2016). Rethinking maternal health. *The Lancet Global Health, 4*(4), e227-e228.

Koroma, M. M., Kamara, S. S., Bangura, E. A., Kamara, M. A., Lokossou, V., & Keita, N. (2017). The quality of free antenatal and delivery services in Northern Sierra Leone. *Health Research Policy and Systems, 15*. doi:10.1186/s12961-017-0218-4

Lagarde, M., Haines, A., & Palmer, N. (2007). Conditional cash transfers for improving uptake of health interventions in low-and middle-income countries: a systematic review. *JAMA, 298*(16), 1900-1910.

Langer, A., Meleis, A., Knaul, F. M., Atun, R., Aran, M., Arreola-Ornelas, H., . . . Caglia, J. M. (2015). Women and health: the key for sustainable development. *The Lancet, 386*(9999), 1165-1210.

McKinnon, B., Harper, S., & Kaufman, J. (2016). Do Socioeconomic Inequalities in Neonatal Mortality Reflect Inequalities in Coverage of Maternal Health Services? Evidence from 48 Low- and Middle-Income Countries. *Maternal & Child Health Journal, 20*(2), 434-446. doi:10.1007/s10995-015-1841-8

McNamee, P., Ternent, L., & Hussein, J. (2009). Barriers in accessing maternal healthcare: evidence from low- and middle-income countries. *Expert Review of Pharmacoeconomics & Outcomes Research, 9*(1), 41-48. doi:10.1586/14737167.9.1.41

Mekonnen, Y., & Mekonnen, A. (2003). Factors influencing the use of maternal healthcare services in Ethiopia. *Journal of Health, Population and Nutrition, 21*(4), 374-382. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-1542411340&partnerID=40&md5=2bb972b3f29d7c83f17ee71137c73d2b

Moindi, R. O., Ngari, M. M., Nyambati, V. C., & Mbakaya, C. (2015). Why mothers still deliver at home: understanding factors associated with home deliveries and cultural practices in rural coastal Kenya, a cross-section study. *BMC Public Health, 16*(1), 114.

Mumtaz, Z., Salway, S., Bhatti, A., Shanner, L., Zaman, S., Laing, L., & Ellison, G. T. H. (2014). Improving Maternal Health in Pakistan: Toward a Deeper Understanding of the Social Determinants of Poor Women's Access to Maternal Health Services. *American Journal of Public Health, 104*(S1), S17-S24. doi:10.2105/AJPH.2013.301377

Muzyamba, C., Groot, W., Pavlova, M., & Tomini, S. M. (2019). Factors associated with choice of antenatal, delivery and postnatal services between HIV positive and HIV negative women in Zambia. *BMC pregnancy and childbirth, 19*(1), 127. doi:10.1186/s12884-019-2272-0

Novignon, J., Ofori, B., Tabiri, K. G., & Pulok, M. H. (2019). Socioeconomic inequalities in maternal health care utilization in Ghana. *International Journal for Equity in Health, 18*(1), N.PAG-N.PAG. doi:10.1186/s12939-019-1043-x

Ononokpono, D. N., & Azfredrick, E. C. (2014). Intimate Partner Violence and the Utilization of Maternal Health Care Services in Nigeria. *Health Care for Women International, 35*(7-9), 973-989. doi:10.1080/07399332.2014.924939

Paredes, K. P. P. (2016). Inequality in the use of maternal and child health services in the Philippines: do pro-poor health policies result in more equitable use of services? *International Journal for Equity in Health, 15*, 1-11. doi:10.1186/s12939-016-0473-y

Pulok, M. H., Uddin, J., Enemark, U., & Hossin, M. Z. (2018). Socioeconomic inequality in maternal healthcare: An analysis of regional variation in Bangladesh. *Health & Place, 52*, 205-214. doi:10.1016/j.healthplace.2018.06.004

Rahman, A., Nisha, M. K., Begum, T., Ahmed, S., Alam, N., & Anwar, I. (2017). Trends, determinants and inequities of 4+ ANC utilisation in Bangladesh. *Journal of Health, Population & Nutrition, 36*, 1-8. doi:10.1186/s41043-016-0078-5

Rai, R. K., Singh, P. K., Kumar, C., & Singh, L. (2013). Factors Associated With the Utilization of Maternal Health Care Services Among Adolescent Women in Malawi. *Home Health Care Services Quarterly, 32*(2), 106-125. doi:10.1080/01621424.2013.779354

Rai, R. K., Singh, P. K., & Singh, L. (2012). Utilization of Maternal Health Care Services among Married Adolescent Women: Insights from the Nigeria Demographic and Health Survey, 2008. *Women's Health Issues, 22*(4), e407-e414. doi:10.1016/j.whi.2012.05.001

Rana, J., Sen, K. K., Sultana, T., Hossain, M. B., & Islam, R. M. (2019). Prevalence and determinants of menstrual regulation among ever-married women in Bangladesh: evidence from a national survey. *Reproductive health, 16*(1), N.PAG-N.PAG. doi:10.1186/s12978-019-0785-7

Rosenfield, A., & Maine, D. (1985). Maternal mortality-a neglected tragedy: Where is the M in MCH? *The Lancet, 326*(8446), 83-85.

Sahoo, J., Singh, S. V., Gupta, V. K., Garg, S., & Kishore, J. (2015). Do socio-demographic factors still predict the choice of place of delivery: A cross-sectional study in rural North India. *Journal of Epidemiology and Global Health, 5*(4, Supplement 1), S27-S34. doi:10.1016/j.jegh.2015.05.002

Shahjahan, M., Chowdhury, H. A., Akter, J., Afroz, A., Rahman, M. M., & Hafez, M. (2012). Factors associated with use of antenatal care services in a rural area of Bangladesh. *South East Asia Journal of Public Health, 2*(2), 61-66.

Shahjahan, M., Chowdhury, H. A., Al-Hadhrami, A. Y., & Harun, G. D. (2017). Antenatal and postnatal care practices among mothers in rural Bangladesh: A community based cross-sectional study. *Midwifery, 52*, 42-48. doi:10.1016/j.midw.2017.05.011

Solanke, B. L. (2018). Factors associated with use of maternal healthcare services during the Boko Haram insurgency in North-East Nigeria. *Med Confl Surviv, 34*(3), 158-184. doi:10.1080/13623699.2018.1511358

Srivastava, A., Avan, B. I., Rajbangshi, P., & Bhattacharyya, S. (2015). Determinants of women's satisfaction with maternal health care: a review of literature from developing countries. *BMC pregnancy and childbirth, 15*(1), 97. doi:10.1186/s12884-015-0525-0

Stephen, A. A., & Joshua, A. O. (2016). Determinants of Maternal Utilization of Health Services and Nutritional Status in a Rural Community in South-West Nigeria. *African Journal of Reproductive Health / La Revue Africaine de la Santé Reproductive, 20*(2), 72-85. Retrieved from https://www.jstor.org/stable/26357096

Tesfahun, F., Worku, W., Mazengiya, F., & Kifle, M. (2014). Knowledge, perception and utilization of postnatal care of mothers in Gondar Zuria District, Ethiopia: a cross-sectional study. *Maternal and Child Health Journal, 18*(10), 2341-2351. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4220106/pdf/10995_2014_Article_1474.pdf

Walton, L., & Schbley, B. (2013). MATERNAL HEALTHCARE IN BANGLADESH AND GENDER EQUITY: A REVIEW ARTICLE. *Online Journal of Health Ethics, 9*(1), 1-18. doi:10.18785/ojhe.0901.08

Wang, W., Temsah, G., & Mallick, L. (2017). The impact of health insurance on maternal health care utilization: evidence from Ghana, Indonesia and Rwanda. *Health policy and planning, 32*(3), 366-375. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5400062/pdf/czw135.pdf

Wang, X. (2017). Health and health care disparities among women in mainland China. *Asian Education and Development Studies, 6*(2), 166-178. doi:10.1108/AEDS-01-2016-0003

Wehrmeister, F. C., Restrepo-Mendez, M.-C., Franca, G. V. A., Victora, C. G., & Barros, A. J. D. (2016). Summary indices for monitoring universal coverage in maternal and child health care. *Bulletin of the World Health Organization, 94*(12), 903-912. doi:10.2471/BLT.16.173138

Weitzman, A. (2017). The effects of women's education on maternal health: Evidence from Peru. *Social Science & Medicine, 180*, 1-9. doi:10.1016/j.socscimed.2017.03.004

WHO. (2013). WHO recommendations on Postnatal care of the mother and newborn. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/97603/9789241506649_eng.pdf;jsessionid=CDB9C1F7C996E919857E951A06B9B206?sequence=1

Woldemicael, G. (2010). Do Women With Higher Autonomy Seek More Maternal Health Care? Evidence From Eritrea and Ethiopia. *Health Care for Women International, 31*(7), 599-620. doi:10.1080/07399331003599555

Wong, K. L. M., Restrepo-Méndez, M. C., Barros, A. J. D., & Victora, C. G. (2017). Socioeconomic inequalities in skilled birth attendance and child stunting in selected low and middle income countries: Wealth quintiles or deciles? *PLoS One, 12*(5), 1-17. doi:10.1371/journal.pone.0174823

Yaya, S., & Ghose, B. (2019). Global Inequality in Maternal Health Care Service Utilization: Implications for Sustainable Development Goals. *Health Equity, 3*(1), 145-154.

Yaya, S., Ghose, B., & Gunawardena, N. (2019). Socioeconomic factors associated with choice of delivery place among mothers: a population-based cross-sectional study in Guinea-Bissau. *BMJ global health, 4*(2), e001341-e001341. doi:10.1136/bmjgh-2018-001341

Zere, E., Suehiro, Y., Arifeen, A., Moonesinghe, L., Chanda, S. K., & Kirigia, J. M. (2013). Equity in reproductive and maternal health services in Bangladesh. *International Journal for Equity in Health, 12*(1), 90-97. doi:10.1186/1475-9276-12-90

Zhang, C., Rahman, M. S., Rahman, M. M., Yawson, A. E., & Shibuya, K. (2019). Trends and projections of universal health coverage indicators in Ghana, 1995-2030: A national and subnational study. *PLoS One, 14*(5), 1-19. doi:10.1371/journal.pone.0209126

Zhang, R., Li, S., Li, C., Zhao, D., Guo, L., Qu, P., . . . Yan, H. (2018). Socioeconomic inequalities and determinants of maternal health services in Shaanxi Province, Western China. *PLoS One, 13*(9), 1-13. doi:10.1371/journal.pone.0202129