

UTILIZATION OF MATERNITY CARE IN NIGERIA

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ABSTRACT

This paper discusses the differentials of maternity care in Nigeria. The objective is to provide information that could form basis for the design, implementation and monitoring of strategies for improved maternity care and hence, of maternal health, in line with the fifth Millennium Development Goal. To achieve this objective, secondary data derived from the 1990, 1999 and 2003 Nigeria Demographic and Health Surveys (NDHS) were analysed using simple descriptive statistics and cross-tabulations. The results of the analyses show that, though the status of maternity care, as measured by Care with a Health Professional (CHP), Delivery with a Health Professional (DHP) and Delivery Within a Health Facility (DHF), in Nigeria is generally low, it is worse in the rural than urban areas. It appears lowest among women under 20 years and lowest in the Northwest region of Nigeria. The level of maternity care also appears to have increased as mother's education and wealth quintile increased and decreased as birth order increased. Therefore, improved mother's education and economic status have been recommended among others, as a means of improving the status of maternity care in Nigeria.

KEY WORDS/ EXPRESSION: Differentials, maternity care, maternal mortality, Health professional, index birth

1.0 INTRODUCTION

The high incidence of maternal death has been a source of great concern to governments, health and development planners of most countries of the world. Maternal mortality ratio (MMR) was estimated to be 450 deaths per 100000 live births in all developing regions and about 920 per 100000 live births in sub-Saharan Africa, the highest in the world, [UN (2000)]. Nigeria, with about 800 deaths per 100000 live births, has one of the highest maternal mortality ratios in the world [UNFPA (2005)]. Complications during pregnancy and childbirth are a leading cause of death and disability among woman of reproductive age, especially in developing countries. It is estimated that about 529000 women died from the complications of pregnancy in 2000. Of this figure, Africa and Asia accounted for about 95 percent (502550 deaths), with each contributing half of this figure. About four percent occurred in Latin America, while less than one percent occurred in developed regions [UN (2000)].

A woman is exposed the risk of maternal mortality every time she becomes pregnant. The more often she gets pregnant; the greater is the cumulative risk of maternal death over a lifetime. Thus, a lifetime risk would be considerably reduced if woman had access to safe and effective contraceptive services. But once a woman is pregnant, skilled medical care is essential to ensure her safety and that of her infant [UN 2000]. Therefore, the provision and utilization of maternity care (MC) services have been recommended as basis for formulation, implementation and monitoring of programmes directed at reducing maternal and child morbidity and mortality all over the world. Provision of skilled attendant for delivery care, along with equipment, drugs and supplies necessary for effective management

of obstetric complications has been described as the single most important factor in preventing maternal death [Bell, Curtis, and Alayon (2003); U N (2002) and WHO (2001)].

Maternity care consists of antenatal care (ANC) and Delivery care (DC). The purposes of ANC are (a) to maintain mother and baby in the best possible state of health by identifying problems, actual and potential, at an early stage and constituting appropriate management and (b) to educate the mother and her husband/partner about pregnancy and labour and dispel fears and ignorance (c) ANC remains a screening process for impaired fetal growth, mal-presentation, anaemia, pre-eclampsia and other disorder [Miller and Callander, 1989]. Maine and Rosenfield (1999) were quoted as saying that during pregnancy any woman can develop serious life-threatening complications that would require medical care. Since there is no reliable way to predict which woman will develop these complications, it is essential that all women be treated with watchful expectancy during pregnancy and at the point of delivery and that emergency obstetric care remains within reach of all pregnant women. Antenatal care therefore, provides an opportunity to throw early-warning signals about any possible pregnancy complications.

Of interest in ANC are onsets of ANC visits; number of ANC visits during the pregnancy; the type of ANC received and the ANC providers seen during the visits. Antenatal care can be more effective in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and continues through delivery [NPC (2004a)]. This is to allow for proper monitoring of the mother and child throughout the pregnancy. Early start of ANC visits enables the ANC providers to determine a woman's normal baseline health. This, in turn, makes for early detection and management of any abnormality. Of

interest in delivery care are qualities of place of delivery and health personnel who provided assistance during the delivery. Maternity care, whether at the ANC or DC stage, can achieve the purpose of reducing maternal morbidity and mortality only if qualified health personnel provide the services within an environment adequately equipped with necessary facilities. In emphasizing the importance of delivery care by qualified health personnel, Bell, Curtis and Alayon (2003) employed the concepts of "Skilled Attendant", "Skilled Attendance" and "Health Professionals". "Health Professionals" include nurses, midwives, physicians and other medical personnel, "Skilled Attendants" are health professional with midwifery or obstetric skills who can manage complications as well as normal deliveries" while "Skilled Attendance" is a process through which a woman is provided with adequate care during labour delivery and postpartum period". In their opinion, skilled attendance is possible only when health professionals operate within functioning health system adequately provided with necessary facilities like drugs, equipment, supplies and transports.

In view of this, the fifth Millennium Development Goal calls for improving maternal health through professional care during pregnancy and childbirth, particularly for the management of complications. In Nigeria, a lot of human and material resources have been committed to the provision and improvement of health facilities and services. These are in the areas of training of high and middle level health personnel, construction/ rehabilitation and equipping of health institutions by Federal, State and Local Governments. Individuals, private organizations and international donor-agencies are not left out. The Launching of the National Health Insurance Scheme (NHIS) is one such effort at improving health care delivery services. The 2004 Nigerian National Policy on population has, as one of its objectives, to reduce maternal morbidity and mortality and enhance the health of women through effective antenatal, delivery and post-natal care programme and improved access to emergency obstetric care (EMOC) [(NPC 2004b)]. UNFPA is also supporting the implementation of existing Reproductive Health and Rights policies and assisting in expanding access to quality maternal health care, including emergency obstetric care [UNFPA (2005)].

In spite of all these efforts, available evidence shows that no significant progress has been made in the use of professional health care during pregnancy and childbirth in sub-Saharan Africa [U N (2000)]. In Nigeria, available evidence shows that the levels of provision and utilization of maternity care services are still very low [NPC 2000 and 2004a, FOS (1992)]. According to NPC (2004a), about 36.9 percent of all women who had live births in the five years preceding the 2003 NDHS did so without any antenatal care, about 50.5 percent attended antenatal care at most three times before delivery, more than two percent started ANC when their pregnancies were at least eight months, while about 18.7 percent started when their pregnancies were at least six months old. Furthermore, the levels of delivery with a health professional and within a health facility are very low [NPC (2004a)]. Given that appropriate maternity care with a health professional is essential to averting maternal deaths, it is reasonable to assume

that the present situation in Nigeria implies that maternal mortality is not likely to be declining.

Information from available studies also shows that the provision and utilization of maternity care services are closely related to the socio-economic, cultural and obstetric characteristics of the surveyed women [(Bell, Curtis and Alayon (2003)]. If properly harnessed, this relationship could be gainfully utilized to design appropriate strategies to improve the status of maternity care and hence, reduce the level of maternal mortality. Therefore, the ultimate objective of this study is to determine the extent to which strategies for improving the provision and utilization of maternity care in Nigeria could be based on information on the socio-economic, cultural and obstetrics characteristics of the surveyed woman. Specifically, the study examined the background characteristics of the surveyed women as well as the differentials of maternity care in Nigeria. A clear understanding of the relationship between provision and utilization of maternity care services on the one hand and the socio-economic, cultural and obstetric characteristics of the surveyed women on the other is indispensable in the design of appropriate strategies to improve the status of maternity care and hence, the level of maternal and child health. As noted by Bell, Curtis and Alayon (2003), the results may also assist policy-makers and implementing agencies to redirect efforts at those women who do not receive maternity care from health professionals or from well-equipped health institutions as well as the underserved women. Furthermore, similar studies have been carried out in other countries, but not much has been read about differentials of maternity care in Nigeria, hence the need for this study.

2 METHODOLOGY

The data for this study is a secondary data drawn from the 1990, 1999 and 2003 Nigerian Demographic and Health Survey (NDHS). The data is on (a) the percentage distribution of women who had live births in the five years preceding the surveys, hereinafter referred to as "the surveyed women" or "the women", according to some of their background characteristics and (b) the percentage distribution of live births in the five years preceding the surveys by some delivery characteristics and background characteristic of the surveyed women. The DC considered includes place of delivery and the health personnel in attendance. The background characteristics of the surveyed women include age of mother at time of delivery, birth order, mother's education, wealth quintile, place and region of residence. The number of visits and time of first ANC are indicators of utilization of maternal health services. Obstetric characteristics such as age of mother at time of delivery and birth order may be used to identify individual women who need extra care in pregnancy and delivery.

The data was analysed using simple descriptive statistics such as percentages, and cross-tabulations; because of the limitations imposed on the data by the way it was tabulated. The percentage is used to discuss the background characteristics of the surveyed women and differentials of maternity care in Nigeria.

3 BACKGROUND CHARACTERISTICS OF THE SURVEYED WOMAN

This Section examines the background characteristics of the women who had a live birth in the five years preceding the 2003 NDHS, hereinafter referred to as "the surveyed women" or as "the women".

The relevance of this lies in the fact that the distribution would assist in the assessment of the quality and interpretation of results obtained in the subsequent Sections. The distribution of the surveyed women according to some of their background characteristics is given in Table 3.1

Table 3.1: Percentage distribution of women who had live births in the five years preceding the 2003 NDHS according to some of their background characteristics

Characteristics	Percent	Number
		Actual
(a) Age		
< 20	18.38	719
20-34	64.28	2514
35-49	17.34	678
(b) Birth order		
1	20.53	803
2-3	28.18	1102
4-5	22.35	874
6+	28.94	1132
(c) Mother's Education		
None	50.86	1989
Primary	23.47	218
Secondary	22.04	862
Higher	3.66	143
(d) Wealth Quintile		
Lowest	21.78	852
Second	21.63	846
Middle	20.66	808
Fourth	18.79	735
Highest	17.13	670
(e) Place of Residence		
Urban	29.25	1144
Rural	70.75	2767
(f) Region of Residence		
North Central	14.70	575
North East	22.04	862
North West	34.29	1341
South East	5.68	222
South West	13.91	544
South South	9.38	367
	100.00	3911
All		

Source: NPC (2004a)

As Table 3.1 shows, most of the surveyed women (about 64.3 percent) were aged 20-34 years and about 82.7 percent were under 34 years at time of the birth. According to their birth orders, the index birth (i.e. the birth under consideration) is the first for about 20.5 percent and at least the second experience for about 79.5 percent of the women. In about 51.3 percent of the surveyed women, the index birth marked at least the 4th experience in childbearing. By their educational attainment, more than half of the surveyed woman (about 50.9 percent) had no education; about 74.3 percent had a primary education or less, while about 25.7 percent had at least a secondary education. About 21.8 percent belong to the lowest wealth quintile, about 43.4 percent fall below the middle, while about 35.9 percent fall above the middle wealth quintile. According

to their places of residence most of the surveyed women (about 70.8 percent) were resident in the rural areas. By the geopolitical zones, most of the surveyed women (about 71.0 percent) were drawn from the regions in Northern, with Northwest alone accounting for about 34.3 percent. The least (about 5.7 percent) was drawn from the Southeastern region

4 DIFFERENTIALS OF MATERNITY CARE IN NIGERIA

This Section discusses the differentials of maternity care (i.e. variation of ANC and DC characteristics according to some of the socio-economic, cultural and obstetric characteristics of the surveyed women). The obstetric characteristics include

age of mother at time of index birth and birth order of the index pregnancy. The socio-economic and cultural characteristics include mother's education, wealth quintile, place and region of residence. The differentials of antenatal care characteristics are discussed in Section 4.1 using the percentage of woman who had live birth in the five years preceding the surveys and who received ANC from a health professional (CHP). The differentials of delivery care are discussed in Sections 4.2 and 4.3 using the percentage of deliveries with a health professional (DHP) and percentage of deliveries within a health facility (DHF).

4.1 Differentials of Antenatal Care (ANC) in Nigeria

The measure used in discussing the differentials of ANC in the 1990 NDHS is different from that used in the 2004 NDHS. While the percentage of live births was used in the 1990 NDHS, the differentials of antenatal care in Nigeria were reported as percentages of women who had live births in the five years preceding the 2003 NDHS. Thus, the reports from the two surveys are incompatible. Therefore, the discussion of differentials of ANC in Nigeria is based on the 2003 NDHS (the most recent survey) only. The percentage distribution of women who had live birth in the five years preceding the 2003 NDHS and who received antenatal care from a health professional (CHP) during the index pregnancy

by some background characteristics is shown Table 4.1. As Table 4.1 shows, CHP appears lower among mothers under 20 years (with 46.4%) than those aged 20-49years (with 60.7%). The percentage of mothers who received ANC from a health professional decreased from about 61.5 percent among first order births to about 51.3 percent among the high parity women (with 6 or more children). The percentage is much higher in urban (82.7%) than the rural (47.8%). It increased from about 35.9 percent among women with no education to about 98.1 percent among women with more than a secondary education. With regards to wealth quintile, CHP increased from about 34.0 percent among women in the lowest quintile to about 95.8 percent among women in the highest quintile. In summary, the percentage of care with a health professional (CHP) appears more popular among older women (20 years and above) than the younger ones (under 20 years of age). It decreased with increasing birth order and increased with increasing mothers' education and increasing wealth quintile. Among the regions in Nigeria, CHP is lowest (with 36.9%) in the Northwest and highest in the Southeast (with 96.2%). The percentage of mothers who received ANC from a health professional also appears much higher in urban than rural areas, lowest in the Northwestern region and highest in the Southeastern region of the country.

Table 4.1: Percentage of women who received ANC from a Health professional (CHP) according to some background characteristics

Characteristics	%CHP	NO. OF WOMEN
a) Age of birth		
<20	46.4	719
20-34	60.7	2514
35-49	60.7	678
b) Birth order		
1	61.5	803
2-3	60.6	1102
2-5	60.3	874
6+	51.3	1132
c) Place of Residence		
Urban	82.7	1144
Rural	47.8	2766
d) Mother's education		
No Education	35.9	1989
Primary	70.0	918
Secondary	87.5	862
Higher	98.1	143
e) Wealth Quintile		
Lowest	34.0	852
Second	37.3	846
Middle	56.5	808
Fourth	77.1	735
Highest	95.8	670
f) Region of Residence		
North central	73.8	575
North East	47.3	862
North West	36.9	1341
South East	96.2	222
South South	72.1	544
South West	91.9	367
All women	58.0	3911

Source: NPC (2004a)

4.2 Differentials of Delivery Care

The differentials of delivery care are discussed in this study using the percentage of deliveries with a health professional (DHP). This percentage of deliveries with a health professional in Nigeria by year and some background characteristics is given in Table 4.2.

(a) Age of mother at time of delivery

As Table 4.2 shows, the results from the 2003 NDHS show that the percentage of deliveries attended by a health professional is lower (about 24.2%) among women less than 20 years of age than those aged 20 years and above. The percentage of DHP is specifically; highest among women aged 20-34 years, being slightly higher than that for women aged 35-49 years. This observation is true for all the surveys in Nigeria as shown in Table 4.2. Bell, Curtis and Alayon (2003) had observed that DHP is lower among mothers aged 35 years and above in Bolivia, Ghana, Malawi and Bangladesh except in 1997, and the Philippines in 1998, and lowest among mothers less than 19 years of age in Indonesia and the Philippines in 1993. Over the years, the DHP increased in all the age groups from the 1990 NDHS to the 2003 NDHS, but more rapidly among

women aged 35-49 years (with an increase of about 7 percent in the 13 years). This has resulted to relatively wider differences in DHP between the youngest and the oldest age groups. In Bolivia and Indonesia, Bell, Curtis and Alayon (2003) observed that DHP increased most rapidly among mothers under 19 years, resulting in a relatively little difference between the youngest and oldest age groups.

(b) Birth Order

Table 4.1 also shows that the percentage of deliveries with a health professional, as reported in the 2003 NDHS, is highest among first order births and decreased consistently as birth order increased. This pattern of variation in DHP with birth order appears to be the same in all the surveys in Nigeria. Bell, Curtis and Alayon (2003) also observed a similar pattern among women in the six developing countries, which they studied. They also observed that high parity women (with 6 or more births) are the least likely to deliver with a health professional. Perhaps, with increased experience in child bearing, the high parity women may believe they have no further need for the assistance of a health professional.

Table 4.2: Percentage of deliveries with a Health Professional (DHP) by year and some background characteristics in Nigeria

Characteristics												
(a) Mother's age at the birth												
Survey / Year		< 20		20 -34		35- 49						
		%DHP	n	%DHP	n	%DHP	N					
1990		23.7	1344	32.8	5649	29.3	1119					
1999		23.8	615	46.0	2468	41.4	464					
2003		24.2	1121	37.8	4206	36.3	892					
(b) Birth Order												
Survey / Year		1		2 - 3		4 - 5		6+				
		%DHP	n	%DHP	n	%DHP	N	%DHP	n			
1990		34.9	1458	29.9	2516	31.1	1992	28.9	2147			
1999		46.5	739	44.3	1159	39.9	832	35.0	818			
2003		45.1	1278	37.3	1908	35.3	1365	24.9	1667			
(c) Mother's Education												
Survey / Year		None		Primary		Secondary		Higher				
		%DHP	N	%DHP	n	%DHP	N	%DHP	n			
1990		15.6	5091	46.6	2036	75.5	986*	-	-			
1999		14.9	1714	55.7	868	74.2	827	88.1	138			
2003		12.7	3224	43.9	1465	71.7	1316	88.9	215			
(d) Wealth Quintile												
		Lowest		Second		Middle		Fourth		Highest		
Year	%DHP	n	%DHP	n	%DHP	n	%DHP	n	%DHP	n		
2003	11.6	1394	17.7	1379	26.3	1255	50.2	1157	84.3	1033		
(e) Regions in Nigeria												
		North Central		North East		North West		South East		South West		
Year	%DHP	n	%DHP	N	%DHP	n	%DHP	N	%DHP	n	%DHP	n
1990	na	na	10.9	1924	10.0	2242	45.6	2422	na	na	63.1	1525
1999	47.0	704	12.7	788	8.1	629	65.3	649	na	na	73.2	777
2003	48.6	897	19.8	1472	12.3	2161	87.5	371	55.6	789	80.9	529

Source: FOS (1992), NPC (2000 and 2004a)
 * For secondary and above, na = not available

The pattern of variation of DHP with birth order does not seem consistent with that observed in DHP with age of mothers. This is because the high parity women are likely to be found among the older women for whom delivery with a health professional is relatively higher. However, it is noteworthy that in Nigeria a substantial percentage of first order births is found among women aged 20-34 years for whom deliveries with a health professional is highest.

(c) Mother's Education

As expected, the percentage of deliveries with a health professional increased with increasing level of mother's education. The reported percentage of DHP in the 2003 NDHS increased from about 12.7 among mothers with no education to about 88.9 percent among mothers with more than a secondary education. However, the percentage of deliveries with a health professional appears to have declined from the 1990 NDHS to the 2003 NDHS in all the education categories. This is perhaps because of the influence of increasing birth order on DHP. Thus, there are indications that delivery with a health professional in Nigeria may be improved by improving the education of the mothers.

(d) Wealth Quintile.

There are indications also that the status of delivery with a health professional may be improved by the economic empowerment of the women. The reported percentage of deliveries with a health professional in the 2003 NDHS increased from about 11.6 among women in the lowest wealth quintile to about 84.3 percent among those in the highest wealth quintile. This is consistent with the pattern observed with mother's education. It may be recalled that most of the women in the highest wealth quintile are likely to be found among the highly educated ones.

(e) Regions in Nigeria

Among the regions in Nigeria, available evidence from all the surveys show that a wide variation exist in the percentage of deliveries attended by a health professional. From, the 2003 NDHS, DHP is lowest in the Northwestern Nigeria (with about 12.3 percent of deliveries attended by a health professional) and highest in the Southeastern Nigeria (with about 87.5 percent of all deliveries attended by a health professional). In the 1990 NDHS, the Northwestern region maintained the lowest percentage of deliveries with a health professional, while the highest was recorded in the Southwestern Nigeria. All the regions in Nigeria experienced upward trends in the percentage of deliveries with a health professional. The Southeastern region also recorded the highest absolute increase of about 41.9 percent while Northwest also recorded the least absolute increase of about 2.3 percent in the 13 years (between 1990 and 2003). This seems to suggest that efforts at improving the status of deliveries with a health professional need to be increased among women in the Northern (especially Northeast and Northwest) Nigeria.

In summary percentage of deliveries attended by a health professional in Nigeria appears to be higher in the urban than rural areas of residence and higher among women aged 20-49 years than among those less

than 20 years of age. DHP also appears to have decreased with increasing birth order and increased with increasing mothers' education and increasing wealth quintile. A wide variation was also observed in the percentage of deliveries attended by a health professional among the six regions in Nigeria. While the Southeast topped the chart, the Northwest trailed behind from the 2003 NDHS. Percentage of deliveries with a health professional also showed increasing trends in almost all the categories of socio economic and obstetric characteristics except mother's education and among the high parity women (with 6 or more births) from the 1990 NDHS to the 2003 NDHS. However, in absolute terms, the percentage increase remained under 20 percent in all except in the Southeast Nigeria in which the increase is about 41.9 percent. The pattern of variations in CHP and DHP appear to be a reflection of the distribution of the surveyed women more than a true variation in maternity care in Nigeria.

4.2 DIFFERENTIALS OF DELIVERY WITHIN A HEALTH FACILITY

The percentage of deliveries within a health facility (DHF) by year and some background characteristics of the surveyed women is shown in Table 4.3

(a) Age of mother

As Table 4.3 shows, the percentage of deliveries within a health facility (DHF) as reported in the 2003 NDHS, is least among women under 20 years of age (with about 12.6%) and highest among women aged 20-34 years (with about 35.8%). This gives the impression that delivery within a health facility is more popular among mothers aged 20 years and above than those under 20 years.

(b) Birth Order

According to the birth order of the index birth, the percentage of delivery within a health facility reported in the 2003 NDHS decreased from about 43.4 percent among first order births to about 22 .0 percent among birth order "6+" category. Between the 1990 NDHS and 2003 NDHS, percentage of deliveries within a health facility showed increasing trends in almost all the categories of birth order except the "6+" category. The highest absolute increase of 8.7 percent in the 13 years was recorded among the first order birth.

(c) Mother's Education

The percentage of deliveries within a health facility, as reported in the 2003 NDHS, increased with increasing mother's education. The percentage increased from about 10.3 percent among mothers with no education to about 88.1 percent among those with more than secondary education. This is perhaps, as a result of increased level of awareness of dangers associated with delivery outside health facility among the more educated women. With the exception of the "Higher" education category, the percentage of deliveries within a health facility decreased from the 1990 NDHS to the 2003 NDHS. The highest absolute decrease of 7.6 percent in the 13 years was recorded among those with secondary education. The percentage

of deliveries within a health facility among those with higher education increased by about 6.4 percent from the 81.7 percent recorded in the 1990 NDHS.

Table 4.3: Percentage distribution of deliveries within a health facility (DHF) in Nigeria by year and some background characteristics.

Characteristics													
(a) Mother's Age at time of Birth													
Survey/		<20		20-34		35-49							
Year	%DHF	n	%DHF	n	%DHF	N							
1990	23.8	1344	32.8	5649	29.8	1119							
1999	22.2	615	41.3	2468	36.2	464							
2003	21.6	1121	35.8	4206	31.3	892							
(b) Birth order													
Survey /		1		2 - 3		4 - 5		6+					
Year	%DHF	n	%DHF	n	%DHF	n	%DHF	n					
1990	34.7	145	30.1	251	30.7	199	29.5	214					
		8		6		2		7					
1999	43.6	739	40.7	115	35.0	832	29.2	818					
				9									
2003	43.4	127	34.7	190	32.4	136	22.0	166					
		8		8		5		7					
(c) Mother's Education													
Survey /		None		Primary		Secondary		Higher					
Year	%DHF	N	%DHF	N	%DHF	n	%DHF	n					
1990	15.8	5091	46.7	2036	76.8*	986	-	-					
1999	13.4	1714	48.0	868	67.9	827	83.9	138					
2003	10.3	3224	40.5	1465	69.2	1316	88.1	215					
(d) Wealth Quintile													
Survey		Lowest		Second		Middle		Fourth		Highest			
	%DHF	N	%DHF	n	%DHF	n	%DHF	N	%DHF	n			
2003	11.5	1394	16.1	1379	24.9	1255	43.8	1157	79.7	1033			
(e) Region													
Survey		Northcentral		Northeast		Northwest		Southeast		Southsouth		Southwest	
/	%DH	n	%DH	N	%DH	n	%DH	n	%DH	N	%DH	n	
Year	F	F	F	F	F	F	F	F	F	F	F	F	
1990	na	na	10.4	1924	9.7	2242	46.3	2422	na	na	63.6	1525	
1999	44.3	704	11.7	788	6.4	629	54.9	649	na	na	67.2	777	
2003	45.4	897	17.1	1472	10.4	2161	84.1	371	53.2	789	77.6	529	

Source: FOS (1992), NPC (2000 and 2004a)

*Secondary and higher, na = not available

(d) Wealth Quintile

As with the percentage of deliveries with a health professional, the percentage of deliveries within a health facility reported in the 2003 NDHS increased as wealth quintile increased. It increased from about 11.5 percent among those in the lowest quintile to about 79.7 percent among those in the highest wealth quintile.

(e) Regions in Nigeria.

Among the regions in Nigeria, the percentage of deliveries within a health facility as reported in the 2003 NDHS, is lowest in the Northwestern Nigeria (with about 10.4%) and highest in the Southeastern region (with about 84.1%). The pattern of variation in the percentage of deliveries within a health facility among the regions in Nigeria observed in the 2003 NDHS is almost the same as those observed in the previous surveys (the 1990 and 1999 NDHS) except that in those surveys, the highest percentages were reported in the Southwest instead of the Southeast. This difference may be attributed to the lumping together of figures for the

Southeast and Southsouth in those surveys. With regards to trend, the percentage of deliveries within a health facility increased in all the regions from the 1990 NDHS to the 2003 NDHS with the Southeastern region recording the highest absolute increase of about 37.8 percent in the 13 years.

In summary, the percentage of deliveries within a health facility appears higher among women aged 20 years and above than those under 20 years in all the surveys. In all the surveys also, the percentage decreased with increasing birth order and increased with increasing mother's education and wealth quintile. Among the regions in Nigeria, the percentage of deliveries within a health facility is lowest in the Northwest and highest in the Southeast regions. Between 1990 and 2003, the percentage of deliveries within a health facility increased in all age groups except "under 20 years"; increased in all birth orders except the "6+" category; increased in all the regions in Nigeria and decreased in all levels of education except the "Higher" category. Furthermore, the pattern of

variation in the percentage of deliveries within a health facility is similar to the pattern of variation in the percentage of deliveries with a health professional according to the background characteristics of the surveyed women. As with the CHP and DHP, the percentage of DHF appear to reflect the distribution of the surveyed women more than a true variation in the level maternity care in Nigeria. However, the percentage of DHF appears slightly lower than DHP. Perhaps, some professionals attended some deliveries outside health facility.

5.0 DISCUSSION CONCLUSION

The differentials of maternity care in Nigeria is discussed in this paper because of its implications for maternal and child health in any country. Maternity care provides information necessary for planning, implementation and monitoring of strategies designed to reduce maternal morbidity and mortality. Available information from the 2003 NDHS shows that the status maternity care in Nigeria is still very low. Some studies have also shown that provision and utilization of maternity care are related to the socio-economic, cultural and obstetric characteristics of the surveyed women.

The results of the analyses show that, from the 2003 NDHS, the status of those characteristics associated with favourable levels of maternity care is still very low and has not improved substantially over what was observed in previous surveys. The adverse effects of this on utilization of maternity care in Nigeria are quite obvious. The status of maternity care in Nigeria appears worse in rural than urban areas, perhaps because of relatively low level of socio-economic status. The percentage of mothers who received ANC from a health professional (or care with a health professional (CHP)) in the 2003 NDHS appears higher among those aged 20-49 years than among those under 20 years. It appears lowest in the Northwest and highest in the Southeastern Nigeria. The percentage increased with increasing mother's education and increasing wealth quintile and decreased with increasing birth order. Just like the CHP, delivery with a health professional (DHP) and delivery within a health facility (DHF) appear more popular among mothers aged 20-49 years than among those less than 20 years, lowest in Northwest and highest in Southeastern Nigeria. Both DHP and DHF appear to have decreased with increasing birth order and increased with increasing mother's education and increasing wealth quintile. This pattern of variation of maternity care with these characteristics appears to be the same in all the surveys. The implications of these for the design of appropriate strategies for improved maternity care and for improved maternal and child health in Nigeria are quite obvious given the close correlation between maternity care and maternal morbidity and mortality.

In view of these, the following recommendations are considered relevant. As a matter of policy, every woman should be made to attain a minimum of secondary education before entering into motherhood. Apart from putting a woman in a better position to appreciate the need for maternity care during pregnancy, it will help to empower her economically to pay for maternity care services. There is the need to

remove or at least subsidize cost of maternity care in Nigeria since there are indications that utilization of maternity care is directly related to wealth quintile. The current effort at improving rural health care delivery should be expanded to emphasize more on maternity care. The current poverty eradication/alleviation programmes of the government should be made more effective especially in the rural areas. This will enhance the chances of pregnant women to seek and secure maternity care services from health professionals. There are indications that effective family planning activities can lead to improved level of maternal health by reducing the lifetime cumulative risk of maternal death, as maternity care becomes increasingly unpopular as birth order increased. This is also recommended. Effective mass mobilization may be required to encourage women in the childbearing age to appreciate the need for delivery with a health professional within a health facility. There is need to examine further the plight of the high parity women. What are their constraints to utilization of maternity care? These suggestions may help to improved the status of maternity care and hence, reduce the levels of maternal morbidity and mortality if considered and integrated into the maternal and child health care delivery programmes.

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