Title:	**Reproductive health in urban Nigeria: An exploration of variations in maternal and child health outcomes among poor and non-poor urban women**
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Background/statement of problem:

Improvement in maternal and child health indicators remains an essential part of the United Nations millennium development goals. With just a few years to 2015, indicators of maternal and child health in sub-Saharan Africa have not shown any significant improvement. Although, some countries in the region have made remarkable progress, half of the maternal deaths in the world still take place in the sub-Saharan Africa region (UNICEF, 2008). In Nigeria for instance, out of 500,000 world's maternal deaths, estimates show that about 55,000 (i.e. about 10%) of these deaths occur in Nigeria and child mortality rates are still unacceptably high at about 100 deaths per 1,000 live births (WHO, 2009), with prospect for accelerated decline looks distant away.

More importantly, growing urban population has culminated into two unparalleled categories of urban dwellers in terms of socio-economic indicators, with greater proportion of young people in reproductive ages. Increasing rate of poverty is challenging best efforts directed at improving access to quality reproductive health services among the marginal urban dwellers. Most cities in Nigeria are facing daunting challenges of coping with increasing number of urban women living in slums and shanty towns. The challenge of reaching disparate urban women health needs, particularly in the areas of maternal and child health is a major growing concern in many large cities.

Past research efforts have been concentrated on explaining disparities in health care services utilization and outcomes between rural and urban Nigeria, without giving adequate attention to the health disadvantages faced by the urban poor when compared with urban non-poor women. This neglect may be due to the presumption that socio-economic indicators and health outcomes are better among urban dwellers and that urban women tend to benefit from easy access to quality health services. However, available evidence has shown that increasing rate of rural-urban migration in Nigeria is causing strain on health care facilities in the cities. Also, raising cost of health care services as well as unfavourable state of socio-economic indicators among urban dwellers is challenging effective use of health care services, especially relating to maternal and child health care. Therefore, highly imperative is an empirical analysis of the underlying causes and explanations of gaps in maternal and child health outcomes among poor and non-poor urban women in Nigeria.

Objectives of the study:

The main objective of the study is to examine predictors of maternal and child health outcomes among poor and non-poor urban women in Nigeria. The study will also explore and document variations in maternal and child health indicators among urban women.

Methodology/source/sample size:

This paper utilized data from the 2008 Nigeria Demographic and Health Survey (NDHS). The analysis was restricted to 3,022 and 3,609 poor and non-poor urban women age 15-49 years respectively, with at least one child at the time of the survey. Classification of

urban women into poor and non-poor categories followed the Demographic and Health Survey (DHS) standard classification procedures. DHS used information on wealth index based on economic proxies such as household's ownership of consumer goods, toilet facilities, housing qualities and other information related to a household's socio-economic status. Following this pattern, national household wealth index for urban residence was re-ranked into equal-size quintiles. This was necessary in order to create equal-size wealth groups within the urban population for equal comparison and disentanglement of the effect of place of residence (Foreit, 2008). Urban women in poor and poorest wealth quintiles from the re-ranked values were merged to form urban poor category while those in middle, richer and richest wealth quintiles were merged to form non-poor category. The outcome variables of interest considered for the study were number of ante-natal visits completed, place of delivery, child morbidity (occurrence of fever and diarrhea) and vaccination. Ante-natal care visits and place of delivery were used as indicators of maternal health. Similarly, incidence of child morbidity in the last two weeks preceding the survey and vaccination received were used as measures of child health. A set of covariates such as socio-demographic characteristics of the respondents (maternal age, marital status, educational level, religion, employment status, ethnicity and region) were included in the analysis. Three levels of analyses were performed using STATA 10 computer software. Firstly, the distribution of urban poor and non-poor women by selected socio-demographic characteristics and maternal and child health variables. Secondly, bivariate relationship between outcome variables and some selected independent variables was analysed through Chi-square. Lastly, binary logistic regression models predicting the effect of wealth status on maternal and child health, controlling selected background characteristics.

Preliminary findings:

Findings from the NDHS analysis showed that urban poor women are particularly disadvantaged in terms of educational attainment and employment status. About 70% of urban poor women had primary or less education compared with about 31% of urban non-poor women. Almost 55% of urban poor women were unemployed compared with 45% of urban poor counterparts. Age at first birth was lower among urban poor women than non-poor. Average age at first birth among urban poor women was 19 years, as opposed to 22 years for the urban non-poor counterparts. Marital dissolution was higher among urban poor (51%) than non-poor women (48%). Similarly, poverty was prevalent among urban Hausa/Fulani women (70%) in Muslim religious affiliation (58%) in the North-west region (80%) than women with other socio-demographic characteristics. In terms of maternal and child health outcomes, about 74% of urban poor women had home deliveries compared with 26% of urban non-poor women. Also, about 61% of urban non-poor women reported at least 4 ante-natal visits relative to 39% of urban poor women. Majority of urban non-poor women (62%) completed two or more doses of tetanus injections while it was only 38% of urban poor women. Complete vaccination i.e. one BCG, Polio3, DPT3 and Measles injection was lower among urban poor than non-poor children. About 35% of urban poor children were fully vaccinated as compared with 65% of non-poor counterparts. With respect to incidence of child morbidity, almost 54% and 64% of urban poor children had fever and diarrhea in the last two weeks preceding the survey compared with 46% and 36% of non-poor children respectively. The results from the multivariate analysis showed that, relative to urban poor women, urban non-poor women were more likely to complete at least four ante-natal visits and less likely to deliver at home. The odds of having at least four ante-natal visits increased by 38% for the urban non-poor women compared with urban poor counterparts (p=0.000). Urban non-poor children were 1.30 times as likely as urban poor to complete the required number of vaccinations and it was significant. Relative to urban poor children, urban non-

poor children had lower odds of experiencing fever (OR=0.81; CI=0.66-0.99) and diarrhea (OR=0.87; CI=0.68-1.11). The outcomes for these categories were significant only for the occurrence of fever. The multivariate analysis identified marital status, educational level, age at first birth, and region as important factors predicting maternal and child health outcomes. Urban non-poor married women (OR=2.79; CI=1.99-3.91), from South West region (OR=1.46; CI=1.18-1.80), with at least secondary education completed (OR=1.45; CI=1.42-1.86) and maternal age 35 years or more (OR=3.04; CI=1.59-5.85) were more likely than women in other categories to complete at least four ante-natal visits. Apart from wealth status variable, the results confirmed that educational level and ethnicity appeared as most significant socio-demographic determinants of place of delivery and full vaccination of children.

Conclusions/recommendations:

Arising from the findings, it is evident that there are substantial disparities in maternal and child health outcomes among poor and non-poor urban women. The study concludes that women living in urban poor neighbourhoods are particularly disadvantaged in maternal and child health outcomes. The findings of the study may have implications for giving more attention to meeting urban poor women health needs in Nigeria, with intense focus on the individual and community-level factors impeding their access to quality maternal and child health care services. This will go a long way in bridging the gaps in reproductive health outcomes between poor and non-poor urban women in Nigeria.

Appendix:

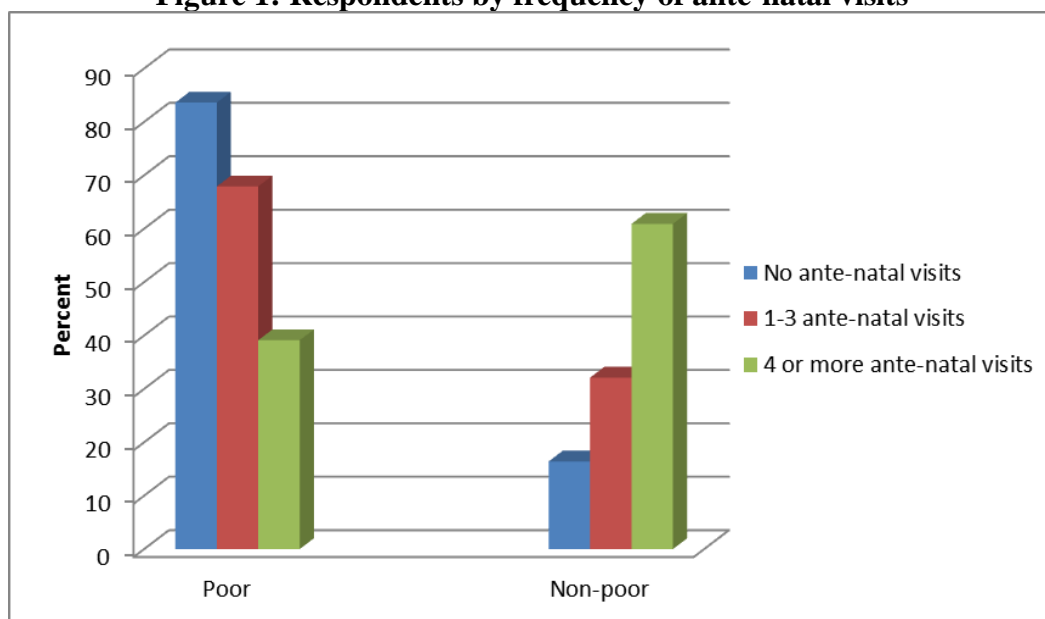**Figure 1: Respondents by frequency of ante-natal visits**
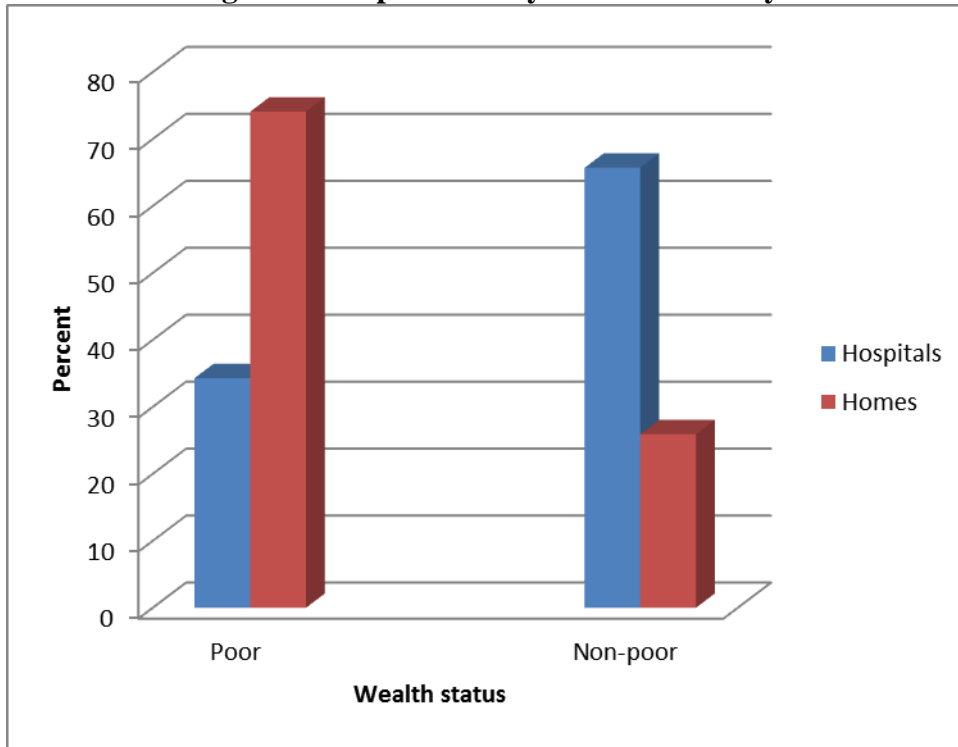
Figure 2: Respondents by Place of Delivery

Figure 3: Respondents by the vaccination received