Topic: North-South Differentials and Determinants of Maternal Health Services Utilisation among Urban Poor in Nigeria

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Abstract

This study investigated maternal health service utilization among urban poor women in Nigeria, with a focus on North-South differentials. Using 2018 Nigeria Demographic and Health Survey data on 373 women aged 15-49 years, the study found substantial disparities in ideal maternal healthcare use between the North (3%) and South (19%). In the North, husband's education and health facility visits were significantly associated with maternal health service (MHS) utilization, while in the South, women's level of education, occupation, and exposure to family planning information on television were significant factors. There was a significant relationship between predisposing, enabling, and needs factors on MHS use in the South versus the North. Overall, the study highlights how regional demographic and socioeconomic characteristics greatly influence MHS utilization in Nigeria. The findings emphasize the need for tailored interventions to address North-South disparities and improve maternal health outcomes among urban poor women.

Introduction

The use of maternal health care services (MHS) is a known approach to reducing the risk of maternal mortality, specifically in places where the general health status of women is poor. It was reported that while there were no less than 900,000 maternal near-miss cases globally (women who nearly died but survived a complication that occurred during pregnancy, childbirth, or within 42 days of termination of pregnancy), sub-Saharan Africa alone accounted for roughly two-thirds (196,000) of the global maternal deaths (WHO 2019, 2020).

Although Nigeria constitutes only 2.74 percent of the global population and 18.7 percent of the sub-Saharan African population (PRB, 2022), Nigeria ranks third in the list of countries with extremely high maternal mortality rates - 1047 deaths per 100,000 live births in 2020, a 14 percent increase from 2017(WHO, 2023). The high number of maternal deaths in some areas of the world (less developed and developing countries) reflects inequalities in access to quality health services and highlights the gap between the rich and the poor. The MMR in low-income countries in 2017 was 462 per 100,000 live births versus 11 per 100,000 live births in high-income countries and the lifetime risk of death due to pregnancy is higher among women in low-income countries (1 in 45) as compared to high-income countries (1 in 5400) (WHO, 2019). This has been revealed to be caused by poor health-seeking behaviour, long distances to health facilities, delay in receiving appropriate care, and delays in reaching health facilities due to poor infrastructure such as roads,

etc. (WHO, 2023). The poor MHS in low/middle-income countries has resulted in more than half a million deaths during pregnancy, childbirth, or within a few weeks of delivery. The disparity in maternal healthcare services between high-income and low-income countries is mirrored in the inequity that exists between the urban rich and urban poor populations.

Even with the "urban advantage"[1], the rich and poor people live in a very different epidemiological environments even within the same city. The high rate of population growth and rapid urbanization rate has led to an increase in the proportion of urban dwellers in slums, squatters, and shanty towns. This is due to the socioeconomic differences between the urban poor and the urban rich which is reflected by deep health inequalities. With 53 percent of the Nigerian population now residing in urban areas (PBR, 2022) and this proportion is expected to grow in the coming years, the health of women in urban areas especially women in the lowest economic bracket should be a major focus of global public health policy. Thus, this study using the Nigeria Demographic and Health Survey 2018 (NDHS, 2018) aims to tease out the North and South differentials and associated determinants of maternal healthcare services among the urban poor women in Nigeria.

Data and Methods

Secondary data was sourced from the 2018 Nigeria Demographic and Health Survey (NDHS) dataset. The dataset provided information on the women's background characteristics, antenatal, delivery, and postnatal care, husband's background characteristics, and adult and maternal mortality in Nigeria. A total of 373 weighted values of urban poor women of reproductive age (15-49 years) who delivered twelve months before the NDHS 2018 survey were selected. The choice of events belonging to one year before the survey is to avoid memory lapse of the respondents.

The outcome variable for the study is maternal health service utilisation. This study used some of the components of maternal healthcare services such as the number of antenatal care visits (using WHO recommended 8 visits -WHO 2018), place of delivery, and provider of assistance at delivery to generate an indicator outcome variable called utilisation of maternal healthcare service package. Following a technique used by Rutaremwa et al., (2015), the above variables were categorized into three categories namely: ideal or desirable (women who attended at least 8 antenatal care visits, assisted by skilled personnel during delivery and delivered in a health facility), moderate (women who had between 4 and 7 antenatal care visits, supervised during delivery and delivered in an health facility; or had at least 8 ANC visits but did not receive any of the other components; or women who had less than 4 ANC visits but received other components of care were also included in this category; or at least 8 ANC visits, assisted by skilled personnel or supervised during delivery and did not deliver in an health facility; or women who had between 4 and 7 antenatal visits, assisted by skilled personnel or supervised during delivery and did not deliver in an health facility), and undesirable (women who received less than 4 antenatal care visits, did not deliver in any health facility and was not assisted during delivery; or less than 4 antenatal care visits, did not deliver in

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[1] Urban advantage in this study refers to the health benefits and other advantages of living in urban areas as opposed to rural areas

any health facility and assisted during delivery; or women who had between 4 and 7 antenatal visits, no health facility delivery and was not assisted during delivery) utilisation of maternal health service.

Andersen's health service utilization model (1995) was chosen for this study because of its ability to specify needs at multiple levels using predisposing, enabling, and need variables. The choice of variables for this framework is based on the reviewing of existing literature including Karkee et al., (2014) and Solanke (2021). We used the Venn diagram to show the interrelationship between the three main variables and models of the multinomial regression in the analysis to analyse the relative contribution of the various predictors of ideal/desirable maternal health services utilization package with the help of the Stata 14 software.

Results

The results of the Venn diagram showed that only 3% of respondents in the North and 19% of respondents in the South had adequate maternal healthcare, defined as at least 8 antenatal visits, delivering in a health facility, and being assisted by skilled personnel during delivery. In contrast, 78% of respondents in the North and 29% in the South did not meet these standards, with less than 8 antenatal visits, no institutional delivery, and no skilled assistance.

While examining the relationship between the predisposing factors (socio-demographic characteristics of the women) and the level of utilisation of maternal healthcare services, it was revealed that a significant disparity was observed in the level of education (p=0.047) in the South, with women having secondary/higher education showing markedly higher ideal utilisation (22.4%) compared to those with just primary education (15.8%) or no education (8.6%). This supports the views of Awoleye, Chima & Alawode, (2018), and Bamiwuye (2017) that education enhances women's social status thus increasing their bargaining power. It was also observed that the husband/partners' level of education was significantly related to the level of utilisation of maternal healthcare services in the North (p=0.001). Further findings showed that although the exposure to family planning information on television and occupation showed no impact on maternal healthcare use in the North, being exposed to family planning information on television and engaging in skilled, technical/professional were positively associated with ideal maternal healthcare utilisation in the South. This is not surprising given that mass media plays an important role in reaching both the educated and less educated mothers (Fatema & Lariscy, 2020). Having a recent health facility visit was positively (p=0.006) associated with ideal utilisation, significantly so in the North.

The results of Model 1 from the multinomial regression analysis (predisposing factors and level of MHS utilisation) showed that having secondary/higher education (RRR=24.7; p<0.05) in the South was significantly associated with an increased relative risk of using a moderate MHS package. In both North and South, having a husband with secondary/higher education (RRR=2.98; p<0.05) increased the relative risk of moderate MHS use compared to no education. In the South only, husbands having primary education (RRR=0.06; p<0.05) also increased the risk of moderate

use. The result from Model 2 (enabling factors and level of MHS utilisation) revealed that for ideal/desirable MHS in the South, the model likelihood ratio test was significant (p=0.02), indicating the predictors explain some of the variances in the outcome. Specifically, having access to social media was associated with higher odds of ideal/desirable MHS (RRR=12.94; 95 CI: 0.87 – 191.59). Model 3 (needs factors and level of MHS utilisation) revealed that for moderate MHS in the North, visiting a health facility in the last 12 months is significantly associated with higher odds of using moderate contraception (RRR=2.25; p<0.05). This indicates that visiting a health facility predicts higher moderate MHS use. The results of the Model 4 (predisposing, enabling, and need factors; and level of MHS utilisation) revealed that the husband/partners' level of education was also significantly associated with utilisation of the moderate package of the MHS in both north (secondary education - RRR= 3.45; 95% CI = 1.09 – 10.8) and south (primary education - RRR = 0.05; 95% CI = 0.00 – 0.96) and not the ideal/desirable package. There was a significant relationship between the combined effect of predisposing, enabling, and needs factors on MHS utilisation in the South as against the North (Likelihood Ratio test = 57.31; p<0.05).

Conclusion and Recommendations

This study reveals a substantial north-south disparity in maternal healthcare utilisation in the country. The North lags far behind the South in antenatal care, facility deliveries, and access to skilled birth attendants. Urgent interventions are needed to improve maternal health indicators in the North and align them with the comparatively higher standards in the South. The findings highlight the importance of contact with the healthcare system in promoting optimal utilisation.

Other factors associated with ideal maternal healthcare use include women's education, spousal education, and media exposure, with some regional differences observed. The findings highlight the importance of women's empowerment through education and targeted health messaging in improving maternal health outcomes. There is a need to emphasize improving awareness and knowledge of reproductive-aged women and their partners about the availability and importance of quality maternal services, with a focus on underprivileged urban populations.

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