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Utilization of Antenatal Care in Ibadan North Local Government Area, Oyo State, Nigeria

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ABSTRACT

The study examined the utilization of antenatal care centres in Ibadan, Oyo State. The aim of the study was to evaluate the utilization of antenatal care centers among child-bearing women in Ibadan North Local Government Area, Oyo State, Nigeria. Data for the study were obtained through the administration of two hundred and thirty-one copies of questionnaire to child bearing women. Data obtained was analyzed using tables, simple percentages and multiple regression analysis. Result indicated that 6.3% of the utilization of ANC by childbearing women was explained by age, cultural preference, income, education, religion, marital status and occupation. The strength of contribution of each of these selected factors showed that mother's education had the greatest contribution (0.227) to the utilization of ANC, followed by cultural preference (0.131), income (0.092), marital status (0.083) and mother's occupation (0.070). The ANOVA result further revealed that age, culture, income, education, religion, marital status and occupation significantly influenced the utilization of ANC by child-bearing women ($F = 2.141$, $p<0.05$). The study therefore, revealed that though the utilization of ANC centres was low but the combination of socioeconomic and demographic variables significantly influenced their utilization by child-bearing women. Based on the findings of the study, it was recommended that government and other sponsoring agencies should provide antenatal care free or subsidize the charges in order to guarantee easier access to ANC by childbearing women.

Key words: Antennal care, utilization, socioeconomic characteristics, childbearing women

INTRODUCTION

Despite the need and availability of antenatal care, its utilization by pregnant women is low, leading to the high rate of maternal morbidity and mortality. In most Nigerian communities, expectant mothers prefer to put to birth at homes and this has implications on the health of mothers and infants. It is not uncommon to hear or find cases of maternal complications and subsequent death due to the ineffective utilization of ANC by expectant mothers. The high rate of deaths of women during pregnancy, childbirth or in the immediate postpartum period is due to different influencing risk factors. These are directly linked to socioeconomic, reproductive and health service factors. The general socioeconomic status of mothers, ability of women to manage resources and make independent decisions about their health has an impact on reduction of maternal mortality (Addai, 2000).

Lack of education and poor knowledge of maternal health care has contributes to delays in seeking care during pregnancy and child birth. Poverty is one of the major health determinants. Poor mothers are at high risk of developing pregnancy related complications, because they are not financially able to pay for the required services (UNFPA, 2006; Wagstaff, 2002).

Almost, all maternal deaths that occur in low and middle-income countries are mainly among the poorest of the poor (Adedotun, 2010). In addition, lacks of access to emergency obstetric care and delay for emergency referral have contributed to high maternal mortality in the area. Obstetrics complications are able to be treated in health institutions that are sufficiently equipped with supplies (WHO, 2009) medications and fully staffed with capably trained health professionals but in the area of study such facilities are not available thereby subjecting pregnant women to their faith which in most cases result in deaths. Indeed, all pregnant women are at risk of developing complications during any time of their pregnancies, deliveries and postpartum periods. Most of the obstetric complications cannot be predicted but can be prevented and treated if women have access to appropriate health care, it is on this premise that this study intends to evaluate the utilization of antenatal care centres among child-bearing women in Ibadan North L.G.A., Oyo State, Nigeria.

MATERIALS AND METHODS

Study area: Ibadan North Local Government Area is located approximately on longitude 8°5' East of the Greenwich meridian and latitude 7°23' North of equators. According to the 2006 population census (provision result); it has a proportion of 306,763 The male population is given as 153,039 and female population as 153,756 (source ERN (National Bureau of Statistics)). Ibadan North Local Government Area comprises 12 wards. This local government consists of multi-ethnic nationalities predominantly dominantly by the Yoruba, Igbo, Edos, Urhobos, Itsekiris, Ijaws, Hausas, Fulani and foreigners who are from Europe, Asia and other parts of the world. The inhabitants are mostly traders, university and polytechnic lecturers, civil servants, students etc. The Local Government also houses several educational institution such as the premier university (university College Ibadan), University College Hospital (College of Medicine), The Polytechnic Ibadan and several private and public secondary and primary schools. This advantage puts Ibadan North Local Government Area ahead of other Local Government Areas in the aspect of educational facilities (Fig. 1).

The Local Government Area also houses several health care centers such as University College Hospital, Jaja health care centers, Adeoyo Hospital and several Maternity Centres and dispensaries. The establishment of all these heath-care facilities in the Local Government Area is due to the sensitivity of government to the healthy care of people resident within the boundaries of the local Government Area. Nevertheless, as a result of the high level of fertility among the women in the study area, there has been the establishment of antenatal and health care delivery centers. Among which includes Adeoyo General Hospital, Oni and sons, Group medical, Ajaigbe Traditional Healing Centre, Oyarebu Ozege Memorial Traditional Hospital, Oluwa-keyin spiritual Healing Home and other primary health care and specialist hospital in and around the Local Government area. However, due to high rate of maternal mortality in the area, there is doubt on the efficiency and effectiveness of this delivery centers in the study area.

This study employed the multi-stage sampling technique involving three steps. In the first step, ante-natal centres normally utilized by childbearing women were selected which included government hospital, private hospital, mission homes and traditional/herbal centres. In the second stage, two ANC centres were randomly selected from the government hospital, private hospital, mission homes and traditional centres. Thereafter, two hundred and forty childbearing women were

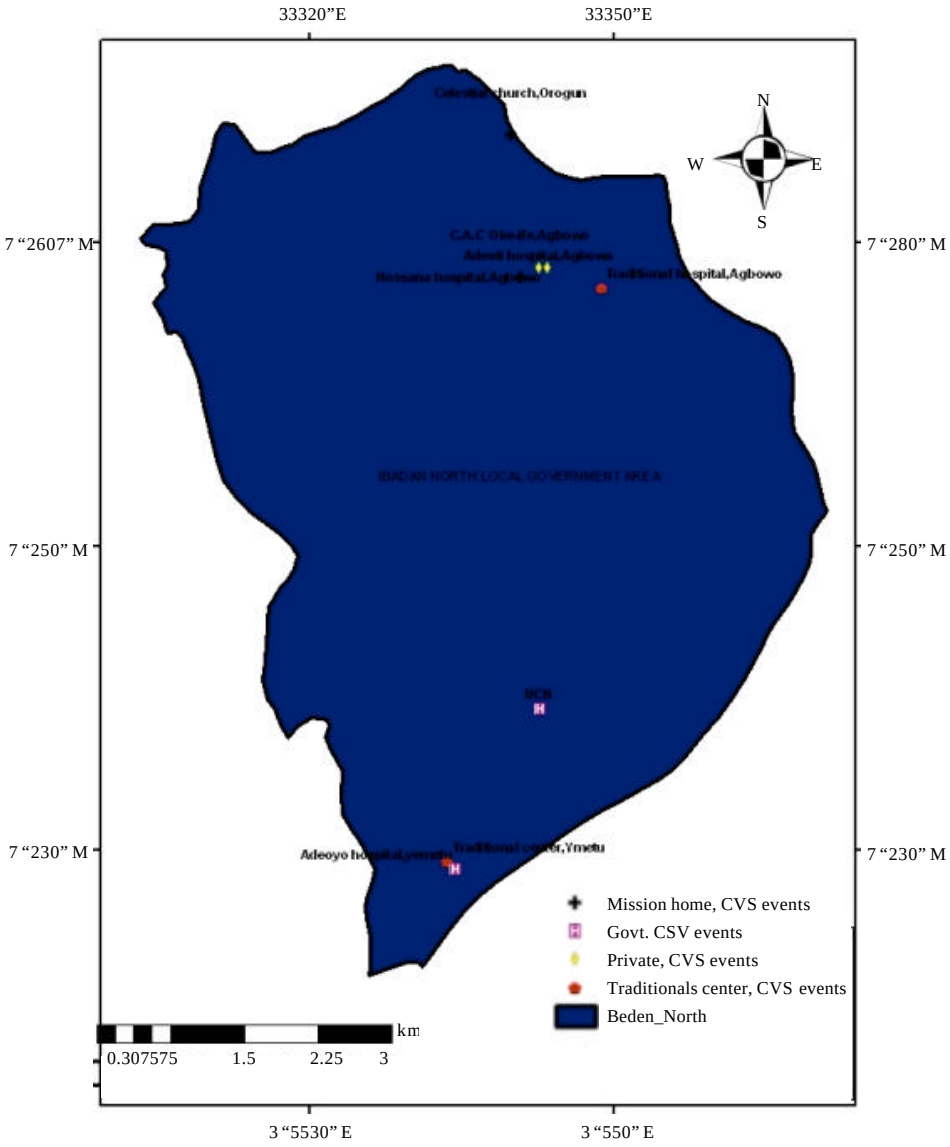

Fig. 1: Sampling antenatal care centres in Ibadan

purposively sampled across the eight selected ANC centres (i.e., 30 childbearing women were selected from each of the 8 centres). The fourth step of the survey involved the administration of questionnaire using accidental sampling techniques. This technique was chosen due to the problem of gathering or having the entire population of women at the same time. Responses obtained from the questionnaire mostly on socioeconomic and cultural characteristics of childbearing women as well as on utilization were transformed to dummy variables for statistical analyses (multiple regression analysis). The researchers personally visited the four ANCs and the research instrument (questionnaire) was self administered by hand to every childbearing woman. However, at the end of the survey, two hundred and thirty-one copies of questionnaire were used for analysis; nine were voided due to multiple responses and non-response.

Data analysis: Data obtained from the questionnaire were analysed using tables, simple percentage and multiple regression analysis. In order to effectively carryout these tests, items in the questionnaire were coded for descriptive analysis and thereafter transformed or recorded into dummy variables. After these transformations, inferential analyses were applied. Analysis was carried out with the aid of SPSS (17.0) software for windows.

Analysis of the influence of different variables on ANC utilization: The effects of age, cultural preference, income, education, religion, marital status and occupation on the utilization of ANC by child-bearing women were tested using multiple regression analysis. The model is mathematically presented as:

$$Y = a+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7$$

Where:

Y = Utilization of ANC by childbearing women
X_1 = Age of childbearing women
X_2 = Cultural preference
X_3 = Income level of childbearing women
X_4 = Educational background of childbearing women
X_5 = Religion of childbearing women
X_6 = Marital status of childbearing women
X_7 = Occupation of childbearing women
b_1-b_7 = Are regression coefficients
a = Is Y-intercept

RESULTS AND DISCUSSION

Socio-cultural and economic characteristics of childbearing women: Table 1 gives information on the socio-cultural and economic determinants of the ANC among childbearing women. A total of 231 childbearing women were involved in the study. The table shows that the age range of the women was 18-45 years, majority of them were within 31-45 years of age (74.5%) while 25.5% representing 59 childbearing women were within the ages of 15-30 years. Two hundred and twenty (95.2%) were married while 4.8% were single. Majority (61.5%) of the childbearing women was Christians, 38.5% were Muslims and none practiced the traditional religion. Information on the education of childbearing women depicts that forty-one (17.7%) had no formal education, 21.6% had primary school education, 29.9% had post-primary education, 28.1% had post-secondary education while 2.6 had additional qualifications. The occupational information of childbearing women shows that majority, one hundred and fifteen (49.8%) were traders while 50.2% were farmers, civil servants, cleaners, teachers among others.

The education and occupation of husbands depicts that 79.7% were educated while 20.3% had no formal education; in addition, occupation of husbands reveals that 40.7% were traders, 18.6% were civil servants and 29.9% were drivers, technicians, engineers among others. Information on cultural preference of ANC shows that ANC is generally acceptable while income shows that one hundred and eighteen (51.1%) earn less than N10,000 monthly. The information in the Table 1 implies that majority of the childbearing women as well as their husbands are literates as such

Table 1: Socio-cultural and economic characteristics of childbearing women

Ages	15 -30 year	31 -45 year	>45 year			
	59(25.5)	172(74.5)	0 (0)			
Marital status	Single	Married	Divorced			
	11(4.8)	220(95.2)	0 (0)			
Religion	Christianity	Islam	Others			
	142(61.5)	89 (38.5)	0(0)			
Education	No education	Primary	Secondary	Tertiary	Others	
	41 (17.7)	50 (21.6)	69 (29.9)	65 (28.1)	6 (2.6)	
Occupation	Farming	Trading	Civil service	Teaching	Others	
	3 (1.3)	115(49.8)	40 (17.3)	16 (6.9)	57 (24.7)	
Husband's education	No education	Primary	Secondary	Tertiary	Others	
	417 (20.3)	31 (13.4)	64 (27.7)	83 (35.9)	6 (2.6)	
Husband's occupation	Farming	Trading	Civil service	Teaching	Others	
	3 (1.3)	94(40.7)	43 (18.6)	22 (9.5)	69 (29.7)	
Iucome	<N10, 000	N10,000-N20, 000	N21, 000- N30, 000	N31, 000-N40, 000	N41, 000-N50 000	>N50,000
	118 (51.1)	48 (20.8)	24 (10.4)	17 (7.4)	17 (7.4)	7 (3)
Cultural preference	Forbids ANC	Accepts ANC				
	2(0.9)	229(99.1)				

Source: Fieldwork (2011); values in bracket are percentages

have one form of awareness or the other on the relevance of centres during pregnancy. It also depicts that ANC is acceptable across different cultures as a way to safeguard the lives of women and their babies during pregnancy.

Influence of age, cultural preference, income, education, religion, marital status and mother's education on anc utilization: From Table 2, the result shows there is a weak multiple correlation (0.25) between the socioeconomic and demographic background (age, culture, income, education, religion, marital status and occupation) of childbearing women and the utilization of ANC. The coefficient of multiple determinations (R^2) indicates that 6.3% of the changes in the utilization of ANC is accounted for by the combination of the above set of socioeconomic and demographic variables of childbearing women.

From Table 3, despite the low percent (6.3%) utilization of ANC, the ANOVA result indicates that age, culture, income, education, religion, marital status and occupation significantly influence the utilization of ANC by child-bearing women. This decision is consequent upon the fact that the calculated F-ratio of 2.141 is greater than the p-value of 0.041 at 5% significance level under 7/223° of freedom; with this, the null hypothesis that age, culture, income, education, religion, marital status and occupation do not significantly influence the utilization of ANC by child-bearing women is rejected and the alternate hypothesis accepted. Hadi (2003) studied factors influencing the use of maternal healthcare services in Bangladesh and reported that demographic and socio-cultural factors were the most important aspects that influenced the use of maternal healthcare services included education of mothers, marital status, place of residence, parity and religion. However, this did detract from the relevance of service related factors, especially in the rural area of the developing countries.

Table 4 gives information on the significance of the predictor variables in influencing utilization of AN. Among the seven set of predictor variables, only education ($t = 2.666$, $p<0.05$) and cultural

Table 2: Model summary

Model	R	R square	Adjusted R square	SE of the estimate
	0.251	0.063	0.034	0.430

Source: SPSS Window Output Version 17.0

Table 3: ANOVA result on the effect of socioeconomic and demographic variables on the utilization of ANC

Model	Sum of squares	df	Mean square	F	Sig.
Regression	2.766	7	0.395	2.141	0.041
Residual	41.165	223	0.185		
Total	43.931	230			

Source: SPSS Window Output Version 17.0

Table 4: Significance of the socioeconomic variables (coefficients)

	Unstandardized coefficients		Standardized coefficients		
Model	B	Std. error	Beta	t	Sig.
(Coustant)	0.883	0.277	3.191	0.002	
Age	-0.009	0.065	-0.009	-0.137	0.891
Marital status	0.122	0.099	0.083	1.230	0.220
Religion	-0.009	0.059	-0.010	-0.148	0.883
Education	0.088	0.033	0.227	2.666	0.008
Occupation	0.024	0.023	0.070	1.032	0.303
Income	0.028	0.026	0.092	1.068	0.287
Cultural preference	0.154	0.078	0.131	1.961	0.051

Source: SPSS window output version 17.0

preference ($t = 1.961$, $p<0.05$) happened to be significant in influencing ANC utilization among childbearing women, this means that mother's occupation directly influences the utilization of ANC, as the utilization of ANC by childbearing women tend to increase with increasing level of education. That is, awareness which comes in different form such as education influences the decision and choice of childbearing women to ANC. In addition, cultural preference reveals that the utilization of ANC increases with cultural acceptance and vice versa. The remaining variables are individually insignificant in influencing the utilization of ANC. The t-values for these set of predictor variables are age ($t = -0.137$, $p>0.05$), marital status ($t = 1.230$, $p>0.05$), religion ($t = -0.148$, $p>0.05$), occupation ($t = 1.032$. $p>0.05$) and income ($t = 1.068$, $p>0.05$).

The strength of contribution of each selected factors are ranked using the product of standardized regression coefficients (Beta), from these results, mother's education has the greatest contribution (0.227) to the utilization of ANC, followed by cultural preference (0.131), income (0.092), marital status (0.083) and mother's occupation (0.070). This further implies that a unit increase in mother's education holding every other variables constant, will result in 0.227 or 27.7% unit increase in the utilization of ANC centres by childbearing women; also a unit increase in cultural preference holding other variables constant, will result in 0.131 or 13.1% unit increase in the utilization of ANC and so on for predictor variables with positive signs. However, predictor variables with negative signs indicate an inverse relationship with the utilization of ANC, for instance, a unit increase in age of mothers holding every other variables constant, will result in -.009 or 0.9% unit decrease in the utilization of ANC centres.

Based on the analysis, this study has proven that though the utilization of ANC and delivery centres is low but the combination of socioeconomic and demographic characteristics significantly

influence the utilization of ANC by child-bearing women. However, among the predictor variables, mother's education and cultural preference exert significant influence on ANC utilization among childbearing women which implies that mother's occupation directly influences the utilization of ANC, as the utilization of ANC by childbearing women increases with increasing level of education and vice versa. In addition, the result of multiple regression reveals that cultural preference significantly determines the utilization of ANC because cultural acceptance, determines its patronage. The result of this study is consistent with previous findings of Assfaw (2010) and Iyaniwura and Yussuf (2009); that formal education has a positive effect on the use of ANC services, because educated women are more likely to receive ANC during pregnancy, have more frequent visits and make use of health facilities for delivery than the uneducated as a result of perceived health risk of non-utilization.

Though, income in this study is insignificant but influences 9.2% increase in the utilization of ANC and delivery services. Iyaniwura and Yussuf (2009) observed that some women took pre-natal care in the health care facilities and deflected to places they could get free delivery, in churches, traditional birth attendants, among others. Women in urban areas are more likely to have access to higher income. Income levels are low due to low market potentials in the rural areas. Indeed, low socio-economic status of nursing mothers was found to be an important factor for the selection of alternate places of delivery. A possible explanation to our finding is that poor mothers are unlikely to afford the cost of transport and other medical costs. Even though, the service in the health post is given free of charge, it incurs costs when complicated delivery arises.

CONCLUSIONS

Based on the findings of this study, the following summaries are made: that age, culture, income, education, religion, marital status and occupation significantly influence the utilization of ANC by child-bearing women. Majority of childbearing women are aware of ANC centres and have utilized one in their present or last pregnancy. The result of this study has shown apparently that childbearing women are aware of the need for antenatal care and assistance during labour. A majority of them use orthodox health facilities for ANC and delivery services but a negligible proportion still uses non-medical institutions. The major factors that deter women from using utilizing ANC centres include non-affordability (income) and distance. Age, culture, income, education, religion, marital status and occupation are enabling factors for utilization of these services. Based on these results, the need for special effort and attention to improve formal education and awareness for mothers and girls, especially at the secondary education is strongly recommended. In addition government should subsidize the charges of obtaining ANC in order to effectively redistribute income, thereby increasing the level of utilization to available ANC centres.

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