



THE SOCIOECONOMIC FACTORS THAT DETERMINE WOMEN UTILIZATION OF HEALTHCARE SERVICES IN NIGERIA



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ABSTRACT

Measures of maternal deaths are critical as they reflect a woman's access to essential services during pregnancy, childbirth, general health, nutritional status, getting to reproductive care services as well as family planning. The indices such as economic status, education, birth level, and birth interval are key predictors of health services utilization. Given the inequalities in healthcare utilization in developing nations, the study looks at what determines pregnant women utilization of such services in Nigeria. Adopting Poisson Regression Model on Demographic Health Survey (DHS) data, the study observes that the wealth of pregnant women positively influences their health care utilizations while an increase in the household size has a negative effect on the capability to access health care. In line with the findings, the study suggests need for positive policies and implementation strategies that will increase the opportunity for women to have proper health education which would have an impact on utilization of antenatal visits among pregnant women in Nigeria.

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Contribution/ Originality

The study contributes to the existing literature on the socioeconomic factors that determine women utilization of health care services in Nigeria.

1. INTRODUCTION

The level of adequate medical care tends to vary substantially with the need for it in the population that served it. Recent studies have shown that many Western countries have socioeconomic equity in utilization of health care, whereas more pro-rich inequity arises in the use of health services from medical specialists (Kraus *et al.*, 2009). This is not the same with most African countries, like Nigeria, where evidence indicates that inequality across socioeconomic classes manifests in having access and utilization of these services (Grasdal and Monstad, 2011).

While the main sources of social inequalities are considered to arise from social and economic determinants outside the health services (Exworthy *et al.*, 2003), there is demanding interest in the health care system. In countries with universal health care systems like Nigeria, it is generally assumed that socioeconomic gradients in approaching health care services are very high, in recent time, this matter has been subjected to critical review (Hanratty *et al.*, 2007). Even without a precise quantification of the contribution to healthcare equity of the

socioeconomic factors, however, it then becomes expedient to study and determine the socioeconomic factors causing this inequality among pregnant women, who are highly in need of medical care.

Although, a number of studies, within and outside Nigeria (Okereke, 2010; Ogunlesi and Ogunlesi, 2012; Rai and Tulchinsky, 2012) have documented that low incomes, service cost, accessibility and availability, and programmatic factors are vital in determining the level of service utilization. Also, the socioeconomic and demographic factors such as economic status, education, birth order, and birth interval are vital predictors of utilization of health care services. Other studies have been carried out in Nigeria to specifically show the factors for the utilization of the services by women and the choice of place for delivery by pregnant women (Nwakoby 1994). Most of these studies are limited in scope, and are yet to come to agreement on the major factors influencing healthcare utilization among pregnant women. Thus, this study is built to fill this research gap.

2. LITERATURE REVIEW

A reasonable number of studies have studied the relationship between socioeconomic inequalities and utilization of health care from global domain. According to United Nation report (United Nations, 2013) once a woman is pregnant, skilled medical care is essential to ensure her safety and that of her infant. Therefore, the provision and utilization of maternity care (MC) services have been placed as basis for formulation, implementation and monitoring of programmes directed at reducing maternal and child morbidity and mortality all over the world.

According to Buor (2003), distance is the most important factor that influences the utilization of health services in the south district of Ghana. The inadequacies in the access to health facilities has drastically reduced the life expectancy rural dwellers and increased infant mortality. He further observed that rural people often waste a lot of time getting to the nearest available health care center due to the problem of reliable means of transportation.

Idris *et al.* (2006) examined the role of health, socio-economic and demographic factors in ascertaining the place of delivery among women in a semi-urban settlement in Zaria, deployed cross sectional descriptive approach. The study observed that the high rates of home deliveries and those not handled by professionals takes 70% and 78% respectively. Furthermore, mother's educational status, spouse's occupation and age at first pregnancy are the main factors of place of delivery.

Goldman and Heuveline (2000) observed that family size and parity, educational status and husband's occupation are also associated with health seeking behavior besides age, gender and marital status. They pointed income, education, and expected competency of the head of the family as positive determinants of health care services utilization in the rural Burkina Faso.

Demographic Health Survey (2013) report on the percentage of women that received Antenatal Care (ANC) in Nigeria revealed 58.6% in 1990, 62.5% in 1999, 60% in 2003, 56.5% in 2008 and 61.2% in 2013 respectively. While majority of women that received Intermittent Preventive Therapy (IPT) during ANC visit was 2% in 2003, 9.2% in 2008 and 49% in 2013. This shows that greater number of women especially the pregnant ones are now in the know of the needs and importance of IPT during ANC in Nigeria.

It is argued that the traditional use of ANC to point out risk factors (e.g. age, parity, etc) associated with poor maternal outcomes has limited benefit since the risk factors do not directly cause the poor outcome (Owumi and Raji, 2013). A greater number of visits, though not beneficial for low risk pregnancies, are recommended for women with higher risks of obstetric complications. As such, ANC now offer the opportunity for early identification and timely treatment of diseases which improves maternal outcomes. For example, detection, treatment, counselling and education of pregnant women about their own health and that of their children are benefits incorporated into ANC.

Some studies have been conducted on the health care seeking behaviour of households, socioeconomic, cultural and demographical factors that impact negatively to this health care seeking behaviour. However, much need to be done since most of these studies will either limit the determining factor to healthcare seeking behaviour on income or cultural belief. For example, [see; Idris *et al.* (2006); Chukuezi (2010) and Owumi and Raji (2013)]. These studies

failed to examine other socioeconomic predictor and outcome variables such as the household asset index, the reported population of antenatal visits, and diagnostic as recommended by the World Health Organisation (WHO, 2006). Therefore, this study considers all the variables built in the Andersen's behavioral model for health care services utilization.

3. MODEL SPECIFICATIONS

In accordance with Andersen and Newman (2005) the socioeconomic factors that affects health care utilization can be categorized into three: i) the predisposing features like age, sex, parity, etc; social structural factors, which is measured by characteristic such as educational attainment and occupation of the head of the family; and attitudinal-belief factors, ii) Enabling characteristics such as income/wealth (economic status), health insurance coverage and location of residence and costs care; and iii) Need based features such as women past experiences in pregnancy and birth or personal preferences. Based on these, this study examines the influence of wealth, health care attendant, place of delivery, level of Education of the pregnant woman, access to insurance services, occupation of the pregnant woman; household size and age of pregnant woman on antenatal health care utilization.

The general form of the model is:

$$Anc = \alpha + \beta_1(qy) + \beta_2(ha) + \beta_3(pd) + \beta_4(led) + \beta_5(ins) + \beta_6(ocp) + \beta_7(hs) + \beta_8(age) + \mu_t \quad \text{---1}$$

Where

Anc = Antenatal healthcare utilization. qy_i = wealth of the pregnant woman,
 ha_i = healthcare Attendant. pd = place of Delivery,
 led = level of Education of the pregnant woman, ins = access to insurance services,
 ocp = occupation of the pregnant woman; hs = household size, and
 age = age of pregnant woman, μ = stochastic error terms
 β = slope coefficients of the socioeconomic factors, α = intercept

Note that equation 1 is estimated using a Poisson regression method. It assumes that the response variable Antenatal health care utilization (Anc) has a Poisson distribution, and assumes that the logarithm of its expected value can be modeled by a linear combination of unknown parameters.

4. RESULTS PRESENTATION AND DISCUSSIONS

The Poisson regression results for our model are represented below, the dependent variable is antenatal health care utilization proxied by antenatal visit by pregnant woman, the independent variables are wealth index, skilled birth attendant proxied by prenatal doctor, prenatal nurse/auxiliary, prenatal auxiliary/midwife, location of delivery, education attainment of the pregnant woman, health insurance coverage, fields of the such women, number of household size, and the women's age.

The study identified ten (10) major factors influencing health services among pregnant women. These include, among others, the type of health care attendant (Doctor, Nurse/ Midwifery and auxiliary/midwifery), income or wealth index of the woman, the woman's level of education, access to health insurance services, occupation of the woman, household size and lastly age of the pregnant woman. See the result in the table 4.1 below.

Table-4.1. Summarized Poisson Regression Result

		Dep. Var = ANC; Log likelihood = -248729.99; No. of Obs = 18028 LR chi2(10) = 93097.21; Prob> chi2 = 0.0000; Pseudo R ² = 0.1576			
Variable		Coefficient	Std. Error	Z-Statistic	P>Z
HA	m2a	.134702	.004604	29.26	0.000
	m2b	.2894887	.0040761	71.02	0.000
	m2c	-.1717927	.0054008	-31.81	0.000
PD		.007172	.000128	56.04	0.000
LED		.0971223	.0016572	58.61	0.000
INS		-.0189772	.0032884	-5.77	0.000
OCP		.0001471	.000027	5.44	0.000
HS		-.0208879	.0007103	-29.41	0.000
AGE		.0056386	.0003261	17.29	0.000
QY		.206047	.0021456	96.03	0.000
_cons		1.264806	.0110685	114.27	0.000

Source: Researcher's compilation from STATA 13

The result on the influence of health care attendant on pregnant women in Nigeria indicates that a unit addition in the number of medical doctors in the hospital and health care centers will induce 13% increase on the rate of health care utilization among pregnant women in Nigeria, other factors kept fixed. Similarly, a unit increase in the number of qualified nurses/midwifery in hospitals and health care centers have approximately 29% boost to health care utilization among pregnant women in Nigeria. As expected, women are scared of patronizing auxiliary nurses and midwifery, since they believe that the probability of survival under this category of health attendant is low.

Result in table 4.1 shows that a unit increase in the size of auxiliary nurses and midwifery will bring about 17% reductions to healthcare utilization among pregnant women. The above results are in line with the findings of [Owumi and Raji \(2013\)](#) that provision of skilled attendant for delivery care, along with equipment, drugs and supplies are the most important factors in preventing maternal death. We could recall that the purposes of antenatal care are:

- To maintain mother and baby in the best possible state of health by identifying problems, actual and potential, at an early stage and constituting appropriate management.
- To educate the mother and her husband/partner about pregnancy and labour and dispel fears and ignorance.
- Antenatal care remains a screening process for impaired fetal growth, mal-presentation, anaemia, preclampsia and other disorder.

Similar findings by [Kalule-Sabiti et al. \(2014\)](#) notes that appropriate management by skilled attendants of labour, delivery and the immediate postpartum period can avert complications such as retained placenta, even without modern obstetric techniques that include surgery and blood transfusion.

Therefore handling antenatal care by unskilled or unqualified medical personnel will not only increase maternal death but will negatively affect ANC visit by pregnant women. The presence of skilled birth attendants at all births is regarded as, probably, the single most critical intervention for reducing pregnancy-related deaths and disabilities [UNFP; [Bell et al. \(2003\)](#)].

Another most influencing factor to ANC is the level of education of the pregnant woman. From the result, a unit increase in the level of educational status of the pregnant women will approximately 97% boost to healthcare utilization among pregnant women. The result further indicates that the level of education of the pregnant woman significantly and positively will influence utilization. In other words, a unit increase in level of education of such woman will bring about 97% increases in her ANC, other factors kept fixed. The finding is in line with that of [Elo \(1992\)](#); [Celik and Hotchkiss \(2000\)](#). They noted that education serves as a proxy for information, cognitive skills, and values. According to Celik, & Hotchkiss, education exerts effect on health-seeking behaviour through a number of pathways. Educated mothers are more likely to take advantage of public health-care services than other women

[Caldwell (1979)]. Women with better education were more likely to receive the recommended number of ANC visits (Regassa, 2011).

Another factor that influences changes in health care utilization among pregnant women is the place of delivery (PD). This variable have 0.7% point positive change to health care utilization among pregnant women at 1% increase in the choice of place of delivery. This is true since naturally, people believe that using hospital is safer during pregnancy than staying at home. Childbirth beliefs and practices (Perceptions about Home Birth and Hospital Birth) sees the act of childbirth as a social and cultural event among most African societies, but modern orthodox medicine view it as an issue that requires medical intervention. Obermeyer and Potter (1991) narrated a cultural practice among the Zarma ethnic group of Niger republic and found that the people have a tradition of a woman giving birth to her first child in her parent's home. Women who live in the city may therefore return to villages for delivery even though this means access to health facility will be more difficult. Not only that, other traditions are delivering in a squatting position, not pushing for fear of after pains, not crying out during delivery, and burying the placenta to ward off evil spirits.

Another factor is Age of the pregnant woman. This is an important variable in understanding the level of utilization Maternal age at birth are well known to influence choice of delivery place and improve access to maternal health care in addition to economic ability. The findings show that women of younger age at child birth are less likely to use both the government and private health facilities for child birth than older women at child birth. . This finding is in line with most studies in SSA and other developing regions of the world, see; Thind *et al.* (2008). These studies have shown that older women are more knowledgeable in terms of health service use than younger women and adolescents, and sometimes more influential in household decision making on the use of health care facilities for child birth. In addition, advancing maternal age is known to be a risk factor for poor maternal birth outcomes, and this may sometimes warrant the use of health facilities by older pregnant women

Occupation of the pregnant women is another socioeconomic factor that have shown to be significant in influencing changes in health care utilization among pregnant women. Occupation is a source of economic resources which empower women to take charge of their own health and facilitate easy access to quality maternal care. In our result, occupation variable, though significant, has a low influences over changes in health care utilization among pregnant women. It shows that a 1% point change in the occupation of the pregnant women will bring about 0.014% point changes in health care utilization among pregnant women. Our study goes further to support the study of Ewa *et al.* (2012) that women's position in the household is another factor that may affect the decision on use or non-use of services. Women who are more independent are more likely to use services as compared to those who depend entirely on their husbands or other members of the family.

On the other hand, health insurance coverage (HIC) have negative influence on health care utilization among pregnant women. The result shows that a 1% point change in HIC will lead to 1.8% decreases to the health care utilization among pregnant women in Nigeria. This result shows that HIC in Nigeria is not inclusive. That is, it did not cover majority of households, making it skewed to the privilege ones. Lack of adequate health insurance mechanisms coupled with huge out-of-pocket expenses has long been recognized as a major challenge to healthcare financing in Nigeria. This finding is consistent with that of Celik and Hotchkiss (2000).

Household Size (HS) is another factor that has significant influences over women health care utilization. Contrarily, this variable is expected to have positive influences over health care utilization among pregnant women, but the reverse is the case. Thus one expects that as the number of household members increases, their health care utilization will equally increase. On the other hand, it is possible that increase in the household's size will affect their income negatively, and this might have negative effects on the capability to access health care, although the result shows that a 1% point increase in household size will induce only 2% increase in pregnant women health care utilization in Nigeria.

The variable that proved to have most significant and positive influence on pregnant women health care utilization is the level of income/ wealth. Evidence from the result shows that a 1% point increase in the income levels of a pregnant woman will lead to about 20% point increases in her health care utilization. Thus, the study found that the wealth status of a woman is significantly associated with MHCS utilization in both regions. The reason is that women from households with higher economic status have power of affordability and have greater exposure to accessing relevant information and knowledge regarding issues related to maternal health utilization. This is expected since access to health services utilization in Nigeria depends on several out-of-pocket payments as mentioned earlier.

5. SUMMARY OF FINDINGS

This study investigated the socioeconomic inequality in health care utilization among pregnant women in Nigeria using DHS data. The likely socioeconomic factors that affect health care utilization in Nigeria proxied by the numbers of antenatal visit by pregnant women were modeled. In the second model, the study examined the extent of socioeconomic inequality in health care utilization among pregnant women in Nigeria, while the third model ranked pregnant women recipient of anti-tetanus injection by geographical location (region). Other socioeconomic variables included in the models were wealth index, skilled birth attendant proxied by prenatal doctor, prenatal nurse/auxiliary, prenatal auxiliary/midwife, place of delivery, education attainment of the pregnant woman, health insurance coverage, occupation of the pregnant women, number of household size, and the age of pregnant woman. A Poisson regression model was applied for the objective.

At the end of the estimations, the study observed that ten (10) major factors are responsible for healthcare utilization among pregnant women in Nigeria. It also observed that type of health care attendant (doctor, nurse/midwifery and auxiliary/midwifery), wealth index of the pregnant woman, the woman's level of education, access to health insurance services, occupations of the pregnant woman, household size and age of the pregnant woman have statistical significant influence on the pregnant women health care utilization (Antenatal visit).

The policy implication of this is that handling antenatal care by unskilled or unqualified medical personnel will not only increase maternal death but will negatively affect ANC visit by pregnant women. The presence of skilled birth attendants at all births is regarded as, the single most critical intervention for reducing pregnancy-related deaths and disabilities. The study also revealed that a unit increase in the level of education of the pregnant women will have approximately 97% boost to health care utilization among pregnant women in Nigeria. This implies that the level of education of the pregnant woman significantly and positively influences her health care utilization.

The study ascertained that wealth status of a pregnant woman has positive influence on her health care utilization. The implications of this finding is that women from households with higher economic status have power of affordability and have greater exposure to accessing relevant information and knowledge regarding maternal health care utilization.

The study further observed that increase in the household's size will affect their income negatively, and this might have negative effects on the capability to access health care, although the result shows that a 1% point increase in household size will induce only 2% increase in pregnant women health care utilization in Nigeria.

6. POLICY RECOMMENDATIONS

Based on the results, the following policy recommendations are made.

- Midwives and nurses, as the main ANC providers should be aware of potential barriers to health care utilization in Nigeria. They should be trained to be sensitive to the pregnant women's socio-economic situation, their cultural and traditional beliefs and their communication skills should be improved.
- Government should ensure effective health policy formulation and implementation by states and area councils nationwide. There is need to ensure an effective health management information system and a communication strategy for mobilizing and sustaining the Health System Reform Programme (HSRP).

- Government should come up with policies that will increase the opportunity for women to have better health education, which would have positive impact on utilization of health care in terms of number of antenatal visits. In other words, women's overall (social, political and economic) status needs to be considered in order to reduce inequality in health care utilization among pregnant women in Nigeria.
- Efforts should be made to improve public hospitals and health centers to offer quality care for pregnant women. The study has shown that government health centres are not functional in motivating women to receive antenatal care.

Based on this evidence, the study shows that Health attendant proxied by prenatal Nurse/Auxilliary, Education of the pregnant women, wealth index/income of the pregnant women, places of delivery are the major socio-economic factors that influence health care utilization in Nigeria. This call for awareness-raising and campaign through health care workers to improve the uptake of ANC services, since mere recommending that women should receive a number of ANC check-ups does not shows that they get best care.

Based on these findings, the study suggest that the social, political and economic status of pregnant women should be put forward in order to reduce inequality in health care in Nigeria as well as building up nurses-midwives relationship with the women so as to ensure maximum use of these services.

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