
KNOWLEDGE AND BARRIERS IN UTILIZATION OF MATERNAL HEALTH CARE SERVICES IN KANO STATE, NORTHERN NIGERIA

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ABSTRACT: Use of maternal health care in most African countries has been associated with several socioeconomic, cultural and demographic factors, although contextual analyses of the latter have been few. Similar previous study in Kano showed that 64% of women with severe obstetric morbidity identified at different hospitals in Kano state Nigeria were in critical conditions upon arrival, underscoring the significance of pre-hospital barriers in this setting with free and accessible maternal health care. This cross-sectional descriptive study explored knowledge and Utilization of maternal health services among Urban and Rural reproductive women. The views of (n=1000) married women within the age group of 14 to 49years were selected randomly both in urban and rural areas. In a two point scale (good, poor), Knowledge of maternal health facilities and services generally show that urban and rural had extremely good knowledge of maternal health service and programs provided by the government with 99.0% of urban and 82.4% of rural. While overall, only 63.4% and 51.4% both urban and rural utilize health facilities and its programs. There was a statistically significant association between the respondents' level of education, income, age and their knowledge score ($p = 0.005$) for both urban and rural: knowledge of maternal health facilities was higher among those with formal education, high income and younger respondents

Keywords: Knowledge, Barriers, Utilization, Maternal health care,

1.0 Introduction

There is a high maternal morbidity and mortality rates in Sub-Saharan Africa generally and northern Nigeria in particular with the goals of safe motherhood eluding many governments. The Programmes of Action of the International Conference on Population and Development of 1994 and the Fourth World Conference on Women of 1995 were created in an attempt to tackle these issues and drew unprecedented attention to reproductive health and rights as well as to gender equity and equality (WHO 2005). The program of action of the international conference on population and development, the millennium development Goal (MDGs) and Maputo Declaration and Action plan call for concerted action to reduce maternal mortality, promote maternal health and empower women with knowledge so that they are more useful to themselves, their families and communities (WHO,UNFPA,UNICEF 2004).

In order to move towards this goal, adequate knowledge of maternal health is a prerequisite. It is well known that higher education is strongly correlated with improved maternal health knowledge (MDGs,2000) but on average, girls in northern Nigeria only attend formal schooling for an average of 2.8 years before they drop out (Nuhu et al,2010). In northwestern Nigeria, Qur'anic studies, focusing on Arabic and Islamic teachings, is highly valued but less than 20% of women complete primary school (MDGs, 2000). With only

two percent of the world's population, Nigeria contributes ten percent of the world's maternal death (Abouzahr, 2003). Each year as many as 60,000 Nigerian women die due to pregnancy related complications (Ladipo, 2006; USAID, 2008; WHO 2005). Globally only India has a larger number of maternal deaths from pregnancy-related complications (as many as 136, 000 annually) than Nigeria (WHO, UNICEF, UNFPH, 2005). Nigeria is by tradition a patriarchal society in which women are discriminated against from infancy. In the rural setting, gender disparity has been observed with women generally receiving less attention than men. Poorer access to medical services is compounded by socio- cultural, economic and demographic factors including the behavior of families and communities, social status, education, culture, income, health decision making power, age, access to health facilities, and availability of health services played a vital role in causing maternal mortality (Yahaya, 2004). Northern Nigeria is primarily Hausa and Muslim (National population commission, 2006). Since men hold the primary decision-making power in the society, the decision to go to a health facility in an emergency must wait until the husband (or in-laws) give consent (Adamu, 2003) It is also important to note that non-health sector activities, such as water and sanitation, roads communication, agriculture, and internal security, also influence maternal outcome (Wall, 1998; NDHS, 2008). Researchers have found that the disparity is more noticed in rural areas than urban areas (Okolocha, Chiwuzie, Braimoh et al, 1998; Chandola & Jenkinson, 2000). This is why many women particularly rural women are often trapped in a cycle of ill-health exacerbated by child bearing and hard physical labour (UNDP, 2005).

One important and significant international response to the UN Decade for Women was the Convention on the Elimination of all forms of Discrimination against Women (CEDAW). The convention identifies women's rights as human rights and demands their inclusion in all spheres of national life (Eboiyehi and Muoghalu, 2008; FMOH, 2005). Finally, it also challenged the patriarchal status quo. However, tangible evidence of any improvement particularly in the status of rural women is slow to appear. Maternal health services can be influenced by the socio-demographic characteristics of women, the cultural context, and the accessibility of these services. A number of socio-demographic characteristics of the individual affect the underlying tendency to seek care (Advocacy Brief, 2007). In this regard, some good examples are maternal age and parity, education, poverty, place of delivery and residence. The cultural perspective on the use of maternal health services suggests that medical need is determined not only by the presence of physical disease but also by cultural perception of illness (WHO, 2007). The use of modern health services in such a context is often influenced by individual perceptions of the efficacy of modern health services and the religious beliefs of individual women (Advocacy Brief, 2007). Accessibility of health services has been shown to be an important determinant of Utilization of health services in developing countries. In most rural areas in Africa, one in three Women lives more than five kilometers from the nearest health facility (Nigerian Central Bank, 2004). The Scarcity of vehicles, especially in remote areas, and poor road conditions can make it extremely difficult for women to reach even relatively nearby facilities. Walking is the primary mode of transportation, even for women in labour (Lambo, 2006).

Studies have shown that education is well known effect in lowering fertility. If women get pregnant less and bear fewer children, they are less at risk of maternal death. Women's social status, self image and decision making powers may all be increased through education, which may be key in attending maternal health services. Adamu, (2003) studies in Kano shows a low percentage of attendance for maternal health services in rural areas where most of the women did not pass through western education. Educated women may have more understanding of the physiology of reproduction and be less disposed to accept the complications and risks of pregnancy as inevitable, than illiterate or uneducated women. Education has been described as a medication against fatalism (Royston, 1989; Béhague et al, 2008). According to NDHS (2008) women level of education varies by residence, women in rural areas are far less likely to be educated than their urban counterparts. For example, survey study shows that 47% of rural women have not attended school, compared with 17% of their urban counterparts. This is more pronounced at the level of secondary school or higher education, 46% for urban as against 16% for rural (NDHS, 2008). Socio-cultural factors also play a key role in influencing women's knowledge and utilization of maternal health services. Time and again women with severe obstetric morbidity identified at different hospitals in Kano state were in critical conditions upon arrival, underscoring the significance of pre-hospital barriers in this setting with free and accessible maternal health care. Northern Nigeria is primarily Hausa and Muslim.

Since men hold the primary decision-making power in the society, the decision to go to a health facility in an emergency must wait until the husband (or in-laws) gives consent and this can cause serious obstetric complication and possible death even though the woman might be knowledgeable of maternal health services. In order to increase women's utilization of maternal health care services it is imperative to understand the individual and community factors that influence women's health care seeking behaviors.

The study therefore will assess married women's knowledge of maternal health care facilities and services and will determine factors influencing utilization of maternal health services.

2.0 Theoretical framework

Determinants for use of maternal health care can be conceptualized by applying a behavioral model proposed by Andersen that seeks to account for and predict the use of health services by individuals (Andersen, 1995). According to the model, such utilization is dependent on the interaction between individual traits, population characteristics, and the surrounding environment. Andersen proposes that the relevant factors can be grouped into three main categories: an individual's predisposition to use medical services; enabling or impeding circumstances (such as infrastructure); and the need for health care. Predisposing characteristics are related to demographic elements and social structure, including age, gender, residence, occupation, education, ethnicity, and attitudes toward health. Enabling elements consist of community factors that affect the availability and accessibility of health care, and personal factors such as knowing how to take advantage of what is offered. Finally, characteristics associated with need include types of illness, perceived health status, and expected outcome of treatment. In the context of the present study, "need" refers to an informant's perceived need of maternal health care.

Most theoretical models view health care-seeking behavior as a result of rational individual choice. As such, they have been criticized for giving inadequate attention to the social context within which actions are taken by individuals (Zadoroznyj, 1999). In attempting to conceptualize patterns of predisposing characteristics, our analytical framework has been influenced by the social theory of Bourdieu in which the relationship between individuals and structure is described. Central to this perspective is the concept of habitus as the embodied dispositions to which people resort as a framework for their perceptions and actions. The theory assumes that social structures provide access to different conditions (i.e., social, cultural, and economic capital) and that habitus is a result of constant exposure to these conditions from a certain relative position within a particular context (Williams, 1995). Bourdieu's view has been used to theorize inequalities in health and illness (Bourdieu, 1990). In some instances it has been applied to behavioral aspects of childbirth and institutional change within obstetric care (Filippi et al, 2009; Suni et al, 2006). In the analysis below, we avail ourselves of this theory to examine how patterns of maternal health-care utilization and inequalities in accessibility are products of accumulated dispositions.

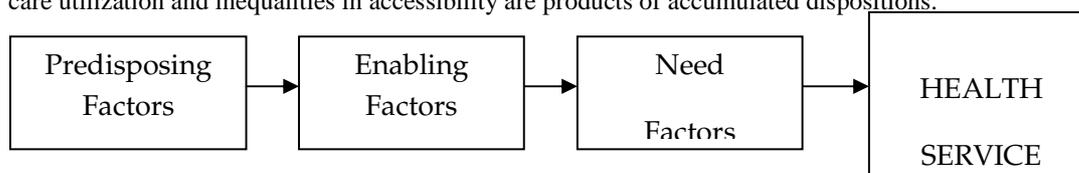


Figure 1: Health Care Utilization Model (Andersen & Newman, 1973)

3.0 Research Design

A descriptive cross-sectional study to assess the reproductive health know-ledge and utilization of maternal health care services among reproductive women living in Kano State, northern Nigeria using questionnaire, focus group discussion and in-depth interview.

Background to Study Area

Kano City is cosmopolitan and heterogeneous as a result of its extensive and numerous commercial and industrial activities. Kano is famous for its weaving, gold and blacksmith, dyeing and other handicraft activities. As a result of these, Kano has attracted people from far and wide. Kano State is made up of 44 local government areas. It is currently the second most populous state in Nigeria after Lagos according to

the 2006 census with 10,810,340 peoples of which 51% (5,958,736) are male and 49% (5,851,734) are females (National Population Commission 2006). The indigenous population is homogenous in terms of culture, language, religion etc. This homogeneity is apparent especially in the rural areas. In the urban centers however, trade and commerce are the major activities.

Population of the Study

The population of the study consists of Hausa married women between the ages of 18-49 years. This is because the study was interested in assessing the knowledge and barriers of maternal health services. The study was conducted among the Hausa women, a dominant ethnic group in northern Nigeria. The choice of this ethnic group was largely predicated on the traditional character of this patriarchal group and its attitude towards the use of maternal health services. The Hausa people constitute a significant proportion of the population in Nigeria, the largest country in Africa. The Hausa people are undergoing rapid socioeconomic change manifested in expansion of education and urbanization.

Sample Size and Sampling Methods

A sample of one thousand (1,000) married respondents was drawn from both rural and urban areas. The sample size was considered adequate due to the homogeneous nature of the population. In order to draw the sample a combination of sampling methods was employed appropriate to the sampling units. A multistage selection process was adopted involving cluster, simple random and systematic sampling methods. Selection of local government areas for the research was the first stage of the sampling process. Five local government areas were selected which include Kano Municipal, Nassarawa Albasu, Tofa and Gwale. This consists of three urban Local government areas and two locations from rural areas. The urban study locations were selected from the dominant urban center, (Kano, which is also the capital city of the state) and the areas were Gwale, Municipal and Nassarawa LGAs, while the two rural areas selected were Panda in Albasu LGA, Doka in Tofa LGA, respective settlements were considered as clusters and two enumeration areas were sampled in each of the places randomly. The enumeration areas on the average consist of two hundred households each. The enumeration areas in the urban were slightly larger than in the rural areas, and in order to ensure representation a larger sample was drawn from the urban areas. In the third stage of selection, household was sampled with systematic sampling techniques using household listing obtained from the National Population Commission.

Research Instruments

Both quantitative and qualitative data were gathered for this study. Retrospective and prospective data were gathered from the respondents regarding their knowledge of maternal health and utilization. The knowledge questionnaire was modeled after the NDHS4. Sixty-two questions were used to assess maternal health knowledge, including questions about danger signs in pregnancy and child-birth, complications, utilization of health services, and antenatal care (ANC), family planning and place of delivery. Each correct answer was given one mark and each wrong answer was given no marks. Each respondent's level of knowledge was scored on a scale of Yes or No. Respondents with a score of Yes were coded as having good knowledge, while those with No score were coded as having poor knowledge of maternal health care services. Six research assistants, mainly graduate from Bayero University Kano were recruited and trained to assist with the data collection. All the research assistants were indigenous Hausa people, familiar with the norms and values of the respondents. A subset of the research assistants translated and back translated the questionnaire into Hausa before administration. The instrument was validated by two experts in demography studies and public health. Reliability was established by administering the instrument on respondents in a neighboring Jigawa state with the same social background using test re-test procedure with a correlation estimate of .82.

Data was analyzed using SPSS version 16.0. Chi-square tests of association were done to determine the difference in respondents' levels of knowledge and utilization. Ethical approval was obtained from ministry of health Kano State and ethical and scientific committee of Bayero University Kano research committee. At each local government area, permission was obtained from the local government Chair-man. At the community level, community leaders granted permission to conduct the study. All interviews were

conducted after the study's aim was explained to the participants and their informed consent was obtained. It was emphasized that participation was voluntary, that the interviewer was not a member of the government or the hospital staff, and that the identity of all informants would remain confidential. The respondents gave verbal consent prior to being interviewed.

Data Analysis

The data collected were analyzed using descriptive statistics which includes frequency and percentages; Chi-square tests of association were done to determine the difference in respondents' levels of knowledge and utilization of maternal health services.

4.0 Results

The study presents the mean age of urban women as 28.5 years and that of rural women as 27.8 years (Table 1). The study population was primarily married (99.9%) and Muslim (90% of urban and 99% of rural). The respondents, deliberately all females, fall within the reproductive age groups 14-49years. It shows that 25.2% of the urban were 24years and below as against 35.6% of rural. Similarly, those within the age range 40-49years constitute 4.6% for urban and 3.8% for rural areas. This implies that majority of the younger women age 14 -24 years were from rural areas while 40years to 49years were from urban areas. This in agreement with previous study which shows that age is a determinant factor in knowledge of maternal mortality and is more seen in rural areas than urban setting (Ujah, 2004; Adamu, 2003). The respondents were from different ethnic backgrounds from Nigeria and neighboring countries. It shows Hausa/Fulani and other northern tribes combined constitute 86.6% and 93.6% for urban and rural areas as against 13.4% and 6.4% for southerners (Ibo, Yoruba and other southern tribes). Non-Nigerians accounted for 1% in urban area. This gives a good picture that cuts across cultural and religious backgrounds and reflects the diverse nature of Kano population.

Almost 79.8% of urban had some formal education as against 57.8% of rural women. Table 1 also indicates income distribution of respondents with mean income of N31, 668 per annum for urban and N18, 164 for rural areas, as much as 37.6% of urban respondents and 79.8% of rural have no income. 84.4% and 98.8% of respondents both urban and rural earn N80, 000 and below per annum which the study classified as poor.

Table 1: Social-Demographic Characteristics of Respondents

Age Category	Urban N=500			Rural N=500		
	N = 1000	Freq	%	Cum%	Freq	%
14y-18years	16	3.0	3.0	71	14.2	14.2
19-24years	110	22.2	25.2	107	21.4	35.6
25-29years	175	35	60.2	133	26.6	62.2
30-34years	82	16.2	76.4	61	12.2	74.4
35-39 years	954	19	95.4	109	21.8	96.2
40 – 49years	23	4.6	100	42	3.8	100
Total	500	100	500	500	100	500
Education						
No Schooling	23	4.6	4.6	37	7.4	7.4
Qur'anic Education	53	10.6	15.2	174	34.8	42.2
Adult Literacy	7	1.4	16.6	3	.6	42.8
Primary Incomplete	83	16.6	33.2	101	20.2	63
Primary complete	43	8.6	41.8	76	15.2	78.2
Secondary incomplete	75	15	56.8	59	11.8	90
Secondary complete	186	37.2	94	50	10	100
Post Secondary	30	6.0	100	0	.0	100
Total	500	100.0	500	500	100	500
Income						

No Income	188	37.6	37.6	399	79.8	79.8
N1000- 20,000	57	11.4	49	26	5.2	85
N21,0001-N40,000	45	9	58	30	6	91
N41,0001-N60,000	78	15.6	73.6	15	3	94
N61,0001-N80,000	54	10.8	84.4	24	4.8	98.8
N81,0001 – 100,000	29	5.8	90.2	2	.4	99.2
N101,0001- 120,000	49	9.8	100	4	.8	100
Total	500	100	500	500	100	500

Source: Field Work, 2012

Knowledge of health facilities

Knowledge of maternal health facilities generally show that urban and rural had extremely good knowledge of maternal health facilities and programs provided by the government with 99.0% of urban and 82.4% of rural while only 1% of urban and 17.6% of rural have poor knowledge of maternal health facilities. While overall, only 63.4% and 51.4% both urban and rural utilize health facilities and its programs. There was a statistically significant association between the respondents' level of education, income, age and their knowledge score ($p = 0.005$) for both urban and rural: knowledge of maternal health facilities was higher among those with formal education, high income and younger respondents.

Table 2. Knowledge of health facilities.

Knowledge of maternal health services N = 1000	Urban N =500		Rural N =500	
	Freq	%	Freq	%
Yes	495	99.0	412	82.4
No	5	1.0	88	17.6
Total	500	100.0	500	100.0

Utilization of maternal health services N = 1000	Urban N =500		Rural N =500	
	Freq	%	Freq	%
Yes	317	63.4	257	51.4
No	183	36.6	243	48.6
Total	500	100.0	500	100.0

Source: Field Work, 2012

Maternal health care utilizations

Table 3 shows urban and rural women's knowledge levels regarding the use of maternal health care services. 42.2% of urban and 40.2% of rural were knowledgeable and use ANC services offered at primary and/or secondary facilities in Kano state. 64.6% of urban and 33.6% of the rural said they were knowledgeable and use family planning services offered by health facilities. Only 65.8 of the urban and 31.8% of rural that was knowledgeable that hospital delivery was better than home delivery. The low level of knowledge appears to be matched by an equally low rate of patronage of health facilities for delivery and for family planning services.

Table 3. Respondents Utilization of Maternal health care services

Antenatal attendance of respondents N = 1000	Urban N=500		Rural N=500	
	Freq	%	Freq	%
Yes	211	42.2	201	40.2
No	289	57.8	299	59.8
Total	500	100.0	500	100.0

Family Planning	Urban N=500		Rural N=500	
	Freq	%	Freq	%
Yes	323	64.6	168	33.6
No	177	35.4	332	66.4

Total	500	100.0	500	100.0
Place of Delivery				
Home	151	30.2	305	61.0
Government Hospital	248	49.6	147	29.4
Private Hospital	81	16.2	12	2.4
Traditional birth attendants place	20	4.0	36	7.2
Total	500	100.0	500	100.0

Source: Field Work, 2012

Demographic factors affecting Knowledge of maternal health services

Age at marriage plays a significant role in knowledge of maternal health services and the age in which girls are given out in marriage is an important determinant of their future lives and health. In rural Kano, early marriage is a rule rather than exception. The respondents were asked about age at first marriage. 3.4% and 75% of urban and rural respondents married at less than 18 years of age while the remaining 96.7% of urban respondents married 18 years and above as against 25% of rural respondents. It shows that ages 12 – 17 years are the prime age of marriage for girls in rural areas in the study area while urban areas 18 years and above is the ideal age. This implies that under normal circumstances, all girls could be married, between the ages of 12 to 17 years in the rural areas. This is in agreement with other studies that show young pregnant women are eager to attend maternal health services in fear of obstetric complications as compared with older women that might be used to procedure of child delivery (Chiwuzie and Okolocha, 2001; Audu and Ekele, 2002).

For women aged 15 to 19 years in Africa, delivery is the leading cause of death through Obstructed and Prolonged Labor making a woman unable to give birth vaginally due to malpresentation of the fetus, cephalopelvic disproportion, or other reasons and mostly affects the poor (Maternal health Brief, 2010). Most women in Nigeria generally have no option of a cesarean section birth to avoid potential injury or death for themselves and the fetus. Yet throughout much of the developing world, women do not have free access to physicians, especially physicians trained to deal with obstructed labor. Obstructed labor can lead to uterine rupture, vaginal tears, the formation of an obstetric fistula, and fetal asphyxia. The incontinence of urine (and sometimes feces) caused by a fistula can produce a foul odor and lead to feelings of shame or humiliation. Other injuries that can be caused by prolonged obstructed labor include renal failure, pelvic inflammatory disease, infertility, and neurological injuries, including a condition called foot drop caused by nerve damage to the lower spine (Maternal health Brief, 2010). Parity at one to two children shows the respondents with 16.2% of urban and 14.6% of rural. Table 4 shows 84.0% of urban respondents had six children and below compared to 71.8% of rural respondents, the remaining 16% of urban and 28.2% of rural had seven and above children. Due to early marriage respondents are exposed to early sexual life and prolong fertility causing high parity and exposure to obstetric complications. There is no much difference in terms of number of children between urban and rural area in the study area, this has proved the relevance of child birth and children in the study area in agreement with previous studies in Northern Nigeria which shows preference for large family for different reasons (Adamu, 2003; Galadanci, 2011). There was a statistically significant association between age at marriage, parity and husband's income score ($p = 0.005$) for both urban and rural with knowledge and utilization of maternal health services: showing increasing utilization of maternal health services among younger women, low parity women and women with high income husbands.

Table 4: Demographic factors affecting knowledge of maternal health care services

Age at marriage of respondents N = 1000	Urban N=500			Rural N=500		
	Freq	%	Cum %	Freq	%	Cum%
12years-14years	4	.8	.8	137	27.4	27.4
15 years -17years	13	2.6	3.4	238	47.6	75
18years -20years	185	37.0	40.4	119	23.8	98.8
21 and above	298	59.6	100	6	1.2	100
Total	500	100.0		500	100.0	

Parity						
1 -2 child	81	16.2	16.2	73	14.6	14.6
3 – 4 children	191	38.2	54.4	151	30.2	44.8
5 – 6 children	148	29.6	84	135	27	71.8
7 – 8 children	55	11	95	106	21.2	93
9 and above	25	5	100	35	7	100
Total	500	100.0		500	100.0	
Husbands Income						
No Income	15	3.0	3.0	3	.6	.6
N5,000-N20,000	32	6.4	9.4	30	6.0	6.6
N21,000-N40,000	51	10.2	19.6	44	8.8	15.4
N41,000-N60,000	67	13.4	33.0	69	13.8	29.2
N61,000-N80,000	74	14.8	47.8	74	14.8	44.0
N81,000-N100,000	92	18.4	66.2	80	16.0	60.0
N101,000 – N120,000	169	33.8	100	200	40.0	100
Total	500	100.0		500	100	

Source: Field Work, 2012**Barriers and Utilization of Maternal health services**

Table 5 presents the respondents used of antenatal care services during pregnancy, 42.2% and 40.2% for urban and rural areas utilized antenatal care services. The responses show that there is acceptance of antenatal care both for urban and rural areas, i.e. it is a program accepted by both groups. But when asked why not attend antenatal care for those that don't attend, the major reason in rural areas was husband's refusal giving 69.1% while, lack of sickness came first with 81.1% for urban areas with the belief that only when a pregnant woman is sick that warrants hospital attention. Other reasons in rural areas were health clinic too far with 48.4%, followed by lack of money with 16% coming third while. In urban areas distance to health facility came second with 31.4% and lack of money came third with 16.4%. Quality of care is an important consideration in the decision to seek care. The study found that where potential patients have access to more than one facility, their perception of the quality of care offered at these facilities often takes precedence over concerns about distance. This is also illustrated in a study in Guatemala highlands where it was found that government health posts seemed to be conveniently located, yet that proximity did not guarantee utilization, probably because the facilities were understaffed and underequipped and thus unable to provide quality care (Mwabu, 1986). Distance here, may not necessarily be restricted to mean physical separation, it may as well be seen as cost or in terms of social relations perhaps with the health workers. The findings of this study are not in conformity with that assertion since the respondents are not concerned about the quality of care but distance to health facility, lack of money and cultural influence hindering utilization.

The distribution of respondent's place of delivery for urban and rural areas show that about 30.2% of respondents delivered their children at home for urban areas while 61.0% delivered at home for rural areas. In addition 34.2% of urban women delivered at home or traditional birth attendants place as against 68.2% for rural women. 65.8% of the urban women delivered in hospitals while only 31.6% of the rural women did the same. This shows that even though hospital delivery is most preferred, urban women also delivered at home but more in government hospital as compared to rural women. This finding conforms to those of Galadanchi (2011), Yahaya (2004), and NDHS (2008), UNICEF (2006) UNFPA (2008) who revealed similar findings in their studies. Furthermore, when respondents were asked to state where they prefer to deliver their subsequent children when pregnant, 31.6% of urban women prefer home and traditional birth

attendant's places as against 46.8% of rural women. In addition, 67.4% of urban women may prefer to deliver in hospitals compared to 49.2% of rural women. As much as 27.2% of urban prefer to give birth at home, compared to 44.6% for rural women. This is inconsistent with works of Adetoro et al, (2007); Adamu (2003), NDHS (2008), Audu and Ekele (2002), Onuh and Aisien (2004), Wall (1998), UNFPA (2008), Galadanchi (2011) who reported similar findings. Responses on family planning showed 64.6% for urban and 33.6% for rural respondents agree to have used family planning. This agreed with other studies which showed the use of family planning is more practiced in urban areas (Ujah et al, 2004; Adamu, 2003).

In addition, when respondents were asked why some women do not practice family planning, 67% of urban complained of no reason and lack of money as against 53% of rural respondents. Husband and relative refusal had 21.6% for urban compared with 36.2% of rural respondents, the remaining 11.4% of urban and 15% of rural was due to religious reasons. Almost half of the women did not give any reason for not using family planning. This study shows that the major obstacle to family planning is "no reason", husband's refusal, religious or cultural norms and practices. When asked what methods of family planning are used by the respondents, 52.8% of urban women used injections and pills as against 31% of rural women. 36.4% of urban did not use any method compared to 65.4% of rural women. The remaining 10.8% of urban and 3.6% of rural used five different methods. Therefore, majority of women both urban and rural areas do not use family planning and for those that used injections is the most method used. The table also shows decision making participation; urban women have more freedom to decide on health issues as compared with rural women, being free having 44.0% of urban women having joint decision as compared with 35.8% of rural women. Distance to health facilities is a known barrier in health utilization, about 22.2% of urban as against 79.6% of rural could not assess maternal health services because of distance to health facilities.

Table 5. Barriers to maternal health care utilizations

Why not attend maternal service? N = 1000	Urban			Rural		
	Freq	%	Cum%	Freq	%	Cum%
No Money	78	15.6	15.6	67	13.8	13.8
No reason	257	51.4	67	196	39.2	53
Husbands refusal	82	16.4	83.4	106	21.2	74.2
Relatives refusal	26	5.2	88.6	54	10.8	85
Religion reasons	57	11.4	100	75	15	100
Total	500	100	500	500	100	500
Health decision making						
Not free	280	56	321	64.2		
Some how free	159	31.8	147	29.4		
Free	61	12.2	32	6.4		
Total	500	100	500	100		
Distance to health facility						
Not Far		97	19.6%	116	23.0	
Far		398	80.4%	389	77.0%	
Total		495	100.0%	505	100	

Source: Field Work, 2012

5.0 Discussion

This study found a high percentage of urban and rural having good knowledge of maternal health services. Findings also revealed that both urban and rural respondents have a good knowledge of the range of services offered in health facilities in Kano state. The purpose of the study was to explore knowledge and utilization of maternal health care services among married women in Kano state. Specifically, we investigated the link between knowledge of maternal health services and utilization of maternal health care services. Antenatal care is considered a key entry point for pregnant women to receive a broad range of health promotion and disease preventive services (Becker et al, 1993; Adamu et al, 2003). In this era of HIV/AIDS, it provides an opportunity for prevention of mother to child infection and promotes use of skilled assistance at delivery. Despite the benefits of ANC visit, majority of pregnant women in Kano do not seek antenatal care. This could be due to their low social status and the fact that many of them are influenced by cultural and religion misconceptions (Sunil et al, 2006; Advocacy Brief, 2007). Urban areas are usually characterized by better use of maternal health services, given their infrastructural advantages compared to rural areas. Results from this study confirm this advantage, but with no statistical significance. Antenatal care is free in Kano and Nigeria in general (Abuser, 2006), therefore rural and urban women have an almost equal opportunity of getting the services thus explaining the observed weak relationship. Women from rich households seek antenatal care more than those from poor households. The study shows social status and distance are barriers to seeking antenatal care especially among poor women who cannot access free government health facilities or transportation fee to health facilities; rich women have other advantages such as access to information. This association has been confirmed elsewhere where low socio-economic status and under-utilization of maternal health services were found to be interlinked (Hounton et al, 2008; Igberase and Ebeigbe, 2006). Women with formal education were seen to receive antenatal care services more than those without education. The first possible explanation is the fact that the proportion of women with no education is low compared to that of women with formal education. Less education is associated with increased chances of early marriage, which is likely to provide access to health care services geared towards married women. In their study, Ujah et al, (2004) found that women with less education have a reduced risk of neonatal mortality due to benefits associated with family formations. The effect of residence was evident with urban women receiving ANC more compared to women from rural areas. This residence advantage could be due to traditional beliefs and cultural practices specific to the different groups making urban women assumed that they benefit from the flow of information on the benefits of ANC (Ejembi et al, 2004; Galadanci et al, 2011).

The study also confirms findings in other studies that higher parity women are less likely to attend antenatal care (Glei et al, 2003; Lambo, 2003). Women aged 20-24 were shown to receive antenatal care more than older groups although this difference was not statistically significant. This could be due to the fact that there are no major differences between women aged 14-17 and 20-24. Women with 1 to 3 children receive antenatal care more than those with high parity 4 – 7 children. This advantage could be due to the support married women receive from husbands, and the health delivery system that tends to favor younger married women over older married women (Simkhada et al, 2008).

Our findings reveal that 44.2% of the young women use skilled professional assistance at hospital during delivery as against 32.1% of older women. This finding supports those of several studies which confirmed that younger women beginning child bearing tend to fear home deliveries as they consider themselves a high risk group. As a result, such young women seek professional assistance from skilled professionals in hospitals (Filippi et al, 2009; Röst et al, 2004). Considering the higher risks young women face during pregnancy and childbirth, the results of this study can not be interpreted to mean that young women are better users of skilled professional assistance (Williams, 1995;). It is estimated that maternal deaths during birth are 2-4 times higher among young women, and babies born to them have a higher risk of death during the neonatal period due to low birth weight, compared to older women (Adetoro et al, 2007; Adamu and Salihu, 2002). One of the reasons that have often been advanced for the lower coverage of skilled and institutional delivery compared to antenatal care coverage is the unpredictable nature of the onset of labour in the face of difficulty in accessing health facilities in resource-poor environments especially rural areas

AbouZahr and Wardlaw, 2001;Ladipo, 2006). Many rural communities in sub-Saharan Africa are examples of such environments, with the characteristic poor road networks, limited transportation means and underserved population in terms of health facilities. Our study supports such an explanation considering that the average number of residents per PHC is a more significant predictor of use of skilled assistance for delivery than of use of antenatal care.

A number of socio-economic and demographic factors had significant influence on use of skilled professional assistance at delivery. Urban young women were found to use skilled professional assistance compared to rural young women. Some advantages that urban women have over their rural counterparts are higher levels of knowledge, access to services, education and health promotion programs that use urban-focused mass media, thus leaving out their rural counterparts who may be largely influenced by traditional practices (Adetoro et al, 2007;Audu and Ekele ,2002). As expected, educated young women were better users of skilled professional assistance. This is consistent with findings elsewhere (Sunil, Rajaram and Zottarelli, 2006; Hounton et al, 2008; Simkhada et al, 2008; Stekelenburg et al, 2004). Educated women have higher autonomy to make decisions on the quality of health care they receive (Nigeria Federal Ministry of Health, 2005; Harrison, 1997; Nigerian Central Bank, 2004).The self-perception of being fundamentally separated from "others", meaning those who utilize health care, was typical for women who customarily delivered at home and who delayed seeking medical assistance for obstetric emergencies. Other explanations given by these women were husband refusal, distance to health facilities, religion misconception and cultural factors, all of which reinforced their dissociation from the health-care system.

The study findings indicate that programs to improve maternal healthcare have not succeeded in overcoming the socioeconomic obstacles in the way of married women' utilizing maternal health services. In the long run, the content and service delivery strategy of maternal health programs must be designed in keeping with husband's exposure to effect of non utilization of maternal services and the socioeconomic context with special attention to married women who are uneducated, poor, and residing in rural areas

6.0 Conclusions

It was found averagely about 68% of married women had at least four ANC visits, a little over 35% had undergone safe delivery care, and nearly 28% both urban and rural practice family planning. Women's education, distance to health facility, wealth quintile, religious misconception, cultural believes and residences were documented as the most important factors associated with maternal health care services and utilization. The antenatal care visit was found to be vital in the utilization of safe delivery and family planning practice in Kano state. The findings also illustrate health care-seeking behavior as a practice that is substantially conditioned by social differentiation.

Limitations and implications for further research

Limited by a cross-sectional design, this study did not take into consideration the fact that some of the women were unable to contribute for more puzzling findings. It is possible that the question was not conveyed in a clear enough manner, or that the investigators failed to probe in a way that revealed respondents true feelings and levels of knowledge. The community members may have also misinterpreted questions such as: "Do you know about any methods women can use to prevent getting pregnant if they would like to rest between births" to mean "Do you have any personal experience with using contraceptives..."

Conflict of interests

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