The Social and Economic Determinants of Maternal Morbidity and Mortality in Nigeria

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Abstract

It is well known that Nigeria has one of the highest rates of maternal mortality in the developing world. The disease conditions that lead to maternal mortality in Nigeria are the same as in most parts of the developing world. However, it is the adverse socio-economic and cultural circumstances under which these disease conditions occur that increase the likelihood of maternal mortality in Nigeria. This unfortunate situation is attributable to a variety of factors, some of which include: high rate of poverty and the poor state of our national economy, which have direct and indirect consequences for maternal health; the lack of recognition of maternal and child health as a priority in terms of resource allocation and systematic programming; a low rate of political attention given to issues related to maternal health in the country; inadequate policies and legislations to address matters related to maternal health; the poor state of our health care delivery system; and the continuing adverse effects of some harmful traditional and cultural practices. Also, there are obvious gaps in policies, funding and political commitment with major underlying problems such as the scourge of poverty, weakened capacity of public institutions, low literacy levels and other entrenched negative health seeking behaviours. The intervention safe motherhood programmes in Nigeria to a large extent have not made the expected impact given the amount of funds and resources injected into it. Nigeria still has the worst record in Africa in reducing maternal mortality, despite the country's enormous wealth.

The purpose of this paper, therefore, is to examine the impact of some selected socio-economic indicators on the current state of maternal health in Nigeria and come up with suggestions on how to achieve reduction in the ratio of maternal health in Nigeria. Action on the social and economic determinants of maternal health will lead to better health and development outcomes only if the Nigerian people are mobilized around a programme of change that they understand and share.

Introduction

The health situation in Nigeria is characterized by high maternal mortality and a relatively short life expectancy. The state of maternal health is one indicator of a society's level of development, as well as an indicator of the performance of the health care delivery system. Although the technology and tools, particularly vaccines and drugs, for the control of most of these diseases are now available, it has not been possible to make optimal use of them. This is due mainly because of unfavourable social and economic conditions. Nigeria economic systems are facing difficulties in providing basic healthcare to their population due to slow development of the new health-care systems that have come to replace the old ones and due to the increasing income gap between the citizenry. This income gap affects the daily lives of many Nigerians. Improving the healthcare system and providing basic health care to all citizens should therefore be a national priority and integrated into national economic development plans.

Nigeria is one of the countries lagging behind in all the Millennium Development Goals (MDG's) to which 191 countries including Nigeria signed at the turn of the millennium in 2001. One of the anticipated outcomes of the Millennium Development Goals (MDGs) is the improvement of maternal health and the reduction in child mortality by 75 percent by the year 2015. With Nigeria being the country with the second highest maternal mortality in the world, it is clear that this goal cannot be achieved globally without a significant outcome coming from Nigeria in terms of actual reductions in rates of maternal morbidity and mortality.

Although three of the eight goals, half of the sixteen targets and one third of the 48 indicators directly focus on health, all the eight MDGs have health implications. As endorsed by 189 participating countries in September 2000, the MDGs commit both the advanced and the underdeveloped world to take action by 2015 to:

- Eradicate extreme poverty and hunger
- Achieve universal primary education for all
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

As can be seen, the three MDGs on health are framed within a compass that explicitly recognizes the social forces that impact upon health. Among these are extreme poverty and hunger, illiteracy, gender inequality and women disempowerment, environmental un-sustainability, and imbalance in North-South relations. Using data from 2003 Nigeria Demographic and Health Survey and other important related documents, the purpose of this paper are to examine the impact of some selected socio-economic indicators on the current state of maternal and child health in Nigeria and come up with suggestions on how to achieve reduction in the ratios of maternal and child health in Nigeria.

Maternal Health in Nigeria

Maternal mortality is the most important indicator of maternal health and well-being in any country. The World Health Organization has defined maternal mortality as "the death of a woman while pregnant or within 42 days of a termination of a pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental and incidental causes" (WHO, 2000). Available

evidence indicates that Nigeria has some of the worst statistics relating to maternal mortality in the developing world. Worldwide, an estimated half a million women die each year from complications of pregnancy and childbirth (WHO, 2004).

In the year 2000, the maternal mortality ratio per 100,000 live births in Nigeria was 800. The corresponding figures for Ghana and South Africa were 540 and 240 respectively. By 2003, the maternal mortality ratio in Nigeria had risen to 948/100,000 (Federal Ministry of Health, 2000). Indeed, (with a range of 339/100,000 to 1,716/100,000), Nigeria's maternal mortality rate is considered to be 'one of the highest in the world' (Okonofua and Ilumoka, 1992). The maternal mortality rates in 1999 by geo-political zones in Nigeria showed that the North West (1,549/100,000) and North East (1,025/100,000) had particularly high rates. By comparison, the South East recorded 286/100,000 live births while the South West stood at 165/100,000 live births. The major causes of maternal mortality in these areas were hemorrhage (23 percent), infections (17 percent), malaria (11 percent), anemia (11 percent), abortions (11 percent), toxemia (11 percent), cephalo pelvic disproportion (11 percent) and others (5 percent) (Henshaw, Singh, Oye-Adeniran, Adewole *et al*., 1998). This variation of maternal mortality rates across geo-political zones is not surprising considering the fact that access to antenatal and postnatal care by type of provider as well as attendance of a mother during birth by type of health personnel show that the North East and the North West geo-political zones had the lowest rates (Bankole *et al.*, 2006). In the case of access to antenatal care, only 5.4 percent of women in the North West were attended to or had access to a doctor (Table 1). A large number of women (59 percent) were not attended to by anyone. These figures are in sharp contrast with the South West zone where 56.0 percent of the women had access to a doctor and another 35.9 percent had access to nurse / midwife.

Table 1: Access to antenatal care by type of ANC provider by geo-political zones in Nigeria

Background Characteristic	Doctor	Nurse/ midwife/ auxiliary midwife	Community Health extension worker	Traditional birth attendance	Others	No One	Missing	Total	Number of women
Region									
North Central	23.8	50.0	0.5	0.0	0.1	25.3	0.2	100.0	575
North East	10.9	36.4	5.3	0.2	0.1	47.1	0.0	100.0	862
North West	5.4	31.5	1.9	1.6	0.6	59.0	0.0	100.0	1,341
South East	50.8	45.4	0.2	0.9	0.8	0.8	1.2	100.0	222
South-South	38.8	33.3	0.7	10.0	0.3	16.8	0.0	100.0	544
South West	56.0	35.9	0.8	5.0	0.0	2.3	0.1	100.0	367

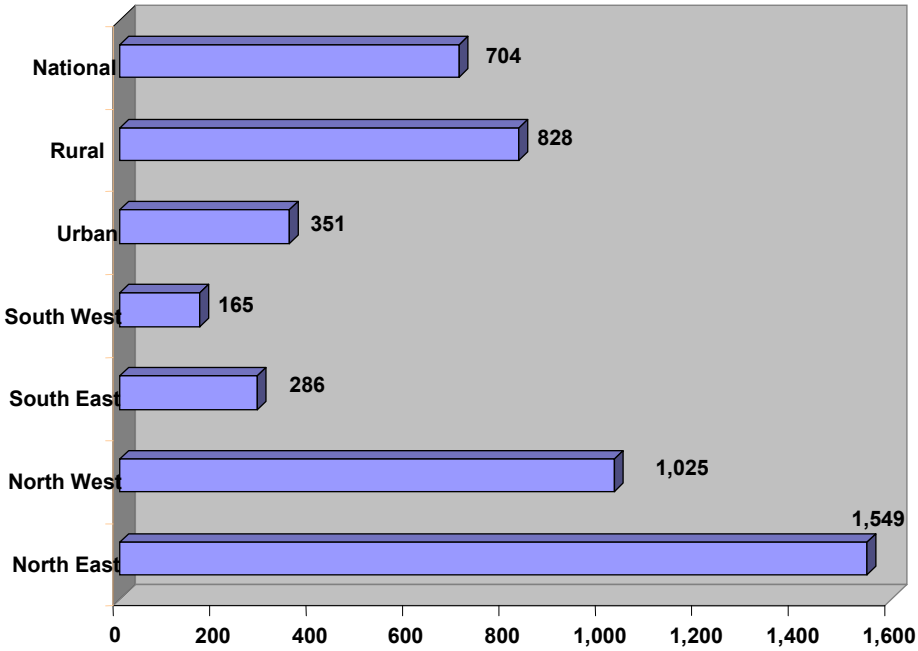
Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:116

Thus, although Nigeria accounts for only 2 percent of the World's population, it accounts for 10 percent of the global estimates of maternal deaths. The only country that has a higher absolute number of maternal deaths is India with 136,000 maternal deaths each year; Nigeria is second with 55,000 deaths; while Pakistan is third with 40,000 deaths. Kenya ties in the ninth position, with China and war-torn Angola.

A simple analysis will show clearly the seriousness of the problem of maternal mortality in Nigeria. Recently, a private aircraft carrying 177 Nigerians crashed in Port Harcourt, killing all on board. With 55,000 women dying during pregnancy, this is equivalent to 310 air-crashes. While there was a huge national outcry as a result of the recent air-crash, no one mourns the daily occurrence of maternal deaths in Nigeria. The reason may be because those who die during pregnancy are women in the first place; they are poor and voiceless; and they tend to be under-privileged and are often illiterates. By contrast, those who died in the air-crash were from the higher socio-economic and more privileged class, who were able to protest the lapses that led to the air crash.

The situation for developed countries is quite different. In a country such as Sweden, only one maternal death may occur in any one year, while there has been successive four years when no single maternal death occurred. Whenever a maternal death occurs in Sweden, it is regarded as a national tragedy for which an inquiry would be instituted. The lifetime risk of a woman dying during pregnancy and childbirth is 1 in 18 for Nigeria, 1 in 61 for all developing countries, whereas it is 1 in 29,800 for Sweden. Indeed, maternal mortality is the greatest source of disparity between low income and high income countries, while Nigerian women have increased risks from maternal mortality as compared to their counterparts in other parts of the world.

Fig 1: Comparison of maternal mortality ratios nationally and by zones in Nigeria, per 100,000 total births



Source: SOGON 2004 Report on Status of Emergency Obstetrics services in Nigeria

As shown in figure 1, maternal mortality ratios in Nigeria vary considerably between various states in the country and between rural and urban areas. It is considerably higher in rural areas as compared to urban parts and worse in northeast and northwest geopolitical zones compared to the southwest and southeast zones. The results of the need assessment survey on

maternal mortality in the six geopolitical zones in Nigeria conducted by the Society of Gynecology and Obstetrics of Nigeria (SOGON) in 2003 showed extremely high rates of maternal mortality in a state such as Kano, where 1000 case notes of women dying during pregnancy and childbirth over a three-year period were obtained from one hospital alone (SOGON, 2004).

Another important indicator of maternal health is maternal morbidity. Maternal morbidity is defined as chronic and persistent ill-health occurring as a consequence of complications of pregnancy and childbirth. Available evidence indicates that for every woman who dies during childbirth in Nigeria, another 30 suffer long term damage to their reproductive organs. A classic example is obstetrics fistula, which is the development of a permanent connection between the vagina and bladder and/or rectum, with continuous leakage of urine and/or faeces through the vagina, most produced as a result of women having experienced prolonged obstructed labour. The UNFPA estimates that 2 million women are affected by obstetrics fistulas in the developing world, out of which 800,000 (40 percent) occur in Nigeria, particularly in northern Nigeria (Nicole; Chong and Bracken, 2003).

A common maternal morbidity in Nigeria is chronic pelvic inflammatory disease due to the persistence of pelvic infections in women, which first occurred during pregnancy and childbirth. An estimated 15 percent of Nigerian women are known to experience secondary infertility, the majority of which is attributable to damage to fallopian tubes, occurring at the time of pregnancy and childbirth (Okonofua and Illumoka, 1992). Similarly, the high incidence of ectopic pregnancy and chronic pelvic pain in women in Nigeria are due to chronic pelvic inflammatory disease, which occurred from previous pregnancy and childbirth.

Nutritional Intake and Pregnancy Outcome

Available evidence indicates that up to 50 percent of Nigerians live on less than one US dollar a day (National Planning Commission, 2001) and that Nigeria has one of the largest concentrations of poor people in the world. Poverty at the household level predominantly affects women and children, and severely reduces the available nutritional intake for women during pregnancy. Low and inadequate nutritional intake, for example, is one reason for the very high incidence of anaemia in pregnant women in Nigeria. Available data indicate that up to 60 percent of pregnant women in Nigeria, especially those in rural areas, are anaemic during pregnancy (defined as haemoglobin equal to/or less than 10gms/dl, or haematocrit less than 30 percent) (Ogunbode, 2000). Apart from other causes, anaemia in pregnant Nigerian women is mostly due to the nutritional deficiency of folic acid, iron, vitamins and trace elements (Ogunbode, 2000; WHO, 1979). Additionally, it is known that malaria, another major cause of anaemia in pregnant women, tends to occur more commonly and more severely in poor, malnourished women.

Access to Health Care Services

Data from the Nigerian Demographic and Health Surveys indicate that among pregnant women in Nigeria, only about 64 percent receive antenatal care from a qualified health- care provider (National Population Commission, 2000). There are wide regional variations, with only about 28 percent of women in the northwest zone and 54 percent in the northeast zone receiving antenatal care from trained health providers. The rest either do not receive antenatal care at all, or receive care from untrained traditional birth attendants, herbalists or religious diviners.

Nigerian women are more likely to receive antenatal care from a trained provider if they have secondary or higher levels of education, and if they are economically advantaged. Urban women are more likely to receive antenatal care when compared to rural women (46 percent versus 15 percent), while almost half of teenage mothers in Nigeria do not receive antenatal care (Ogunjuyigbe, 2002).

Table 2: Types of assistance at delivery in Nigeria

Type of assistance	Percent of Pregnant women
No one	17%
Attended by a relative	26%
Traditional birth attendant	20%
Community health worker	1%
Nurse/Midwife	29%
Doctor	7%

(Source: Nigerian Demographic and Health Surveys, 2000)

As shown in Table 2, only about 37 percent of deliveries in Nigeria take place in health institutions, while 57 percent of deliveries take place at home (National Planning Commission, 2001). With such a large number of deliveries taking place at home, when women suffer complications such as hemorrhage, prolonged labour and eclampsia, there is often delay in bringing them to health facilities where they can be treated. Thus, it is not the complication per se that causes these deaths; rather, it is the delay in obtaining emergency treatment of the complications that causes death among Nigerian women. Such delays have been eliminated or substantially reduced in many developed countries, hence the lower rates of mortality among pregnant women in these countries. By contrast, delays remain the defining feature of maternity care within the context of Nigeria.

Social Factors in Maternal Health

Although maternal deaths in Nigeria are due to complications of pregnancy and delivery, it is the social context under which these pregnancies occur that pave the way for these deaths. In the first place, many women become pregnant in Nigeria when they are not ready for child bearing either because they are still too young, or have had too many children already, or are too old to become pregnant. Ordinarily, such women should use family planning to space or delay child bearing, but unfortunately they do not. According to the Nigerian Demographic and Health Survey, the contraceptive prevalence rate in Nigeria (proportion of women using effective method of contraception) is only 6 percent (National Planning Commission, 2000), and is one of the lowest in the African continent. The unmet need for contraception (those who say they do not desire more children, yet are not using contraception) is extremely high, resulting in high rates of unplanned and unwanted pregnancies in Nigeria. Factors associated with the low use of contraception in Nigeria include low availability of contraceptives in public health institutions, inaccurate perceptions of the effects of contraception, pervading cultural and religious beliefs and poor access of women to contraceptives (National Planning Commission, 2000).

The low contraceptive prevalence rate in Nigeria is associated with high rates of unsafe and induced abortion. Estimates indicate that up to 60 percent of pregnancies in Nigerian adolescents aged 15-25 years are unwanted and unplanned, with 80 percent of women with such pregnancies resorting to unsafe and illegal abortion. As a result of the restrictive abortion law in the country, women often use dangerous methods to procure abortion, with high rates of complications, which often result in death. A survey conducted in 2002 in 8 states of Nigeria

among women aged 15-49 years, showed that up to 25 percent of women who reported having had an abortion had experienced serious medical complications, and that one in five women were in their second trimester of pregnancy (Bankole, *et al.*, 2006).

Among women who continue with their pregnancies, severe intermediating socio-cultural and economic factors produce negative consequences and reduce women's access to evidence-based services needed to reduce maternal morbidity and mortality. The most important of these are: (1) the low status of women that deny women access to appropriate decision-making with regards to their reproductive functions; (2) high level of female illiteracy, which is a proxy for poor health seeking behavior for maternity services among Nigerian women; and (3) the high rate of poverty that predominantly affects women leading to inadequate nutritional intakes, high rates of pregnancy complications and women's reduced access to evidence-based maternity services. Throughout the country, women and (men) hold strong religious beliefs which sometimes act as barriers to the utilization of available maternity services. Such beliefs for example, are responsible for women sometimes refusing caesarean section or blood transfusion needed to save their lives, and accounts for their use of alternative sources of antenatal and delivery care rather than evidence-based orthodox sources. Additionally, harmful traditional practices such as early marriage, food taboos, traditional cuts (such as gishiri cuts and female circumcision), and the administration of harmful herbs can severely compromise the health status of women in pregnancy and contribute to adverse maternal health outcomes.

A number of recent findings have identified various social determinants of maternal and child health in Nigeria. Factors such as urban-rural migration, unemployment, education, gender inequality, lack of money, transportation, distance to health facility, cultural inhibition, fear of going alone to health facilities, inability to make informed choices and the need to obtain

permission from some authority figure such as the husband in the case of some married women have been cited (WHO, 2000). Other discussions have identified the epidemic of ethnic and religious conflicts and poor road infrastructures (Lambo, 2003) socio-cultural taboos and social meanings attached to certain diseases and their causes (Ladipo, Ankomah, Anyanti and Omoregie, 2003), biology, culture, education, employment and working conditions, the state of health services, the physical and social environment, social support, social infrastructure and climatic conditions (Lambo, 2003). While these findings present an increasing list of factors, the present discussion suggests poverty, income inequality, illiteracy, and unemployment as the most important current social determinants of maternal and child health in Nigeria.

Poverty

Poverty is a state of marginalization and deprivation in the conditions needed to make life meaningful for individuals as members of distinct social groups. In general, the evidence provided by UNDP (UNDP, 2005), the Nigerian government (Interim Poverty Reduction Strategy, 2001) and several other sources (Shehu, 2002; Olowonefa, 2001), indicates that the incidence, depth and severity of poverty have been growing in Nigeria over the years. Using an income level of N658.00 per month ($8.20) to indicate the poverty line and N320.00 (US $4.00) to indicate extreme poverty the data from the World Bank, the Nigerian Federal Office of Statistics (FOS) and UNDP, show that in 1980, the poverty level was 27.2 per cent or 17.7 million out of an estimated Nigerian population of 65 million people. By 1996, the level of poverty had more than doubled to 65.6 percent or 67.1 million out of an estimated population of 102.3 million people. By 1998, the level of poverty was 70.2 percent or about 71 million out of an estimated 105 million people. In the period 2000–2003, the poverty level remained at 70.2%

of the population indicating that some 87.5 million people lived below the poverty line of US$1 a day. During the same period, 90.8 percent of the population or 112.7 million people lived on less than US$2 a day. Indeed, in 2003 Nigeria was estimated to have the 3rd largest population of the poor in the world. The depth and severity of poverty also more than doubled during the period. According to the National Policy on Poverty Eradication of the Federal government of Nigeria, whereas the depth and severity of poverty were respectively 0.160 and 0.080 in 1980, the figures had increased to .358 and .207 in 1996. The National Policy also shows that poverty has been higher over the years in rural as compared to the urban areas. In 1980, the levels of poverty in urban and rural areas were respectively 17.2 percent and 28.2 percent; by 1996, the figures for the two areas were 58.2 percent and 69.8 percent.

Poverty not only means unequal access to health facilities but also the greater propensity of those at the bottom of the income ladder to experience more ill-health than those at the top of the ladder. This fact is eloquently demonstrated when we compare inequalities between the richest and the poorest segments of the Nigerian population along the dimensions of the number of births attended by skilled health personnel, the number of children who are fully immunized, the number of children at age 5 years who are under height, under–five mortality rates and infant mortality rates per 1000 live births (Table 3). The figures show a consistently dismal health pattern for the poor. In 1990 for example, only 13.9 percent of one year olds born to the poor were fully immunized, the corresponding rate for the rich was 58.1 percent. Infant mortality rate was 102.2 per 1000 live births among the poorest 20 percent of the population and 68.6 among the richest 20 percent of the population. Under–five mortality rate was two times higher among the poor than among the rich (UNDP, 2005).

Table 3: Inequalities in Maternal and Child Health

Country / Group of countries	HDI Ranking	Survey Year	Births attended by skilled health personnel %		One-Year-old fully immunized %		Children under height for age (% under 5)		Infant Mortality rate (per 1000 live births)		Under-five mortality Rate	
			Poorest 20%	Richest 20%	Poorest 20%	Richest 20%	Poorest 20%	Richest 20%	Poorest 20%	Richest 20%	Poorest 20%	Richest 20%
Sub-Saharan Africa												
Nigeria	158	1990	12.2	70.0	13.9	58.1	22.2	19.2	102.2	68.6	239.6	119.8
Ghana	138	1998	17.9	86.1	49.6	79.3	20.3	9.1	72.7	26.0	138.8	52.2
South Africa	120	1998	67.8	98.1	51.3	70.2	-	-	61.6	17.0	87.4	21.9

Source: UNDP: Human Development Report, 2005

Poor people not only run the risk of more frequent ill-health, they face the possibility of premature death more than those at the top of the social ladder. The risk of illness and premature death is indeed twice as high among the poor as among the rich (WHO, 2003). Since poverty is often a convergence of the absence of several factors and conditions needed to maintain life at an appropriate level, poor people also suffer from diseases that do not or hardly affect those at the top of the social ladder. Thus morbidity and ill-health and mortality arising from malaria, tuberculosis and diarrhea are likely to be more prevalent among the poor than among the rich. It has also been shown for example, that HIV/AIDS has a higher prevalence among the poor than among the rich. Poor people are also more likely to be hungry and the children of the poor therefore suffer more from malnutrition.

Poverty also has implications for access to health facilities and treatment. Poor people are less likely to be able to afford the cost of treatment for most diseases and where an illness becomes protracted and treatment becomes costly, the poor are likely to resign themselves to faith and death. Poor people are also less likely to be able to access health facilities that are located far away from them as the cost of transportation may be above the means available to them. Poverty is the confluence for the various social conditions that negatively impact upon health in Nigeria. Thus actions to address poverty should lie at the core of policy.

Income inequality has a major effect upon health for individuals as members of social groups. The NPC/NDHS 2003 survey shows, for example, that whereas either doctors or nurses attended to 83.3 percent of women in the highest wealth quintile during delivery, only 10.6 percent of women in the lowest wealth bracket were attended to by

the same category of health personnel. In fact, 20.3 percent of this category of women was not attended to by anyone during delivery while another 34.3 percent of the women were attended to by relatives (National Population Commission, 2003). As many as 31.6 percent of the women were attended to by traditional health practitioners (Table 4)

Table 4: Percentage distribution of live births in five years (1999-2003) by person providing assistance during delivery, according to wealth status in Nigeria, 2003

Background Characteristic	Doctor	Nurse/ midwife/ auxiliary midwife	Community Health extension worker	Traditional birth attendance	Relative/ others	No one	Don't know/ missing	Total	Number of births
Wealth quintile									
Lowest	1.8	9.8	1.4	31.6	34.3	20.3	0.8	100.0	1,394
Second	1.5	16.2	1.3	2.4	31.1	23.3	1.2	100.0	1,379
Middle	3.8	22.5	1.3	21.7	29.5	20.6	0.6	100.0	1,255
Fourth	6.6	43.6	1.0	13.8	20.5	13.2	1.5	100.0	1,157
Highest	23.1	61.2	0.2	4.3	7.5	3.5	0.2	100.0	1,033
Total	6.6	28.6	1.1	20.4	25.6	16.9	0.9	100.0	6,219

Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:123

Given the variations in type of person providing assistance during delivery, the NPC survey reveals that neonatal mortality among the lowest in the wealth quintile (59) is almost three times as high as among the highest in the wealth quintile (23). For the same two groups, infant mortality is more than twice as high among the lowest in the quintile (133) compared to 52 for the highest in the wealth quintile (Table 5). The rates for child mortality are about four times higher among the lowest in the wealth quintile (143) than among the highest in the wealth quintile (29).

Table 5: Neonatal, post-neonatal, infant, child, and under five mortality rate (1993 - 2003) by wealth status in Nigeria

Background Characteristic	Neonatal Mortality (NN)	Post-neonatal Mortality (PPN)	Infant Mortality ($_1q_0$)	Child Mortality ($_4q_1$)	Under-five Mortality ($_5q_0$)
Wealth quintile					
Lowest	59	74	133	143	257
Second	70	70	140	178	293
Middle	56	54	110	118	215
Fourth	48	39	87	101	179
Highest	23	30	52	29	79
Total	53	56	109	121	217

Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:123

Illiteracy

Illiteracy has major implications for ill health. Illiteracy is not only related to poverty; it also has implications for malnutrition, high infant and child mortality. It has been suggested that the probability of death among children born to illiterate mothers is two times as high as those born to literate mothers (Nigerian Perspective, 2005). There is also a strong correlation between education and life expectancy at birth (Table 6). Thus a majority of countries with a high education index also have a higher life expectancy at birth.

Table 6: Education and Life Expectancy for selected countries

Country	**Combined Primary, secondary & tertiary enrolment**	**Education Index**	**Life expectancy at birth (years)**
Canada	**100.0**	**0.99**	**79.1**
Norway	**97.0**	**0.98**	**78.3**
Trinidad & Tobago	**66.0**	**0.84**	**74**
Nigeria	**43.0**	**0.55**	**50.1**

Source: The UNDP's Human Development Indices (2000)

Generally, established research findings have also indicated that there is a strong correlation between education and several health indicators. In Nigeria, the education of a

mother is shown to strongly affect type of antenatal care provider, neonatal, post-neonatal, infant, child and under five mortality rates, type of person providing assistance during delivery, and access to health facilities in case of illness among other health indicators. Whereas no one provided antenatal care to 59.6 percent of mothers without education, the corresponding figure for mothers with education higher than secondary school was only 1.7 percent. At the same time, a doctor provided antenatal care to 70.2 percent of mothers with education higher than secondary school as against only 8.2 percent of women who had no education. Indeed, the percentage of women provided with ANC by a doctor dramatically increases as the educational level of the mother rises (Table 7).

Table 7: Mother's education and type of antenatal care provider (ANC) during pregnancy for the most recent birth

Background Characteristic	Doctor	Nurse/ midwife/ auxiliary midwife	Community Health extension worker	Traditional birth attendance	Others	No One	Missing	Total	Number of women
Education									
No education	8.2	27.7	2.8	1.2	0.4	59.6	0.0	100.0	1,989
Primary	22.3	49.7	1.9	5.4	0.2	20.3	0.2	100.0	918
Secondary	42.3	45.2	1.1	2.9	0.2	8.1	0.2	100.0	862
Higher	70.2	27.9	0.0	0.0	0.0	1.7	0.2	100.0	143

Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:116

Education also has clear implications for the type of health personnel attending to mothers during delivery (Table 8). Only 2.2 percent of mothers with no education are attended to by a doctor compared to 38.9 percent of women who have more than secondary school education. Indeed, women with no education tend to be more tended by traditional health personnel (26.3 percent), relatives (32.1 percent) or no one (26.8 percent) during delivery. Indeed for 88.9 percent of women with education higher than

secondary school are attended to by doctors or nurses / midwives during delivery. This also has obvious implications for post-neonatal and infant mortality rates.

Table 8: Mother's education by type of person providing assistance during delivery

Background Characteristic	Doctor	Nurse/ midwife/ auxiliary midwife	Community Health extension worker	Traditional birth attendance	Relative/ others	No one	Don't know/ Missing	Total	Number of births
Mother's Education									
No education	2.2	10.7	1.2	26.3	32.1	26.8	1.0	100.0	3,224
Primary	5.3	38.6	1.1	19.6	24.3	10.2	0.9	100.0	1.465
Secondary	13.8	57.9	0.9	9.8	13.9	2.9	0.7	100.0	1,316
Higher	38.9	50.0	0.0	2.2	8.3	0.4	0.2	100.0	215

Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:123

Indeed, the figures show that education has a major impact upon neonatal, infant and child mortality statistics (Table 9). For all categories of mortality, the rates are almost double among uneducated mothers when compared with mothers who have more than secondary school education. The neonatal mortality rate for mothers without education is 60 per 1000 compared to 37 per 1000 for mothers with secondary school education. The infant and child mortality rates for mothers with no education are 124 per 1000 and 166 per 1000 compared to 71 per 1000 and 45 per 1000 for mothers with secondary school education respectively. The figures are lower still for mothers with more than secondary education.

Table 9: Mother's education and neonatal, post-neonatal, infant, child and under five mortality rates in Nigeria

Background Characteristic	Neonatal mortality (NN)	Post-neonatal Mortality (PPN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Mother's education					
No education	60	64	124	166	269
Primary	53	58	111	85	186
Secondary	37	35	71	45	113
Higher	(39)	(22)	(60)	(20)	(80)

Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:110

Education also affects the access that women have to health facilities in case of illness, even when account is taken of other socio-economic determinants (Table 10). Women with no education tend to be more severely affected by all the factors that limit access to health care in case of illness. Only 1.7 percent of women with education higher than secondary school may not know where to go in case of illness compared with 22.4 percent among women with no education. Women with no education also have more problems with the need to obtain permission to go for medical treatment (16.9 percent), having to take transport (31.8 percent), not wanting to go alone (20.8 percent) and concerns that there may not be a female health provider at the medical facility (28.3 percent).

Table 10: Percentage of women who reported they have big problems in accessing health care for themselves when they are sick, by type of problem and background characteristics, Nigeria 2003

Background Characteristic	Knowing where to Go for Treatment	Getting Permission To go for treatment	Getting Money For treatment	Distance to health facility	Having to Take transport	Not wanting To go Alone	Concern there may Not be a female provider	Any of the specified problems	Number of women
Education									
No education	22.4	16.9	34.1	32.0	31.8	20.8	28.3	58.6	3,171
Primary	10.7	6.6	37.1	25.9	25.5	13.1	12.3	48.8	1,628
Secondary	6.5	4.5	24.6	16.1	14.8	8.2	8.5	34.3	2,370
Higher	1.7	0.3	11.4	9.0	8.1	4.1	2.8	18.5	451
Employment									
Not employed	16.1	11.9	31.2	24.6	24.7	17.5	19.9	48.4	3,177
Working for cash	11.5	8.5	26.4	22.2	21.1	11.2	15.2	42.3	3,744
Working not for cash	13.8	7.9	49.1	35.1	34.6	14.9	14.2	60.4	673

Source: National Population Commission: Nigeria Democratic and Health Survey 2003: 2004:140

Unemployment

Unemployment has major implications for access to health care. In Nigeria, the percentage of women who reported that they have big problems in accessing health care

for themselves when they are sick varies by employment status (Table 10). Compared to women who are 'working for cash' more unemployed women had problems 'knowing where to go for treatment' (16.1 percent), 'getting permission to go for treatment' (11.9 percent), 'getting money for treatment' (31.2 percent) and 'having to take transport' (24.7 percent).

Conclusion

It is well known that Nigeria has one of the highest rates of maternal mortality in the developing world. Though efforts have been made as evidenced above, they have not been sustained in the face of enormity of the problems. There are obvious gaps in policies, funding and political commitment with major underlying problems such as the scourge of poverty, weakened capacity of public institutions, low literacy levels and other entrenched negative health seeking behaviours, The safe motherhood programmes in Nigeria to a large extent have not made the expected impact given the amount of funds and resources injected into it. Nigeria still has the worst record in Africa in reducing maternal mortality as illustrated by the prevailing maternal mortality rates, despite the country's enormous wealth.

The disease conditions that lead to maternal mortality in Nigeria are the same as in most parts of the developing world. However, it is the adverse socio-economic and cultural circumstances under which these disease conditions occur that increase the likelihood of maternal mortality in Nigeria. This unfortunate situation is attributable to a variety of factors, some of which include: high rate of poverty and the poor state of our national economy, which have direct and indirect consequences for maternal health; the

lack of recognition of maternal health as a priority in terms of resource allocation and systematic programming; a low rate of political attention given to issues related to maternal health in the country; inadequate policies and legislations to address matters related to maternal health; the poor state of our health care delivery system; and the continuing adverse effects of some harmful traditional and cultural practices. There can be no doubt that maternal health is a critical determinant of the economic and social development of any nation, for which the Nigerian government must take more positive and affirmative action.

We live in a period of rapid change and increased competition where the place of each nation in the global political economy will depend upon the health of their people. Those nations with the weakest health outcomes will tend to sink more and more into the bottom of underdevelopment and poverty.

Finally, action on the social and economic determinants of maternal health will lead to better health and development outcomes only if the Nigerian people are mobilized around a programme of change that they understand and share. Such a programme must have the pursuit of social rights at its core. The example of The People's Health Movement in India which launched a 'Right to Health Care' campaign in 2003 shows that dramatic improvements in public and private health can be achieved when the people come to see health as a fundamental right and take actions to realize that right. Today, there are several civil society organizations working on a broad spectrum of maternal and child health matters in Nigeria. However, not only is there weak coordination among these bodies, there has not been the recognition that there is a need to adopt appropriate

approach to improve on maternal and child health. There is the need for a Health Summit coordinated by these bodies that can draw attention and action in the required directions.

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