

SOCIO-ECONOMIC DIFFERENTIALS IN HEALTH CARE
CHOICES: IMPLICATIONS FOR MATERNAL
MORTALITY IN NIGERIA

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Abstract

The Millennium Development Goals targeted at the reduction of child mortality by two thirds of the child mortality rate and reduce the proportion of women dying in childbirth by three quarters by 2015 has remained unrealistic in Nigeria. The study therefore examines socio-economic differentials in health care choices among women in Nigeria and its implications for maternal mortality. 2003 Nigeria Demographic and Health Survey was used for the study.

The study found out that place of residence and education of women influenced the use of the health facilities in Nigeria. The positive relationship between the use of the facilities and wealth index revealed in the study is an indication that poverty is also the leading cause of maternal and infant mortality in the country. The health policy in Nigeria must incorporate the private providers into the health system this will reduce the maternal and infant mortality in the country

INTRODUCTION

The Millennium Development Goals (MGDS) targeted at the reduction of child mortality by two thirds of the child mortality rate and reduce the proportion of women dying in childbirth by three quarters by 2015 has remained unrealistic in Nigeria. The reason being that the country has made less progress in reducing maternal and infant mortality than any of other Sub-Saharan African countries. The 2003 Nigeria Demographic and Health Survey (NDHS) estimated the national average under five mortality rates to be 201 deaths/1000 lives births. Of this, mortality among 1-4 years old was 121/1000, post-neonatal infant mortality was 56, and neonatal mortality was 53. Likewise, women still face a high risk of death in pregnancy or during delivery. The maternal mortality rate in Nigeria remains about 800 to 1,500 per 100,000 women (WHO 2006). For all these outcomes there is substantial variation among geographic areas. The north of the country has generally worse indicators: the NDHS (2003) found under-five mortality to range from 260/1000 in the North East region and 269/1000 in the North West, compared to 103/1000 in the South East. Maternal mortality estimates vary even more widely from 1,500/100,000 in the North East to 165/100,000 in the South West. These high mortality rates reflect a dysfunctional of basic health services in the country.

The deplorable condition in the health services is due to long years of military usurpation of political power and long period of mismanagement of public fund made the health sectors. Although, Nigeria National Health Policy (NHP) was formulated in 1988 and revised in 2004 to bring about a comprehensive health care system based on primary health care that is protective, preventive, restorative and rehabilitative to every citizen of the country within the available resources so that individuals and communities are assured of social well-being and enjoyment of living. Despite this, health system in Nigeria still boils down with chronic problems, such as inappropriate budgetary allocation, poor infrastructure in the public health facilities, lack of drugs, uneven distribution of health facilities and lack of qualified medical personnel. This has resulted in the increase in the use of private health facilities which made the private sector provides 65.7 percent of health care delivery in Nigeria (UNICEF, 2001).

Presently, continued economic difficulties in Nigeria have undermined the public health system with the introduction of payment schemes based on the selling of essential drugs. This is one of the main elements of the Bamako Initiative, according to which the income generated would ensure a reliable supply of drugs and would improve other aspects of the quality of the services rendered. Thus, quality improvements would compensate for the financial barrier and as a result the utilization of public health services would be increased or at least maintained. But this, has led to the rise in the "informal" private sector like the traditional medicine healers, itinerant drug peddlers and hawkers, mixed-trade dispensers, unlicensed patent medicine dealers and injection doctors. This sector, offer very low quality treatment (treatment without laboratory diagnosis, making wrong diagnosis, sale of drugs with little regard for dosage or treatment regimen and use of fake and expired drugs), it is a more important source of disease treatment and prevention for the poor. The frequent media advertisement of traditional medicine healers, who openly challenge the utility of western medicine, makes them very popular, especially among the poor. Also, doctors in public services are allowed to operate private clinics. Some of these facilities are below standard (unregistered, poorly equipped, lack of diagnostic facilities, dirty premises, employing auxiliaries to work as registered Nurses, dispensing medicines and irrational prescription). In Lagos state, the government has identified no fewer than 1,065 illegal health institutions found to be violating various health laws and constituting immeasurable health hazards to the citizenry (Nigeria Vanguard, 2007). Most of these private health facilities are death traps and constitute bottle necks to mortality reduction in Nigeria.

Looking at the growth in Nigeria, information on health seeking behaviour and health care utilization has important policy implications in health systems development if there will be reduction in mortality in Nigeria. This paper tries to answer some basic questions: what type of providers do Nigerians prefer? What health facilities options are available for different health problems? How accessible are the options?

Bunor (2004), in his study of health care utilization in Ghana discovered that the dimensions of distance to services, such as travel time, waiting time, appointment time with doctors, nature of the means of transport and cost have effect on the utilization of health facilities. Poverty and illiteracy can also affect the use of health services. Most of the people may lack enabling resources, and because of high rate of illiteracy, they might not perceive the need for health service use, especially rural people, resulting in the use of unscientifically tested traditional medicine, some of which have negative health implications.

However in Nigeria, Caldwell (1990) found out that educated women benefited more from available public health-care services than the uneducated mothers. Also in a study of child nutrition in Philippines, Barrera (1990) found that access to healthcare services benefited children of educated mothers more than children of mothers with less schooling. In contrast, Rosenzweig and Schulz (1982) view female schooling and health-care services as partial substitute for information regarding knowledge of diseases, treatment of illness and childcare practices and hypothesize that the effect of education on child health becomes less important as access to public health –care services improves. Salako (1995) added that treatment sources people seek when symptoms occur include, socio-cultural factors like beliefs and household decision making to seek care, social networks, gender and economic status.

Social, political and economic factors also informed the choices as demonstrated in a study in rural Oyo State, Nigeria. It was found out that 34% of Yoruba farm hamlet residents used a government clinic for a recent illness, compared with 21% of the cattle herding Fulani living in the same area. In contrast, 37% of Fulani attended a private clinic compared with 24% of the Yoruba (Otusanya, 2001).

The geographical distribution of the health facilities may also influence the utilization of health clinics. In a comparison of the distribution of hospitals between urban and rural areas in Nigeria, it was found that whereas approximately 80 percent of the population of the selected states lived in rural regions, only 42 percent of hospitals were located in those areas. The mal-distribution of physicians was even more marked because few trained doctors who had a choice wanted to live in rural areas. Many of the doctors who did work in rural areas were there as part of their required service in the National Youth Service Corps, established in 1973. Few, however, remained in remote areas beyond their required term (UNICEF, 2001). Okunribido et. al (1998) in their study show that the local interpretation of illness is a major influence in the treatment choices in Nigeria. They further enunciated that mother interpretation of the signs and symptoms of her child's disease will determine the health care choices. Available facilities will also determine the health care choices. It was found out that in Nigeria, hospitals were divided into general wards, which provided both outpatient and inpatient care for a small fee, and amenity wards, which charged higher fees but provided better conditions. The general wards were usually very crowded, and there were long waits for registration as well as for treatment. Patients frequently did not see a doctor, but only a nurse or other practitioner. Many types of drugs were not available at the hospital pharmacy; those that were available were usually dispensed without containers, meaning the patients had to provide their own. The in-patient wards were extremely crowded; beds were in corridors and even consisted of mattresses on floors (UNICEF, 2001).

However, the success of any reforms in provision and financing, and their ultimate health outcomes, are dependent on how price changes and alternative pricing systems affect the utilization of services among different population groups (Oxaal and Cook, 1998). Studies found that prices charged by providers have an unimportant effect on the choice of provider and the amount of care consumed (Akin, 1985). Such evidence that prices are not important determinants of demand provides a justification for the widespread introduction of user fees. One explanation given for this finding is the idea that health care is valued as a commodity if it has a price. When it is provided free of charge, it may be regarded as of inferior quality and not valued. Thus poor households may demand for more services if there are some prices attached. Secondly, price may not be the main constraint on utilization - even with free or low cost services; other factors prevent utilization such as indirect costs of transport, or the opportunity costs of time. Thirdly, perceptions about ill-health, and thus the perceived need for health care, may vary by income group with the poor less likely to seek care. These arguments raise the possibility that untargeted subsidies which lower the cost of health care disproportionately benefit higher income groups who use services more than the poor (Akin, 1986).

On the contrary, Haddad and Fournier (1995) revealed that introduction of users fees in the public sectors have made shift in the utilization of Public services, increase the use of other treatment sources such as private health facilities, drug vendors and

traditional healers as “the regular supply of drugs and the improvement in the technical quality of the services was not enough to compensate for the additional barrier created by the increased cost of services”. Population Reference Bureau (PRB, 2007), explained that the cost of obstetric care presents an important barrier to its use. It was further explained that all countries that have reduced maternal deaths have offered free care. An evaluation of the government of Ghana’s delivery –fee-exemption policy, instituted in 2003 to reduced financial barriers to delivery services shows an increased delivery in the public facilities between 10 percent and 20 percent in two districts, mirrored by a similar increase in skilled attendants at delivery (PRB,2007).

Despite the recent government efforts to redistribute health-care facilities and to improve the availability of preventive health care services, access and utilization has varied among the populace. This paper therefore examines the socio-economic factors responsible for health care choices among the sampled population this will be an antidote that will build the gap in knowledge in health care and health delivery system in Nigeria.

METHODOLOGY

Study Area

Nigeria lies between 4° 16' 1" and 13° 0' 53" and between 20° 40' 1" and 140° 41' 1" east. The country is in the West African sub region and shares borders with Niger in the North, Chad in the Northeast, Cameroon in the East, and Benin Republic in the West. To the south, Nigeria is bordered by approximately by 800 kilometers of the Atlantic Ocean, stretching from Badagry in the West to the Rio del Rey in the East (NDHS, 2003). With total land area of 923,768km square kilometers, the country is the fourth largest in Africa. The country has a population of 140 million and life expectancy is around 50 years. It is an ethnically and religiously complex country with over 250 ethnic groups. Majority of the populations belong to the Hausa-Fulani, Yoruba and Ibo ethnic groups. Around 50% of the population are Muslims, 40% are Christian and 10% hold indigenous beliefs. The official language is English, but over 348 other languages are spoken. Nigeria is divided into six geo-political zones. This study was based on the North-West and South West with highest and lowest infant mortality respectively. The North-West consists of six states they are; Sokoto, Zamfara, Kastina, Jigawa, Kebbi and Kaduna State. The South-West zone consists of Oyo, Ekiti, Osun, Ondo, Ogun, and Lagos State.

Majority of the people living in the North-West are Hausas and the more than 70% of the populace are Muslims, while most of the people in the South-West are Yorubas. There are both Christians and Muslims in the region.

Concepts and Measurements.

The dependent variable used for the utilization is defined as health facilities attended by the respondents for the delivery of the last child within 0 to 59 months prior to the interview. This was classified into medical and others. The reason was not farfetched that the data was collected by NDHS which has been recoded. Also there is no information on cost of treatments, distance to health facilities. The independent

variables are age, place of residence, marital status, educational level, occupation, religion, age at first marriage and wealth index. Wealth index was used because there are no data or information on the income of the respondents. Others are health conditions of children within two weeks preceding the survey, health decision making and problems encountered in accessing the available health facilities, the type of person who assisted with the delivery, whether the child was born by caesarian operation and whether the respondents had any problems at the time of the birth of the child. The study used comparative analysis between the North-West of the country with the highest infant and maternal mortality and the South-West with lowest mortality rates.

Sampling Design and Selection

The paper was based on Nigeria's Demographic and Health Survey data (NDHS, 2003) and other secondary data that are available. The sample for the 2003 NDHS was designed to provide estimates of population and health indicators for Nigeria. A representative probability of 7,864 households was selected for the survey. The sample was selected in two stages. In the first stage, 365 clusters were selected from a list of enumeration areas developed from the 1991 population census. In the second stage, a complete listing of household was carried out in each selected cluster. Households were then systematically selected for the participation in the survey. All men and women aged 15-59 years who were either permanent residents of the households or visitors present in the household on the night before the survey were eligible to be interviewed (NDHS,2003). Out of these selections only women questionnaire was used for this analysis.

Data Collection

The data for the analysis was derived from the survey conducted by NDHS 2003. Three questionnaires were used for the survey. These are the household questionnaire, the women questionnaire and men questionnaire. The content of these questionnaires was based on the model questionnaires developed by MEASURE DHS+ programme for use in low levels of contraceptives (NDHS, 2003). Women questionnaire was used for this analysis.

Data Analysis.

The raw data collected by the NDHS was analyzed using Statistical Package for Social Scientist (SPSS 13.0). Three levels of analysis were used in this paper. Univariate analysis was used to show the frequency distribution of the Socio-Economic Characteristics of the respondents, health conditions of children in the last two weeks preceding the survey, health facilities attended for treatment and problems encountered regarding health care utilization. The bivariate analysis was used to show the relationships between the dependent variable which is whether medical treatment was sought or not against the socio-economic characteristics and other selected variables. Logistic regression was used to show the net effect of the SEC on dependent variable which is weather they delivered at the medical health facilities or not. This was dichotomized into two variable 1 and 0.

Results

Socio-Economic Characteristics of the Respondents

From table 1, 70.6% of the respondents interviewed from the North-west are in rural areas while 60% of the respondents are from the urban centres in the South-west. This region is generally more developed with up to 44.5% and 66% of the respondents having access to safe water and electricity respectively (Brieger, 2002). The place of residence plays a paramount role in determining access to health institution. Buor, (2004) explained that rural areas always experiencing a poorer health status and the greater need for health services which cannot be found in their vicinity. One fifth of the respondents interviewed from the two regions are between 15-19 years of age. The age categories of the two regions follow the same pattern with more than two third of the respondents less than 34 years. It implies that the Nigerian population is still young. The marital status revealed that 86.7% of the respondents interviewed from the North-West are married compared with 46.2% in South-West. More women reported that they have never married in South-West (40.2%) compared with (9.3%) in the North-West of the country. This can be corroborated with the age at marriage, almost 70% of the respondents from North-West married at the age of less than 15 years, compared with 14.6 % in the South-West. This may be one of the reasons for the high maternal mortality in the region. It was an established fact that women who bear children while still in their early or middle teens are particularly vulnerable to the disability, known as the vesico-vaginal fistula, without corrective surgery, the women - sometimes girls as young as 12 - are rendered impotent for life.

Ampofo, Omotara, Out, Uchebo (1990) discovered in their study of risk factors of vesico-vaginal fistulae in Maiduguri, Nigeria that more than 1.4 (26.9%) of the fistulae occurred in women less than 15 years; more than 1.2 (58.8%) of them were less 18 years. Gbenga-Ogundare (2008), explained that many factors attributed to early entry into motherhood; these include poverty, religion, greed, rape, youthful lust, increased urbanization and others. Seventy-two percent of women interviewed in the North-West have not been to the wall of any classrooms when compared 14.6% of respondents from the South-West. People with formal education are more likely to have access to health information especially those that are dangerous to their health and their families. It is also expected that long years of schooling will increase age at marriage which will also help women to take accurate reproductive decisions. Almost half of the respondents interviewed from the North-West indicated that they are not working compared with one-third in South-West. This will affect their health decision making regarding which facilities to attend and their ability to pay for the treatment. The wealth index from table 1 is a reflection of the occupation and education of the respondents interviewed in the study area. Fifty percent of the respondents from the South-West were ranked richest compared with 11.6% of respondents from the North-West. This can also affect their fertility decision making.

Health Conditions of Children and Health Facilities attended for Fever/Cough

The pattern of infant morbidity differs slightly as shown in Table 2. Malaria is the leading cause of morbidity among the children in the North –West while Cough remains the highest in the South-West. Malaria contributes to anemia in children

undermining their growth and development; it is a leading cause of low birth weight among infants through the effects on the foetus resulting from the infection of pregnant women (UNICEF 2001). Since Malaria is also the leading causes of death this can also be one of the reasons for the high infant mortality in the North-West of the country.

It was revealed from the data that private pharmacy was highly patronized by women in the two regions for the treatment of fever/cough. While 20% of women attended government hospital in the North-west compared with 13.7% in the South-West. More women (14.5%) attended private clinic in the South-West compared with (3.4%) in the North-West of the country. This is a reflection of autonomy and economic empowerment which women from this region have when compared with their counterparts from other parts of the country.

Maternal Health History.

Place of delivery is one of the factors that influence the maternal death through out the world, the result from table.3 revealed that 86.7% of the respondents from the North-West had their delivery at home, while only 14.9% of the respondents from the South-West delivered at home. Forty –one percent of the respondents from the South-west delivered their babies at private clinic/hospital while only 2.3% of the respondents had their delivery at the private clinic. The pattern was also the same for the public clinic/hospital in the two regions. The shows there is a differentials in the health care utilization between the two regions, it can also be one of the reasons for the high maternal mortality in the two regions. Ogunlesi (2005), in her study of utilization of delivery services in Ilesa, Nigeria observed that high stillbirth and early neonatal mortality rate have been associated with unattended deliveries compared with hospital based deliveries. Although various factors can influence the use of health facilities by women even when they know they are at risk. Esimai, Ojo and Fasubaa (2002) explained that the prominent reasons given for non-utilization of health facilities were time of occurrence of labor, difficulty with transportation, fear of surgical operation, husband/family influence and delivery assistance by TBA's and relatives. Educational status of the mother, religious beliefs, distance from approved health facilities more than 5 km and attitude of health workers were amongst factors significantly influencing choice of place of delivery by the mothers. The type of person attended to the respondents during delivery also shows the reflection of place of delivery. While 22.8% and 59.6 percent were attended to by doctors and Nurse/midwives in South-West only 0.8% and 9.3% were attended to by doctors and nurses in the North-West political zone of the country. PRB (2007), explained that the presence of midwife in the villages increased attendance in health facilities in Indonesia. Midwives help to avert deaths by facilitating timely access to emergency obstetric care, which is essential to save women's lives. In most Northern part of Nigeria, there are inadequate qualified health personnel, which can also be one of the reasons for the low patronage of the health facilities in this part of the country. Although mothers that reported caesarian operation is higher in South-west when compared with North-West, since those visited health facilities are higher in this region.

Problems Encountered Regarding Health Care Utilization

The problem of lack of health clinics is a major determinant of the choices of health facilities of the interviewed in the North-West which were, 27.5% of the

respondents compared with 7.8% are having problems on where to go for treatment. This can also affect the mortality rates in this region, they may not be able to seek for appropriate treatment. More women (49.7%) from the North-West indicated that getting money needed for treatment is a problem for them compared with 35.1% in the South –West. Habib and Vaughan (1986) in a household survey discovered in rural Iraq that the use of higher level governmental health services and private clinics did increase substantially with increasing income. Low income always acts as a barrier to the utilization of modern medical facilities. Distance to health facility was also a major problem in the utilization of the health care in the North-West 46.5% of women interviewed see distance to the health facility as a problem when compared with 22.6%. The distance to health facility can deny the use of the service if when the services provided are affordable. Stock (1987) found out that in Nigeria at a distance of 5 kilometers from a dispensary, per capital utilization fell to less than one-third of the 0-km rate. A similar study in India showed that the proportion of a community attending a dispensary decreased by 50% for every additional half-mile between the community and the facility (Bunor, 2004). It is only the quality of care provided and the type of services offered like specialized services can alter the effect of distance. In rural Nigeria for instance, people are willing to travel farther for more specialized services or better quality care (Stock 1987). But for commonly found illness like Malaria and cough they would rather prefer nearby health facilities or looking for alternatives herbal treatment.

Transportation problem is also identified as another obstacle to health care utilization in the study areas. Forty-seven percent of the respondents interviewed from the North-West encountered transportation problem in utilizing health facilities while only 19% from the South-West stated that they are experiencing such problems. The travel time to the health facility is an important factor in the health care utilization. Most of the respondents may not get transport as at the appropriate time. Since major cities like Kaduna, Kano and Lagos are always experiencing traffic congestion; this can also debar respondents from utilizing health facilities. Although, this is a religious factor, 55% of the respondents from the North-West said that no female health provider is an obstacle in accessing the health facility compared with 17.8% from the South-West of the country. Majority of women in this region are Muslims which are practicing Sharia in their states. Since more than two-thirds of the medical personnel in Nigeria are male, this will debar them from attending the right health facility even when they have critical health challenges, especially those that are related to pregnancy complications. Gyimah, Takyi, and Addai (2006) in their study discovered that religion influences the use of maternal health facilities in Ghana, Moslem and traditional women were less likely to use such services in the study.

Place of Delivery and Selected Socio-Economic Characteristics

From table 5, the study revealed that age, religion and occupation did not have particular influence on the choice of delivery among the respondents. These variables did not follow a particular pattern. The place of residence is a significant factor in the choice of delivery in the study area. Sixty-one percent of those who delivered at the medical facilities are from urban area in the North-West, while 79% of those that delivered at home and other non-medical facilities are those who lived in the rural areas of the zone. The South-West also follow the same pattern which indicates that the place of residence determine the choice of health facilities in Nigeria. Education is also another factor, 80.7% of the respondents attended other health facilities in

North-West of the country and 34% in Southwest are those with no education while the least are those with higher education. On the other hand 81% and 66% of those who had their delivery at the medical facilities had at least primary education in the Northwest and southwest respectively. Halder, Saha and Kabir (2004) in their study in Bangladesh observed that inequalities in many forms affect the use of these facilities these inequalities include socio-economic status, education, household size, existence of living children, occupation and household location. Also Lindelow (2004) in their study of utilization of curative health care in Mozambique discovered that income is not an important determinant of health care choices in Mozambique. Rather, other factors, in particular education and physical access, are more important. Also this study revealed that the use of medical facilities increased with the wealth index in the two regions. While 48% and 55% of those who utilized the medical facilities are those with the highest wealth index in Northwest and Southeast respectively. Conversely this category is also the least of those who utilized other health facilities.

Logistic Regression of Selected Socio-Economic Variables and Place of Delivery

The model shows the relationship between socio-economic characteristics and place of delivery of the last child. From table 6, it was observed that place of residence will influence utilization of the health facilities. It is of interest that 72% of the respondents from North-West and 85% from the South –west will utilize the health facilities when compared with the reference category. The use of health facilities increases with wealth index in both regions. This is an indication that those with higher income are more likely to use medical health facilities when compared with those with low income. Education is another important variable that influences the use of the health facilities in the two regions. Respondents with higher education in North-west are 1.204 times likely to use the health facilities when compared with the reference category which is the respondents with no education. This implies that the use of health facilities will increase with the level of education in the region. There is discrepancy in the level of education and health facilities in the South-West of the country, while 1.336 of those with primary education are likely to use health facilities when compared with those with no education which is the reference category. Ninety-three percent of those with secondary and 74% of those with higher education are likely to deliver at the medical health facilities.

DISCUSSION

In Nigeria, 704 out of 100,000 women die during childbirth (COMPASS, 2006) while the interventions that could save their lives are widely known; they are often not available either to health care providers or to those who need them. Health care utilization is a critical factor need to be considered in the health care delivery system. This study has shown various factors that influenced the utilization of the health facilities which can reduce both maternal and infant mortality. Place of residence has been observed as important factors that will influence the use of the health facilities in Nigeria. Most of those in the rural areas may not have access to the health care facilities. It was also observed that there is mal-distribution of these health facilities between urban and rural areas in the country. Iyun (1988) in their study in Ondo State Nigeria, observed that there is disparities in the distribution of both hospitals and the

lower health facilities. Some LGAs have an excess share of the health facilities relative to their population. The spatial inequality in the distribution of health facilities is also reflected in the provision of hospital beds, nurses and doctors, despite the substantial increase in man power resources in the country. WHO (2006) explained that, one of the problems affecting the health sector is the lopsided distribution of health professionals in favour of urban centres. Also, some categories of health manpower are in short supply in the rural areas. There exists an uncomfortable mix of under-utilization and over-utilization of the skills of health professionals depending on the geographic location and professional category/sub-category involved. Only 22% of the respondents were attended to by doctors in the South-west and less than 1% were attended to in the North-west by doctors. This will also affect the maternal death in these regions. It can also be a major factor for not using the medical facilities in those regions of the country with higher mortality rates. The deterioration in government facilities has also resulted a mass exodus of these health professionals due to low salaries and poor working conditions. Traditional medicine practitioners who are abounding in the rural areas are now finding their ways into the cities in some of the regions in the country. Mba (2006) explained that the health systems in most African countries remain weak and cannot respond to health needs due to inadequate skilled health providers; lack of equipment, medicines and supplies; and inefficient personnel including doctors, pharmacists, and midwives. Education which is one of the basic needs of the human development also shows from the study that those who are likely not to use medical facilities are those with no education. WHO (2004), revealed that the level of education is directly related to the level and type antenatal care received. Women with at least secondary education are likely to attend antenatal care which will help them prevent pregnancy complications and untimely death. The World Health Organization (2004) estimates revealed that about 15% of pregnancies require special medical care, implying that all women (including healthy women) face some unpredictable risks during childbirth. Majority of women in North-West did not have education this can also be one of the reasons for the high maternal and infant mortality in the region. The study also confirms that wealth status influence the use of medical facilities. The positive relationship between the use of the facilities and wealth index is an indication that poverty is also the leading cause of maternal and infant mortality in the country. Although respondents may know where to get the treatment but may lack the financial power to do so. Also in some public health facilities in the country the introduction of 'hidden cost' may deter people from using the facilities.

However, many of these deaths could be prevented if the women are aware of pregnancy complications. Since many women in rural areas live far way from the health facilities, there is need for the expectant mothers to have adequate knowledge of the signs of complications and act quickly to get women to the appropriate health facilities. The health care providers should give women adequate information on where to seek treatment for pregnancy complications especially in the North-West region of the country. Also since most maternal deaths occur after delivery postpartum care should be provided for the mother and the baby. It is also important for government to provide all necessary facilities in the health facilities which will remove all the hidden cost in the public health facilities. The remover of the users fees in Ghana increased the utilization of the health facilities in the country and reduced the maternal death in the country (PRB,2007). Nigeria can also do the same in the country with the wealth of her resources.

Although, recognizing the health sector alone cannot deliver the comprehensive reproductive health package in the country, the health policy in Nigeria must incorporate the private providers into the health system this will reduce the maternal and infant mortality in the country. The socio-cultural factors which always influence reproductive health programmes must also be taken into consideration.

Table 1. Socio-Economic Characteristics Of Respondents

Variables	NORTH-WEST		SOUTH-WEST	
	No	(%)	No	(%)
Place of Residence				
Rural	1265	(70.6)	448	39.3
Urban	526	(29.4)	693	60.7
Religion				
Christainity	151	(8.4)	708	(62.1)
Islam	1633	(96.3)	413	(36.2)
Traditionals	5	(.3)	17	(1.5)
Others	-		3	(.3)
Age				
15-19	385	(21.5)	276	(24.2)
20-24	325	(18.1)	228	(20.0)
25-29	325	(18.1)	206	(18.1)
30-34	238	(13.3)	142	(12.4)
35-39	203	(11.3)	112	(9.8)
40-44	183	(10.2)	86	(7.5)
45 +	132	(7.4)	91	(8.0)
Marital Status				
Never Married	166	(9.3)	459	(40.2)
Married	1553	(86.7)	527	(46.2)
Living Together	3	(.02)	117	(10.3)
Widowed	33	(1.8)	17	(1.5)
Divorced	31	(1.7)	7	(.6)
Not Living Together	5	(.3)	14	(1.2)
Educational Level				
No Education	1290	(72.0)	167	(14.6)

Primary	216 (12.1)	285 (25.0)
Secondary	229 (12.8)	579 (50.7)
Higher	56 (3.1)	110 (9.6)
Occupation		
Not working	890 (49.7)	352 (30.9)
Prof., Tech, Manag	31 (1.7)	82 (7.2)
Clerical	5 (.3)	19 (1.7)
Sales	612 (34.2)	453 (39.7)
Agric-self employed	76 (4.2)	149 (13.1)
Household & domestic	18 (1.0)	12 (1.1)
Skilled manual	129 (7.2)	59 (5.2)
Unskilled manual	30 (1.7)	15 (1.3)
Age at First Marriage		
Less than 15 years	1142 (70.3)	76 (11.1)
16-20	400 (24.6)	315 (46.2)
21-25 years	64 (3.9)	219 (32.1)
26-30 years	11 (.7)	65 (9.5)
30 & above years	8 (.5)	7 (1.0)
Wealth Index		
Poorest	343 (19.2)	171 (15.0)
Poorer	462 (25.8)	100 (8.8)
Middle	432 (24.1)	104 (9.1)
Richer	346 (19.3)	220 (19.3)
Richest	208 (11.6)	546 (47.8)

Source: NDHS 2003.

Table 2. Health Conditions of children in last two weeks Preceding the Survey and Facilities Attended

VARIABLES	NORTH-WEST	SOUTH-WEST
Fever	416 (40.7)	77 (19.1)
Diarrhoea	40 (9.1)	4 (2.7)
Cough	193 (18.9)	86 (21.3)
Short, rapid breaths	191 (57.6)	84 (38.1)
Health Facilities Attended for Treatment		
Government Hospital	89 (20.0)	17 (13.7)
Govt Health Centre	9 (2.0)	1 (0.8)
Public Mobile Clinic	3 (0.7)	-
Community Health Workers	7 (1.6)	1 (.8)
Other Public Sector	1 (0.2)	-
Private Hosp/Clinic	15 (3.4)	18 (14.5)
Private Pharmacy	150 (33.6)	23 (18.5)
Private Doctor	3 (0.7)	1 (0.8)
Shop	39 (8.7)	8 (6.5)
Traditional Practice	14 (3.1)	4 (3.2)

Spiritual Healer	3 (0.2)	-

Source: NDHS 2003.

Table 3. Maternal Health History of Respondents

Variables	NORTH-WEST		SOUTH-WEST	
	No	(%)	No	(%)
Place of Delivery				
Respondents Home	973	(86.7)	64	(14.9)
Govt. Hospital	111	(9.9)	99	(23.1)
Govt. Health Centre	12	(1.1)	41	(9.6)
Private Hospital/clinic	26	(2.3)	174	(40.6)
Other Home	-		40	(9.3)
Other Private Medical	-		4	(.9)
Others	-		7	(1.6)
Type of Person who assisted with the delivery				
Doctor	14	(0.8)	97	(22.6)
Nurse/midwife	166	(9.3)	257	(59.9)
Auxiliary midwife	2	(.1)	16	(3.7)
CS health professional	8	(.7)	3	(0.7)
Traditional Birth Attendant	236	(21.1)	50	(11.7)
Relative, Friend	398	(22.2)	49	(11.4)
No one	328	(29.3)	3	(.7)
Delivery by Caesarean Section				
Yes	8	(0.7)	16	(4.0)
No	1117	(99.3)	405	(96.0)

Table 4. Problems Encountered Regarding Health Care Utilization.

Variables	NORTH-WEST	SOUTH-WEST
	No (%)	No (%)
Know Where to go		
No Problem	1295 (72.5)	1038 (91.1)
Big Problem	336 (18.8)	39 (3.4)
Small Problem	155 (8.7)	63 (5.5)
Getting Permission to go		
No Problem	1342 (75.2)	1050 (92.1)
Big Problem	273 (15.3)	20 (1.8)
Small Problem	170 (9.5)	70 (6.1)
Getting Money Needed for Treatment		
No Problem	895 (50.3)	740 (64.9)
Big Problem	486 (27.3)	133 (11.7)
Small Problem	399 (22.4)	267 (23.4)
Distance to health facility		
No Problem	952 (53.4)	882 (77.4)
Big Problem	529 (29.7)	95 (8.3)
Small Problem	302 (16.9)	163 (14.3)
Having Problem to take transport		
No Problem	959 (53.8)	914 (80.2)
Big Problem	525 (29.4)	85 (7.5)
Small Problem	299 (16.8)	141 (12.4)
No female Health Provider		
No Problem	991 (55.5)	1048 (91.9)
Big Problem	553 (31.0)	29 (2.5)
Small Problem	242 (13.5)	63 (5.5)

Can decide on Medical treatment		
Yes	569 (44.1)	492 (82.3)
No	579 (44.9)	32 (5.4)
Depends	141 (10.9)	74 (12.4)

Source: NDHS 2003.

Table 5. PLACE OF DELIVERY AND SELECTED SOCIO-ECONOMICS VARIABLES

Variables	NORTH-WEST		SOUTH-WEST	
	Attending Medical facilities	Others	Attending Medical facilities	Others
	No (%)	No (%)	No (%)	No (%)
Place of Residence				
Rural	57 (38.3)	771 (79.2)	111 (34.9)	67 (60.4)
Urban	92 (61.7)	202 (20.8)	207 (65.1)	44 (39.6)
Religion				
Christianity	26 (17.4)	46 (4.7)	192 (60.4)	57 (51.4)
Islam	123 (82.6)	921 (94.9)	125 (39.3)	45 (40.5)
Traditional	-	4 (4)	1 (0.3)	7 (6.3)
Others		-	0	2 (1.8)
Age				
15-19	18 (12.1)	115 (11.8)	8 (2.5)	2 (1.8)
20-24	36 (24.2)	228 (23.4)	53 (16.7)	20 (18.0)
25-29	36 (24.2)	249 (25.9)	94 (29.6)	36 (32.4)
30-34	30 (20.1)	173 (17.8)	80 (25.2)	21 (18.9)
35-39	17 (11.4)	123 (12.6)	5 (16.0)	12 (10.8)
40-44	11 (7.4)	65 (6.7)	24 (7.5)	15 (13.5)
45 +	1 (0.7)	20 (2.1)	8 (2.5)	5 (4.5)
Educational Level				
No Education	42 (28.2)	785 (80.7)	38 (11.9)	38 (34.2)
Primary	29 (19.5)	122 (12.5)	90 (28.3)	46 (41.4)
Secondary	60 (40.3)	64 (6.6)	162 (50.6)	25 (22.5)
Higher	18 (12.1)	2 (0.2)	28 (8.8)	2 (1.8)
Occupation				
Not working	71 (47.7)	441 (45.3)	35 (11.0)	7 (6.3)
Prof., Tech, Manag	12 (8.1)	5 (0.5)	27 (8.5)	0 -
Clerical	2 (1.3)	1 (0.1)	4 (1.3)	1 (.9)

Sales	39 (26.2)	385 (39.6)	182 (57.2)	51 (45.9)
Agric-self employed	1 (0.7)	44 (4.5)	32 (10.1)	43 (38.7)
Household & domestic	1 (0.7)	9 (0.9)	6 (1.9)	0
Skilled manual	22 (14.8)	74 (7.6)	27 (8.5)	5 (4.5)
Unskilled manual	1 (0.7)	14 (1.4)		
Wealth Index				
Poorest	6 (4.0)	208 (21.4)	33 (10.4)	38 (34.2)
Poorer	14 (9.4)	301 (30.9)	25 (7.9)	17 (15.3)
Middle	18 (12.1)	250 (25.7)	27 (8.5)	8 (7.2)
Richer	39 (26.2)	169 (17.4)	56 (17.6)	15 (13.5)
Richest	72 (48.3)	45 (4.6)	177 (55.7)	33 (29.7)
Partner's Education				
No education	40 (13.2)	31 (27.9)	41 (28.1)	607 (62.7)
Primary	65 (21.4)	34 (30.6)	14 (3.6)	172 (17.8)
Secondary	140 (46.1)	42 (37.8)	42 (28.8)	131 (13.6)
Higher	58 (19.1)	2 (1.8)	48 (32.9)	55 (5.7)
Don't know	1 (0.3)	2 (1.8)	1 (.7)	0

Table 6. LOGISTICS REGRESSION OF SELECTED SOCIO-ECONOMIC VARIABLES AND PLACE OF DELIVERY

Variables	NORTH-WEST		SOUTH-WEST	
	B	Exp B	B	Exp B
Place of Residence				
Rural	-0.321	0.725	-.0125	.859
Urban	1.000	RC	1.000	RC
Wealth Index				
Poorest	1.000	RC	1.000	RC
Poorer	0.487	1.627	.363	1.440
Middle	0.627	1.872	.472	1.610
Richer	1.230	3.420**	.497	1.643
Richest	2.235	9.350**	0.963	2.620**
Educational Level				
No Education	1.000	RC	1.000	RC
Primary	1.091	2.978**	.290	1.336
Secondary	1.352	3.863**	-.063	.939
Higher	1.204	3.332**	.298	.743

RC indicates reference category * Sig. at P<.05 ** Sig. at P < .01

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