

Socio-Cultural Determinants and Maternal Mortality in Cross River Central Senatorial District, Nigeria

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Abstract

The study examined socio-cultural determinants and maternal mortality in of Cross River Central Senatorial District, Nigeria. Specifically, the study examined the effect of literacy level of women, and financial cost of healthcare services on maternal mortality. Literature was reviewed to show relationship existing between the dependent and independent variables. The study was anchored on the Health Belief model. The study adopted the cross-sectional research design which allowed for the use of questionnaire. Sample of four hundred (400) women of reproductive age were selected from the entire population of Central Senatorial district using Taro Yamane's sample size determinant. Out of the 400 distributed questionnaire, 384 were retrieved and used for analysis. The data collected were analyzed using the Pearson Product Moment Correlation (PPMC) technique. The results indicated a significant relationship between women's literacy levels, the financial costs of healthcare services, and maternal mortality rates. In light of these findings, it was recommended that awareness campaigns extend beyond formal education to reach women of reproductive age, aiming to correct misconceptions regarding the use of prenatal, antenatal, and postnatal healthcare services. It was also advised that healthcare practitioners educate the public on appropriate work limitations for pregnant women to mitigate risks associated with maternal mortality. Furthermore, the government was urged to incorporate and regulate the activities of Traditional Birth Attendants (TBAs) to prevent their practices from contributing to maternal deaths.

Keywords: socio-cultural, maternal mortality, literacy level of women, trafficking of children, health care delivery, sexual behaviours, health care services utilization & Nigeria

Introduction

Maternal mortality remains a critical public health issue, especially in sub-Saharan Africa, where cultural, social, and economic factors profoundly shape maternal health outcomes. It is among the most urgent reproductive health challenges in Africa (Lowe, Chen, & Huang, 2016). Globally, around 600,000 women die annually from pregnancy-related causes, with over 98% of these deaths occurring in developing countries (Etobe & Etobe, 2013), while many others suffer severe childbirth complications and lasting disabilities. In Nigeria, maternal mortality continues to rank among the highest globally, despite various governmental and non-governmental interventions. Cross River Central Senatorial District, located in the southern region of Nigeria, is not exempt from this troubling trend. The region reflects a complex interplay of socio-cultural factors such as traditional beliefs, gender roles, family structures, and community practices that shape women's access to maternal health services and influence health-seeking behaviours (Etobe, Etobe, & Plang, 2019).

In many rural communities within Cross River Central, cultural practices surrounding pregnancy and childbirth are deeply rooted, often dictating who provides care, where it is accessed, and

when. These cultural norms may encourage home deliveries, reliance on traditional birth attendants, or delayed referrals to skilled medical professionals, all of which significantly increase the risk of maternal death (Etobe, 2009). Moreover, societal determinants such as educational level, economic status, religious beliefs, and male-dominated decision-making systems further hinder timely and effective maternal care. Maternal death has profound impacts on both families and society, given women's central roles as caregivers, providers, and nurturers (Etobe, Tshabalala, & Etobe, 2013). Recognizing its social and economic consequences, maternal mortality has been a major focus of local and international initiatives since the 1980s (Fadeyi, 2007; Yaya & Etobe, 2022). It is prioritized as Goal 3 in the United Nations Sustainable Development Goals (SDGs) established in 2015. In Nigeria, the "Future Assured" program launched by First Lady Aisha Buhari seeks to enhance maternal and child health and reduce mortality rates.

Despite interventions by the government, non-governmental organizations, private sectors, and international bodies, the World Health Organization (WHO) reported a notable rise in maternal mortality by the end of 2016, particularly in sub-Saharan Africa, with Nigeria contributing a substantial share. This study investigates the socio-cultural factors influencing maternal mortality in the Cross River Central Senatorial District. Two research questions were formulated to guide this study: "what is the relationship between literacy level of women and maternal mortality?"; "to what extent does financial cost of healthcare services significantly correlate with maternal mortality?"

The general objective of the study is to explore the relationship between socio-cultural variables and maternal mortality in Cross River Central Senatorial District, Nigeria. Specifically, the study examines (i) "the relationship between literacy level of women and maternal mortality"; (ii) "assess the link between financial cost of healthcare and maternal mortality". Two hypotheses were tested in the study: (i) "there is no significant relationship between literacy level of women and maternal mortality"; (ii) "there is no significant link between financial cost of healthcare services and maternal mortality".

Literature review and theoretical framework

Literacy level of women and maternal mortality

Research consistently shows that higher levels of female education significantly reduce maternal mortality. Burchett and Mayhew (2009) argue that educated women demonstrate better health awareness, effective communication with healthcare providers, and proactive health-seeking behavior. Similarly, Uthman, Uthman, and Yahaya (2009), using Demographic and Health Survey (DHS) data, found an inverse relationship between educational attainment and maternal mortality across African countries, noting that women with secondary or higher education more frequently utilized skilled maternal health services. In Nigeria, Babalola and Fatusi (2009) also identified maternal education as a key predictor of modern healthcare utilization, while Doctor et al. (2013) emphasized that literacy empowers women with autonomy and informed reproductive decisions, contributing to maternal health improvements. Studies by Altman (2003) and Ferdous and Zarful Azam (2009) further support the argument, revealing that low female literacy in rural settings limits access to healthcare and heightens maternal and child mortality risks. Overall, the literature affirms that promoting female education is critical to enhancing maternal health outcomes.

Financial cost of healthcare services and maternal mortality

The high financial cost of healthcare services has been consistently identified as a major barrier to maternal health access, contributing to elevated maternal mortality rates in developing countries. Studies such as Borghi et al. (2006) in Tanzania revealed that out-of-pocket expenses

often prevent women from seeking antenatal and skilled delivery services. Similarly, Witter et al. (2007) found that removing user fees in Ghana significantly increased facility-based deliveries, emphasizing the critical role of affordability. Cross-national data from Kruk et al. (2010) confirmed a strong link between poverty and maternal deaths, a trend also documented in Nigeria by Onah and Govender (2014), where financial hardship drives reliance on traditional birth attendants. Say and Raine (2007) and Mavalankar et al. (2009) further demonstrated that poor women are disproportionately affected by the lack of access to essential obstetric care. Data from the Nigerian Demographic and Health Survey (NPC, 2008) highlighted that lack of money, distance, and transport costs are major obstacles for rural women, with poverty also limiting educational attainment and financial empowerment (NPC, 2003). Thus, economic barriers remain a critical factor undermining safe maternal health outcomes (Graham, 2004).

Theoretical framework

The Health Belief Model (HBM), developed in the 1950s by U.S. Public Health Service psychologists, is a leading framework for explaining and predicting health-related behaviours based on individuals' attitudes and beliefs. Initially designed to understand low participation in preventive programs like tuberculosis screening, HBM posits that people are more likely to engage in health actions if they perceive themselves as susceptible to a condition, view the condition as serious, believe preventive actions are effective, and judge the benefits as outweighing the barriers. Over time, the model was expanded to include concepts like cues to action and self-efficacy, enhancing its applicability. A key element of the model is perceived susceptibility, where individuals who recognize a higher risk are more motivated to adopt preventive behaviours.

For instance, a pregnant woman who believes she is vulnerable to complications during childbirth may be more inclined to seek antenatal care and deliver in a healthcare facility. Closely related to this is perceived severity, which involves beliefs about the seriousness of the consequences of a health condition. If a woman believes that complications during pregnancy could lead to death or long-term disability, this perceived severity may motivate her to engage in preventive behaviours such as attending regular check-ups or adhering to medical advice. The model also emphasizes perceived benefits, which are the positive outcomes an individual believes will result from taking a particular health action. In the context of maternal health, if a woman believes that attending antenatal clinics or delivering in a hospital can improve her chances of having a safe delivery, she is more likely to act in line with that belief.

The Health Belief Model is especially relevant to maternal health and has been used to explore why some women do not seek skilled maternal care, despite the known risks associated with childbirth. The model helps to explain not only the decisions women make regarding antenatal, delivery, and postnatal care, but also highlights the importance of perception, knowledge, and environmental factors in shaping these decisions.

Methodology

The study employed a mixed-methods survey design, combining quantitative and qualitative data to offer a comprehensive understanding of the research problem. Conducted in Cross River Central Senatorial District, Nigeria—a region geographically positioned between the Southern and Northern Senatorial Districts and comprising six local government areas—the study targeted a population estimated at 887,036 (NPC, 2016). A sample size of 400 respondents was determined using Taro Yamane's (1967) formula, with a multi-stage sampling technique adopted due to the population's dispersed nature. Primary data were collected through questionnaires and in-depth interviews, while secondary data were sourced from books, journals, government reports, and newspapers. Data analysis was carried out using the Pearson Product Moment Correlation Coefficient.

Results

Two hypotheses were tested using Pearson Product Moment Correlation Coefficient with the aid of SPSS Version 22, at a 0.05 level of significance. Of the 400 questionnaires distributed, 375 were properly completed and returned.

Hypothesis one

TABLE 1: Correlation analysis of the relationship between literacy level of women and maternal mortality

| Variable | N | X | SD | r | p-value |
|-------------------------|-----|-------|------|-------|---------|
| Literacy level of women | 375 | 17.76 | 3.92 | 0.621 | .000 |
| Maternal mortality | 375 | 14.01 | 3.31 | | |

*Significant at 0.05, df = 373, r-critical=0.139, $R^2 = 0.386$.

Source; Field survey, 2024

The statistical analysis presented in Table 1 reveals that the calculated r-value of 0.621 exceeds the critical p-value at the 0.05 level of significance with 373 degrees of freedom. This indicates a significant relationship between women's literacy levels and maternal mortality. Consequently, the null hypothesis is rejected, and the alternative hypothesis is supported. Additionally, the R^2 value of 0.386 further confirms the significant relationship between literacy level and maternal mortality.

Hypothesis two

TABLE 2: Correlation analysis of the relationship between financial cost of healthcare services and maternal mortality

| Variable | N | X | SD | r-cal | p-level |
|---------------------------------------|-----|-------|------|-------|---------|
| Financial cost of healthcare services | 375 | 16.13 | 4.13 | 0.534 | .000 |
| Maternal mortality | 375 | 14.01 | 3.31 | | |

*Significant at 0.05, r-critical= 0.139, $R^2 = 0.285$, df 373.

Source; Field survey, 2024

The findings, as shown in Table 2 ($r = 0.534$, $p = .000$), demonstrate a significant relationship between the financial cost of healthcare services and maternal mortality in Cross River Central Senatorial District, Nigeria. As a result, the null hypothesis was rejected at the 0.05 level of significance, and the alternative hypothesis was accepted. Furthermore, the R^2 value of 0.285 indicates a meaningful connection between the financial cost of healthcare services and maternal mortality in the study area.

Discussion of findings

Literacy level of women and maternal mortality

Hypothesis one was tested to assess the relationship between women's literacy levels and maternal mortality. The results revealed a significant correlation between the two variables, suggesting that women's literacy levels have a substantial impact on maternal mortality. This finding aligns with Babalola and Fatusi (2009), who noted that higher literacy levels are crucial in women's decisions regarding healthcare utilization. Educated individuals are more likely to seek out Western healthcare services, as education fosters awareness and enables the transmission

of socially accepted cultural norms. Literacy is essential in improving rural living conditions and promoting healthier populations. This conclusion is further supported by Burchett and Mayhew (2009), who found that in developing countries, pregnant women's literacy levels are strongly associated with their use of prenatal and postnatal services.

Data from in-depth interviews (IDI) reinforced these findings, indicating a significant relationship between literacy levels and maternal mortality in Cross River Central Senatorial District, Nigeria. Many interviewees emphasized that education equips women with knowledge about reproductive health. One participant from Yakurr noted that education helps women better handle pregnancy-related challenges. Other participants agreed, stating that literacy enables women to seek appropriate medical advice during emergencies. Educated women are less likely to believe in harmful misconceptions about healthcare, such as the belief that traditional birth facilities pose fewer risks or that infectious diseases are more easily contracted in modern healthcare settings. Consequently, this hypothesis supports the conclusion that women's literacy levels play a crucial role in reducing maternal mortality.

Financial cost of healthcare service and maternal mortality

The second hypothesis explored the relationship between the financial cost of healthcare and maternal mortality. The findings align with the WHO (2016) report, which highlights how unequal resource distribution perpetuates health disparities. According to Khanna and Sri (2018), women in families facing unemployment and social exclusion are at a higher risk of maternal mortality compared to those from wealthier backgrounds. Poverty is a major factor, as it limits access to necessary medical care, including antenatal services, as noted by Abass (2008). The World Bank estimates that 74% of maternal deaths could be prevented with access to essential interventions, particularly emergency obstetric care (Basavanthappa, 2008). In rural areas, many women cannot afford transportation to urban health centers and often resort to traditional birth attendants or forgo help altogether.

Poverty significantly affects maternal mortality, as financially disadvantaged women are less likely to access skilled healthcare. Data from the Demographic and Health Survey (NPC, 2008) shows that poor women are less likely to give birth in healthcare facilities with skilled providers. Additionally, 30% of Nigerian women cited financial barriers as a major obstacle to healthcare access. Increasing poverty also restricts educational opportunities for women, further economically disempowering them. In-depth interviews (IDI) conducted in the Central Senatorial District of Cross River State revealed that the high cost of healthcare services is a major barrier to seeking medical assistance at formal health facilities. Many rural women prefer cheaper options, such as traditional birth attendants, due to the prohibitive costs of medical services. These findings support the hypothesis that the financial cost of healthcare is significantly linked to maternal mortality.

Conclusion and Recommendations

This study examined the socio-cultural determinants affecting maternal mortality in Cross River Central Senatorial District, Nigeria. Findings reveal that maternal mortality in the region is significantly shaped by entrenched socio-cultural factors, including low levels of female education, and financial cost of healthcare service. The study recommended that government agencies, NGOs, and traditional institutions should collaborate to implement sustained public health campaigns aimed at improving women's literacy on reproductive health, antenatal care, and the dangers of unskilled birth practices. Community dialogues that involve men and opinion leaders should be promoted to challenge harmful cultural norms. In addition, the government of Cross River State should intensify efforts to improve access to quality education for girls and women in rural communities. Furthermore, the government should introduce free or subsidized maternal healthcare services, especially for low-income and rural women.

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