

# Health Insurance, Attitude of Health Workers and Delivery at Health Facility: Outcome from Demographic and Health Survey in Nigeria.

Joseph I. Amuka<sup>1\*</sup>, Chinasa Urama<sup>2</sup>, Ebere J. Chinama<sup>3</sup>

Department of Economics, University of Nigeria Nsukka<sup>1,2,3</sup>

\*Corresponding Author

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## ABSTRACT

The authors are concerned about poor utilization of health facility during pregnancy and delivery in Nigeria which are contributing to high incidence of maternal mortality. The causes of the poor utilization of health facility during delivery were examined so as to proffer policy solution on how to overcome the high incidence of maternal mortality in the country. The authors sourced data from Nigerian Demographic and Health Survey (DHS, 2013) because cost of attending health facility was not covered in the 2018 Demographic Health Survey. Moreover, the Ordinary Least Squares (OLS) method of regression analysis was used in the study because the dependent variable was not binary. Finding shows that cost of accessing health care in the hospitals, health insurance, and attitude of health workers have a positive and significant effect on delivery at health facility. This makes it important for wider coverage of national health insurance program and organization of regular training on work attitudes for health workers in Nigeria to increase use of health facility during child delivery. It will help to reduce maternal health problems in Nigeria.

**Keywords:** Health Workers, Attitude, Health Insurance, Delivery, Nigeria

## INTRODUCTION

Utilization of the services of traditional and unskilled health attendants at pregnancy is a common thing among Nigerian women. Antenatal care and delivery under the traditional and unskilled birth attendant rather than in health facility under skilled health workers is one of the main reasons for most of the maternal health problems in Nigeria and some other countries in sub-Saharan Africa. Some women have fallen victims of complication during childbirth because they went to deliver under unskilled health attendant while trying to avoid Doctors who have warned them not to conceive again. These women feel embarrassed the way Doctors and Nurses talk to them while on routine antenatal and delivery. Odusanya et al (2018) admitted that unfriendly attitude of health workers scare patients away from accessing health services from health facility.

For some women in Nigeria, they patronize traditional birth attendants and unskilled health workers during pregnancy because they cannot afford the cost of modern health services at a health facility. To this group of women, traditional birth attendants charge cheaper, they are more caring, and can allow a patient to go home without making a complete payment of bill. This assertion is in line with the discovery in Ethiopia which showed that women prefer going to traditional birth attendants rather than health facility because the traditional birth attendants are more welcoming than skilled health workers (Zepro and Ahmed, 2015). Apart from attitude, Mannavaet al (2015), hinted that high cost of modern healthcare is another important factor which leads pregnant women to patronize traditional birth attendants in many developing countries.

Access to modern health care services during antenatal care and delivery is unavoidable if a country like Nigeria is to overcome maternal health challenges facing her. For instance, maternal deaths in Nigeria, which is the death of a woman because of pregnancy complications and child birth stood at 917 deaths per 100,000 live births in 2017 (United Nations Children's Fund, UNICEF, 2019). It is far above the global average which

was 211 per 100,000 live births in that year (UNICEF, 2019). Utilization of modern health care services during pregnancy and delivery is sine qua non to make significant progress in maternal and child survival, not only in Nigeria but in all the developing countries. Several factors have been suggested as the contributors to poor access to modern health care services among pregnant women in Nigeria and some other developing countries.

Among the factors identified as contributors to poor access to modern health services are an attitude of health workers, distance, and cost (Dapaah, 2016; Bu or, 2004). Bu or (2004) argued that verbal abuse, snubbing and ridiculing by health workers scare people away from a health facility. Bu or maintained that the other important factors that affect utilization of modern health services in developing countries includes distance, cost, and the quality of service which a health facility can offer. The better the service a hospital offers the more the number of people that will seek for medical attention in a health facility, every other thing remaining the same. World Health Organization (WHO, 202A) pointed out that a hospital provides quality health care if the services the hospital offers to patients improve the desired health outcomes, while National Academies of Sciences, Engineering, Medicine (2018) asserted quality health care means a hospital standing up to an emergency situation with a high rate of favourable outcomes.

Similarly, Comfort et al (2013), suggested that enrolment in health insurance can lead to more women accessing modern health care which is capable of reducing maternal and neonatal health challenges in developing countries. The effect of health insurance on access to health care has been examined in developing countries. From cross-country study, Wang et al (2017), discovered that enrolment in health insurance increases the utilization of modern health care. From their study in Ghana, Indonesia and Rwanda, they showed evidence that health insurance significantly increased utilization of modern health care services among women during antenatal and delivery. Their finding showed that the positive effect of health insurance on utilization of modern health services was more during delivery.

Information from Nigerian Demographic and Health Survey (DHS, 2013) revealed that utilization of modern health services during antenatal care and delivery is still low in Nigeria. From the Nigerian Demographic and health survey (DHS, 2013), only 10% of the deliveries in Nigeria occurred in a health facility. However, the delivery in a health facility in the country rose to 39% in 2018 (Nigerian Demographic and Health Survey (DHS, 2018). The rate is an indication that more than half of maternal care in Nigeria are handled by unskilled health workers, which may be why 20% of all global maternal deaths occur in Nigeria (WHO, 2020a). Improvement in access to adequate health care services during pregnancy and delivery is needed to reduce maternal and new-born health problems to the barest minimum in the country. The objective of the authors is to examine the factors that can contribute to the improvement in utilization of health facilities during delivery by Nigerian women, with particular attention to attitude of health workers and health insurance.

## **Theory and Review of Related Literature**

The Social Action and Health Insurance theories are the foundation of which the present study was done. The Social Action theory hints that individual behavior today is always influenced by behavior of other people in the past. That is to say, today's action is often an outcome of actions yesterday and people are only reacting to what they perceived as good or bad attitude of some other individuals in the society in the course of an interaction either for business purpose or otherwise. The theory points out that whenever a similar situation arises between two persons, where one is known as giver and the other a receiver, the action of the receiver today will be dependent on the way he or she perceived the action of the giver yesterday. If the receiver perceives the action the giver yesterday to be good, definitely the receiver of the treatment will be happy to go back to the giver when the same situation arises on the assumption that he will receive another good treatment. On the other hand, if the receiver the treatment received yesterday as bad, he do everything possible to avoid that person that showed him bad behavior. It is by action that people express their emotion.

On the other hand, the health insurance theory based its argument that cost is an important factor that affects people's demand for healthcare services. The theory posits that though the interest of every healthcare seeker is to receive good result from his health spending but cost is often a constraint to accessing the quality health

services to get this good result. Thus, undertaking health insurance cover shifts part of this cost to another party who helps to lower the cost of the healthcare to the insurer. This is called health subsidy which is aimed at reducing unit cost of accessing quality healthcare to individuals with the intention of increasing the number of people who are able to access quality healthcare in the society. Consequently, reduction of cost of healthcare increases access to quality healthcare services by the people.

## Review of Related Literature

Sub-Sahara Africa as a region is at the center of the global Maternal, Newborn and Child Health (MNCH) problems. Available data showed that the region suffered 746 maternal deaths per 100,000 live births in 2005, which was more than twice the global average of 296 deaths per 100,000 live births. Maternal deaths in sub-Sahara Africa fell to 534 per 100,000 live births in 2017, still more than twice the global average of 211 deaths per 100,000 live births in that year (World Development Indicator, 2020). It revealed that Nigeria was in the worst-case scenarios, with a record of 917 maternal deaths per 100,000 live births in 2017. Maternal mortality is one problem the global community is fighting to reduce to the barest minimum in 2030. Nour (2008), argues that maternal death occurs mainly because it takes the people time to decide whether they should seek for help, the delay in reaching health institution, and the delay in receiving the right treatment.

## Empirical Literature

Empirical analyses have been done in many countries to find out the major contributors to access of maternal healthcare and maternal deaths. Some of the common causes of maternal death discovered are haemorrhage (Say et al, 2014), Obstetric haemorrhage (Australian Institute of Health and Welfare, 2017; Ezugwu et al, 2014), and postpartum hemorrhage (Tebeu et al, 2015). Other causes are sepsis, hypertensive disorder, abortion, prolonged and obstructed labour, anemia, as well as pregnancy-induced hypertension and anemia (Oye-Adeniran et al, 2014; Legesse et al, 2017). From the study done in Ethiopia, pregnancy-induced hypertension is an important factor that has caused maternal deaths (Legesse et al, 2017), while a study in Nigeria showed that inadequate health personnel, delay in seeking care, inadequate equipment and delay in referral contributed to maternal deaths (Sageer et al, 2019).

On utilization of the services of traditional birth attendants in Nigeria, Demographic and Health Survey (2013) showed that more than 85% of all the deliveries in the country in 2013 occurred outside health facilities. From the analysis of the reason for choice of the place of delivery, less than 5% of the women gave a bad attitude of the health workers as the reason for the decision to deliver outside a health facility. However, studies in Tanzania showed that Tanzanian women consider the attitude of health care providers whenever they seek for medical help during pregnancy (Larson et al, 2015). In line with the finding in Tanzania, argument hold strongly that attitude of health workers affects the decision of people to seek for medical advice in a health facility (Okpani & Abimbola, 2015).

On the effect of cost of healthcare, health insurance was introduced in Nigeria in 2005 to enhance comprehensive health care services in the country. It is a cost sharing health care arrangement where employers and employees in government and organized private sectors pull resources together to provide quality health care to the employees at small out-of-pocket cost. Every worker contributing to the scheme chooses the hospital of choice which may be government health institution or accredited private health facility. With this, health spending per capita will fall as an enrolled in the system pays less than 20 percent of the cost incurred in every treatment given to him and four members of his family. While it was admitted that health insurance has contributed to improvement in the health status of Nigeria workers, the argument remained that the scheme may not achieve the country's desire for universal health coverage because it left informal sector workers who form the bulk of the workforce uncovered (Okpani & Abimbola, 2015).

There are evidences to show that health insurance increases access to quality health care services and improves health status of people (Wang et al, 2017; Akande et al, 2011). In Nigeria, study showed that attendance to hospital doubled after the introduction of National Health Insurance Scheme (NHIS) (Akande et al, 2011). The

study revealed that health insurance had a significant effect on patients attending health care at Ilorin Specialist Hospital. Other studies in Nigeria and Ghana fall in line with this finding which showed that health insurance has significantly contributed to an increase in access to modern health care services in developing countries (Oladipo, 2014; Darlinjong et al, 2017). Dalinjong et al (2017) discovered that people covered by health insurance Ghana access more quality health care when compared with the uncovered ones who are not covered. An inference to be made from the above studies is that enrolment in health insurance is important to improve access to modern health care services. Therefore, in maternal health, enrolment in health insurance will improve access to modern health care at pregnancy, and every other thing remaining the same, it will reduce patronage of traditional birth attendants in no small measure.

From the extant literatures reviewed, the effect of health insurance on utilization of health facility for pregnancy related case has not been undertaken in Nigeria, to the best of the knowledge of the authors. Available studies on attendance to health facility during labour focused on the time labour occurred, and availability of transport system (Egharevba et al, 2017); education level of the man and woman, occupation of the man, human influence, and cost (Nwankwo et al, 2019).

There were two studies that examined the effect of health workers' attitude on the place of delivery in Nigeria. In one study, descriptive analysis was used, and in the other study, non-representative community data were used (Fagbamigbe & Idemudia, 2015; Johnson et al, 2020). Descriptive analysis does indicate the direction of effect of the independent variable on the dependent variable, and it assumes that only one independent variable caused the change in the dependent variable. Moreover, the use of community data in a country with nearly 200 million people is inadequate for policy advice. We used national survey data and regression analysis to overcome the shortcomings of the past studies in the country.

## MATERIALS AND METHOD

Data for the study were sourced from the Nigerian's Demographic and Health Survey (DHS) of 2013. The researchers intended to use latest survey but attitude of health workers was not covered in the 2016 and 2018 health surveys. The 2013 DHS covered 178,894 households across the 36 states of Nigeria, and the federal capital Abuja. It contains important information about health seeking behavior of pregnant women like place of delivery, reason for delivery outside a health facility, enrolment in health insurance, education, and income level of households.

The survey is representative because households were selected from each geopolitical zone according to the population size of the zone. Regression method of analysis was used in the data estimation because it always shows the direction of the effect of the explanatory variable on the dependent variable. We employed the Ordinary Least Squares (OLS) method of estimation because the dependent variable is not a binary response.

### The Model

Functionally,

$$PD = (AH, Y, WE, AW, WK, ME, EG, HS, AM) \dots\dots\dots 1$$

where

PD= Place of delivery (respondent's home= 11, other home= 12, government hospital=21, government health center= 22, government health post=23, private hospital/clinic= 31), Y= income level of the household (poorest= 1, poorer= 2, middle= 3, richer= 4, richest= 5), WE= woman's education level (no education= 0, primary= 1, secondary= 2, higher= 3), AW= age of the woman (1-49), WK= work status of the woman (not working= 0, working= 1), ME= education level of the man (no education= 0, primary= 1, secondary= 2, higher, 3), GE= emergency situation, HS= health insurance (no= 0, yes= 1), and AM= age of the man (1-59).

Specifying equation (1) in econometric form for estimation,

$$PD_i = \alpha + \beta_1 AH_i + \beta_2 Y_i + \beta_3 WE_i + \beta_4 AW_i + \beta_5 WK_i + \beta_6 ME_i + \beta_7 EG_i + \beta_8 HS + \beta_9 AM + \mu_i \dots\dots\dots 2$$

$i$  = characteristics that vary across individuals,  $\beta_1$ - $\beta_9$  are the coefficients,  $\alpha$  is the intercept, and  $\mu$  is the error term to capture omitted variables. Other variables remain as defined before.

## RESULT

### Descriptive Statistics

**Table 1:** Percentage distribution of women according to place of Delivery

Characteristics	% Delivery at public hospital	% Delivery at private hospital	% Delivery at home
<b>Age</b>			
<20	18.8	5.7	74.2
20-34	23.3	15.0	60.6
35-49	22.7	12.4	63.8
<b>Education</b>			
No Education	9.5	1.7	87.7
Primary	26.4	15.1	57.3
Secondary	38.2	27.7	32.9
More than Secondary	50.7	40.6	7.8

**Source:** Nigeria Demographic and Health Survey (DHS, 2013)

Table 1 showed low utilization of health facility during delivery in Nigeria. However, the middle-aged women (20-34 years) utilized health facility during delivery more than other age groups. For instance, only 18.8% of the women below the age of 20 delivered at a health facility, and for the women aged 20-34 years, 23.3% delivered at a health facility.

The Table further showed that among the women aged 35-49 years, only 22.7% of them delivered at a health facility.

Talking about education, women with more than secondary education have the highest rate of utilization of health facility during delivery. Utilization of health facility for delivery was lowest among women with no education. Only 9.5% of the women with no education delivered at health facility.

**Table 2:** Enrolment in Health Insurance

Health Insurance Coverage	Total	%
Users	1961	1.6%
None Users	117,007	98.0%
Missing	418	0.4%

**Source:** Nigeria Demographic and Health Survey (DHS, 2013)

Table 2 above showed low enrolment in health insurance among Nigerian women. Only 1.6% of the sexually active women were covered by health insurance, leaving about 98% of them uncovered. The consequence is that about 98% of the sexually active women pay for the total cost of their health care from out-of-pocket expenditure during antenatal and delivery. The implication is that once a woman is having a problem of meeting the cost of antenatal and delivery services; the option is to turn to the traditional birth attendants.

**Regression Result**

**Table 3:** Result with Core Variables only (Dependent Variable: Place of delivery)

Variable	Coefficient	Std Error	't'	p>t
Attitude	.9424927	.120354	7.83	0.000
Health Insurance	.2898394	.0953967	3.04	0.002
Emergency	.2301152	.1189465	1.93	0.053
Const	11.25797	.074528	151.06	0.000

**Source:** Regression result based on household data from 2013 Demographic and Health Survey in Nigeria

Table 3 is an analysis with the core variable, that is attitude and health insurance. Emergency was added because of its importance since emergency labour can affect where a woman goes for immediate attention. The positive sign of the coefficient of attitude and health insurance is according to the theory. Attitude and health insurance are significant at 1% and 5% levels of significance.

**Table 4:** Result with inclusion of Control variables (Dependent Variable= Place of Delivery)

Variable	Coefficient	Std Error	't'	P>
Attitude	.5937317	.2160183	2.75	0.006
Income	-.0778191	.0991373	-0.78	0.433
Woman Education	.6233383	.1418405	4.39	0.000
Emergency	.4985382	.2173711	2.29	0.022
Woman's work status	-.0524778	.1526578	-0.34	0.731
Man's Education	-.0027359	.0136513	-0.20	0.841
Age of woman	.1706579	.0933243	1.83	0.068
Health Insurance	.5604123	.1869486	3.00	0.003
Age of man	.0121579	.0125903	0.97	0.334
Cons	9.991016	.5014042	19.93	0.000

**Source:** Regression result based on household data from 2013 Demographic and Health Survey in Nigeria

Table 4 above is the result of the effect of health workers' attitude and health insurance on the decision of pregnant women to seek health care services at a health facility during delivery in Nigeria. Other control variables have been included. The result showed that the coefficient of attitude and health insurance is positive and significant at 1% and 5% levels. The result is consistent so in Table 3 above. Other variables that are significant at 1% and 5% levels are woman's education and emergency. Age of women is significant at 10% level, and all the variables had the expected sign except income, work status of women and education of men.

## DISCUSSION OF FINDINGS

Three important factors in Table 4 deserve good attention for health policy intervention in Nigeria. They are attitude of health workers, health insurance and education of women. From the values of the coefficients of the variables in Table 4, women education has the greatest influence on utilization of modern health services during delivery. The result suggests that the higher the education level of a woman, the more she is going to deliver at a health facility. An increase in education of a woman by a level will increase her utilization of health facility during delivery by 0.62 points. The result is consistent with previous studies in Nigeria and other countries which showed that the more the education level of a woman the more she will access modern health care during pregnancy and delivery (Odusanya et al, 2018; Larson et al, 2015; Nwankwo et al, 2019; Ahmed et al, 2010; Weitzman, 2017).

Health insurance is one of the variables of interest. Results in Tables 3 and 4 showed that health insurance contributed to the utilization of health facility during delivery in Nigeria. The finding falls in line with the objective of health insurance policy in Nigeria which is meant to increase people's access to modern health care services. The research finding conforms to a study in Tanzania which reveals that health insurance influences utilization of modern health care services by HIV/AIDS patients (Kibusi et al, 2018). As the majority of Nigerian women are not covered by health insurance, the policy challenge is how to enroll them in the scheme especially the unemployed and those in informal sector employment.

Attitudes of health workers is another variable of interest in the study. Results in Tables 3 and 4 showed that the variable has a positive and significant effect on the decision of women to deliver at a health facility. By health workers, the researchers refer to doctors in the hospital, the nurses and midwives, and the laboratory scientists. They are the workers that have direct interaction with patients during health checks. The positive sign indicates that the better the attitude of the health workers towards the women, the more the women will like to seek for care in the health institution when the time of their delivery comes. From the result, if the attitude of the health workers in a health facility improves by a unit, utilization of the health facility during delivery will increase by 0.63 points. Attitude has the second greatest effect on the decision of women to deliver at a health facility.

Good behavior of health workers towards the patients has multiplier effects because when the health workers of a health institution are unfriendly with patients, patients are likely to advice their friends against attending the health institution. Similarly, if the workers of a health institution are friendly and treat patients with kindness, patients will go ahead to recommend the health institution to their friends (Maqsood et al, 2017). Therefore, good attitude of health workers is not only important to patients seeking for medical care, it is also important for the survival of a health institution, especially in a competitive environment. Health workers in government health institutions in Nigeria often display rude behavior towards the public because they know that at the end of the month, government will pay them. This is not good in a country where government is trying to tackle high maternal health problems facing the country.

Emergency is the other factor that had a positive and significant effect on the decision of the women to deliver at a health facility. The significant effect of emergency on decision to deliver at health institution is consistent with the observation that reducing barriers that prevent pregnant women from emergency obstetric care can save a lot of maternal lives.<sup>20</sup> Emergency during delivery is common among pregnant women in Nigeria, especially those women in their first pregnancy. Often times, it may be discovered that a woman in an

emergency has not formally registered at the hospital where she was taken to. Such leads to delays in the time doctors will attend to her.

## CONCLUSION

We examined the effect of health workers' attitude and health insurance on access to modern health care during delivery in Nigeria. The content and outcome of the study will contribute to an advancement in maternal health care in Nigeria. The study discovered that positive attitude of health workers, and health insurance are needed to increase utilization of health facility by women during delivery in Nigerian. From the finding in this study, health workers need to show love, care, and good feeling towards women attending antenatal and pregnancy related health matters so that more women will be happy to go to hospital during antenatal care and delivery for the sake of addressing maternal health problems in the country. In the same vein, the informal sector employees should be covered in the health insurance scheme for the attainment of universal health coverage in Nigeria. This is very important considering the high maternal death in the country.

The choice of traditional and auxiliary health care service rather than skilled health care services by pregnant women in Nigeria is not good for the country's effort to overcome high maternal, Newborn and child (MNC) health problems. It is recommended here that authorities in health institutions should introduce workers-patients interactive session twice a year in every health institution to foster good workers-patient relations in hospitals in the country. Moreover, government should bear the cost of enrolling the informal sector employees in the health insurance scheme since the informal sector employees are in the majority of the workforce. The two measures will reduce patronage of traditional birth attendants in Nigeria, and increase access to modern health care during pregnancy and childbirth in the country.

To avoid avoidable casualty, it is recommended that that workshop on workers-patients relation should be organized for hospital staff in Nigeria once in two years for attitudinal change, as well as mandating hospitals to attend to women in an emergency labour without insisting on going through formal registration process.

## Ethical Consideration

There was no human experiment in the study. The study made use of secondary data which are available to the public in the study.

**Conflict of Interest:** The authors have no conflict of interest

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