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# SOCIO-DEMOGRAPHIC VARIABLES AS PREDICTORS OF ACCESSIBILITY AND UTILIZATION OF MATERNAL HEALTH INFORMATION AMONG WOMEN IN LAGOS, NIGERIA.

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# **SOCIO-DEMOGRAPHIC VARIABLES AS PREDICTORS OF ACCESSIBILITY AND UTILIZATION OF MATERNAL HEALTH INFORMATION AMONG WOMEN IN LAGOS, NIGERIA.**

## **Abstract**

*The rate of maternal mortality and morbidity in Nigeria had continued to be alarming notwithstanding government's institution of intervention programmes focused on enlightening women on the need for prenatal care, postnatal care, family planning, and essential obstetric care. The need to find a lasting solution to this problem calls for a study that is not just focused on the medical factors but examines socio-demographic factors that are likely to predict access and utilization of maternal health information. The Objective of this therefore is to determine socio-demographic variables as predictors of accessibility and utilization of maternal health information, including maternal health knowledge among women in Lagos, Nigeria. The survey research method with purposive sampling technique was adopted in the study. Questionnaire was the instrument used for data collection. Data collected were analyzed using both descriptive and inferential statistical methods. The theoretical framework for this study was anchored on Andersen Healthcare Utilization Model. The results revealed that socio-demographic variables studied jointly predicted access to and utilization of maternal health information, including, maternal health knowledge among women in Lagos. The variables also jointly have positive significant relationship with accessibility, utilization and maternal health knowledge of the women. Another finding is that the socio-demographic variables, taken together, contributed most to utilization of maternal health information out of the three dependent variables. The study established that educational status, marital status and age are the three key predictors of accessibility and utilization of maternal health information including, maternal health knowledge.*

**Keywords:** Maternal health, Maternal health information, Maternal mortality, Socio-demographic variables, Information accessibility, Information utilization, Maternal health knowledge.

## **Background to the study**

The growing concern on improving maternal health globally has created a demand for research especially in areas that will establish the causative variables and proffer solution to the problem of high mortality and morbidity rate experienced in the developing nations. Maternal health, which is the physical well-being of a woman during pregnancy, childbirth, and postpartum period (Fadeyi, 2007; WHO, 2011), has been a major concern of numerous international summits and conferences since the late 1980s. Several bodies such as; Non-Governmental Organizations (NGOs), government health ministries and international organizations like; WHO and UNICEF have adopted many strategies in an attempt to improve maternal health outcomes around the world through the provision of maternal and child health (MCH) programmes. These programmes were packaged to enhance women's access to maternal health services and

information by emphasizing the need for prenatal care, postnatal care, family planning, and essential obstetric care (Lubbock and Stephen, 2008).

In the developing nations, pregnancy and child birth related complications have been the major causes of maternal death and these deaths are attributed to inadequate access to appropriate health care and information needed for safe pregnancy and delivery by most pregnant mothers (UNICEF, 2014). The same source indicated that maternal mortality rate in Nigeria specifically, has continued to be alarming as it has been rated as the second worst in the world with about 144 girls and women dying everyday from complication of pregnancy and child birth. This situation is disheartening as it does not only affect the family involved but has a great effect on the society as a whole. Worrisome for example, is the report by Arogundade (2018), which indicated that Nigeria is the highest contributor to maternal mortality in Central and West Africa and contributes 14% to the annual global mortality rate. The maternal mortality ratio per 100,000 live births for 2016 was 814 compared to 319 for Ghana and 138 for South Africa (Index Mundi, 2018).

Access to maternal and child health information has been described by Silali and Owino (2016) as the knowledge communicated or received concerning particular circumstances of preventive, curative or palliative health care. In the context of this work, access to maternal information refers to the openness, convenience, proximity to, ease of locating and obtaining maternal health information. Access and utilization of quality and reliable maternal health information could empower women to easily satisfy their health care needs and by extension help in decreasing morbidity and mortality rates. Ahmad, Bakar, Yasr and Alhadri (2009) documented that globally over 80% of community households have limited access to effective, reliable, efficient and quality Maternal & child health information, especially in Sub Saharan Africa. This has led to challenges and difficulties in preventing and eradicating some avoidable or treatable illnesses, including maternal deaths which would have easily been curbed by simply dissemination information about them.

Access and utilization of maternal health information which is a necessity for maintaining healthy maternal lifestyle could be hampered by socio- demographic factors such as age, marital status, educational status, occupation and ethnic group. Hence, reduction of maternal mortality and morbidity requires a multidimensional approach that pays attention to both medical and socio-demographic factors associated with increasing vulnerability among women. It is essential to note that the issue of maternal mortality and morbidity in Nigeria has been attributed to both medical and social factors and it is believed that the way out should be to deal with all factors simultaneously (HERFON, 2006). The emphasis here is that while availability of health care service is important for good maternal health, other elements such as the socio-demographic characteristics of the women should not be ignored as they could affect the extent of access and use of maternal health information, thus, militating against healthy pregnancy and resulting in maternal mortality and morbidity. Several studies have been carried out in the area of maternal health. While majority of them have concentrated on the medical factors that affect maternal health, few others have focused on the socio-demographic factors related to maternal health care use (Falkingham, 2003; Ogujuyigbe and Liasu, 2007 and Zuzulya, 2010). No

attention has been paid to relationship of socio-demographic variables with access and utilization of maternal health information in achieving reduction of maternal mortality and morbidity. This study therefore is concentrated on filling this gap in literature.

### **Objective of the study**

The general objective of this study is to determine socio-demographic variables as predictors of accessibility and utilization of maternal health information, including maternal health knowledge among women in Lagos, Nigeria.

The specific objectives are to:

1. establish the relationship between socio-demographic variables and accessibility of maternal health information among women in Lagos
2. determine the relative contribution of socio-demographic variables on the utilization of maternal health information among women in Lagos
3. establish the contribution of socio-demographic variables on maternal health knowledge among women in Lagos
4. proffer intervention strategies from the outcome of the study, for improving access and utilization of maternal health information among women and by extension, mitigate against maternal mortality and morbidity.

### **Hypotheses**

The study tested the following null hypotheses at 0.5 level of significance

- Ho<sub>1</sub>. There is no significant relative contribution of socio-demographic variables on accessibility of maternal health information among women in Lagos
- Ho<sub>2</sub>. There is no significant relative contribution of socio-demographic variables on the utilization of maternal health information among women in Lagos
- Ho<sub>3</sub>. Socio-demographic variables does not have significant relative contribution to maternal health knowledge among women in Lagos

### **Literature review**

Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal, and postnatal care in order to ensure a positive and fulfilling experience (WHO, 2017). Maternal health information could therefore be defined as the data or knowledge that supports an individual's decision in relation to pregnancy, childbirth and the postpartum period. Ensuring good maternal health does not only involve provision of quality health care services, but also stimulating personal health consciousness during pregnancy which can only be achieved by having access to information. According to Ukachi and Anasi (2018) health information is

needed to reduce level of uncertainty and enable the people to take the right health decision. Mwangakala (2016) reported in his study on “Pregnant women's access to maternal health information and its impact on healthcare utilization” that limited access to maternal health information caused majority of pregnant women to underestimate the risks of pregnancy related complications and how they responded to pregnancy danger signs and other ill-health conditions that arose during pregnancy. Access to maternal health information is therefore essential for curbing maternal mortality and morbidity as it empowers women to take the right steps with respect to their prenatal and postnatal care.

Some socio-cultural and demographic factors such as age, marital status, educational status, occupation and ethnic group could affect the extent of access and use of information and, by extension, contribute in compromising the maternal health status of the women. Burnett, Jaeger, and Thompson (2008) acknowledged that information access has physical, intellectual, and social aspects, each of which can be affected by the knowledge, skills, and perceptions of individuals seeking information. Kalule-Sabiti, Amoateng, and Ngake (2014) affirmed that there are factors that deter women, especially those living in rural areas, from using maternal health care services and that such include; cultural barriers in seeking access, limited reproductive health knowledge, and reliance on traditional medicine. The issue with limited reproductive health knowledge could result from low educational status.

Silali and Owino (2016) reported that level of education statistically had a significant influence on source of and access to quality maternal child health information (P value .05, 95% CI 3.3, 8.1); and that source of income positively influenced health seeking behaviors among respondents (P value 0.46, 95% CI 0.52, 0.94). Mswia, et.al. (2003) conducted a study to examine the progress made towards the Safe Motherhood Initiative goals in three areas of the United Republic of Tanzania. The result shows that higher educational status at the community level relates strongly to lower maternal mortality. It specifically found that an additional year of education for household heads at the community level, was associated with a 62% lower maternal death rate. It is assumed that the additional education achieved enabled them to gain additional health knowledge through enhanced access to and utilization of health information. This is buttressed by Idowu, Osinaike and Ajayi (2011) who asserts that the influence of education on maternal health care and information access could be derived from the various dimensions of the educational experience such as the impartation of literacy skills, which enables people to process a wide range of information and stimulate cognitive development. Graczyk (2007) acknowledged that lack or inadequate education can affect health when it limits young women’s knowledge about nutrition, birth spacing and contraception.

The study conducted by Kwamboka (2013) on “socio-cultural factors influencing access to reproductive health information among the youth in korogocho slum of Nairobi” revealed that there is a significant statistical relationship between level of education and access to reproductive health information. Idowu, Osinaike and Ajayi (2011) also emphasized that exposure to new ideas through education might lead to questioning of traditional norms and motivate greater willingness to adopt innovative behavioural models which could positively affect maternal health.

The belief in traditional norms is commonly linked with ethnic group. This is because traditional beliefs differ from one ethnic group to another. Erinosh (2005) acknowledged that in Nigeria, culture or traditional belief of different ethnic group influences health behaviour in so many dimensions, such as, the way in which illness is acted upon. Undoubtedly, ethnic group generally influences traditional belief on things that could affect maternal health such as; age at marriage and nutritional taboos (particularly during pregnancy). These beliefs could also predict access and use of maternal health information among women. Buckley, Barret and Adkins (2008) cited by Anasi (2016) explored the disparities in access to channels of reproductive health information among young women in Kazakhstan. The result revealed that ethnicity and age predicted access to family planning information channels. This study is relevant to the current one since family planning is an aspect of maternal health.

Examining the relationship of age with access to maternal health care services and information, Okutu (2011) argued that younger (aged less than 20years) and middle aged mothers (aged 20-34years) are more likely to seek pregnancy-related care services from skilled attendants compared to mothers aged 34 and above years in Uganda. Another study by [Abajobir](#) and Seme (2014) on reproductive health knowledge and services utilization among rural adolescents in East Gojjam revealed that age was associated with reproductive health services utilization and knowledge of reproductive health. This is supported by a study conducted in Nigeria by Nwosu, et al. (2012) which found that health seeking behaviour increases with age and decreases at older ages, thus, establishing that age has a relationship with health information seeking behaviour. In the contrary, Reynolds, Wong and Tucker (2006) cited by Kalule-Sabiti, Amoateng and Ngake (2014) found no significant differences between young and old mothers with regard to seeking antenatal and delivery health care services in Uganda.

With respect to marital status, there is a strong belief that married women in unions are more likely to access maternal health care services and information during their first trimester compared to those who are not. This is because of the likelihood that married women are more likely to be supported by their spouses, and are more likely to have disposable income required to access maternal health services (Ochako et al. 2011). Conversely, Lwelamira and Safan (2012) found no effect for marital status in Tanzania.

On a general note, Falaye and Adeleke (2012) conducted a study in South- West, Nigeria during which they investigated socio-demographic variables as predictors of knowledge, attitude and behavior of undergraduates in reproductive health and HIV prevention. The outcome revealed that the six variables studied (course of study, level, marital status, age, religion and gender) jointly predicted undergraduates' knowledge of reproductive health. It should be noted that knowledge of reproductive health is an outcome of access to and use of reproductive health information. Pandey and Singh (2015) explored the importance of Socio-demographic Factors on utilization of maternal health care services in India. The study discovered that the percentage of mothers who received ANC services increases sharply with education, from 61.8% for women with no education to 98.7% for women with higher education. The obvious increase in percentage observed following access to education would have resulted from access to and use of maternal health information. The increase was also seen in the use of ANC services by

wealth index as 93.5% of women in the richer wealth index category used the service while only 63.5% of those in the poorer category used the service.

The literature review has shown that studies abound in the area of factors related to maternal health care service delivery and reproductive health practice. The review found no study that is concentrated on establishing the relationship of socio-demographic variables with access and utilization of maternal health information including, maternal health knowledge among women in Lagos. It is this gap in knowledge that the study is carried out to fill.

## **Theoretical framework**

### **Andersen Healthcare Utilization Model**

The theoretical framework for this study is anchored on Andersen Healthcare Utilization Model. This model was propounded by Anderson in 1995. It was aimed at demonstrating the factors that lead to the use of health services. According to the model, usage of health services is determined by three dynamics: predisposing factors, enabling factors, and need. The model explained that the predisposing factors can be characteristics such as race, age, and health beliefs. Examples of enabling factors given include; family support, access to health insurance, one's community etc. Need on the other hand represents both perceived and actual need for health care services. For this study, the predisposing factors that could predict the use of maternal health information could include; age, marital status, educational status and economic status while the enabling factors could be accessibility of maternal health information and maternal health knowledge. The need here could be safe pregnancy, safe delivery and healthy post-natal state. The general implication of this model is that socio-demographic status of the women could determine their access to and use of maternal health information and by extension, knowledge of maternal health information.

## **Methodology**

The ex-post facto research design was adopted for the study. This research design was employed because it examines how an independent variable in the participants, present prior to the study, affects a dependent variable and, also tests hypotheses about causes and effects. Ex-post facto is an empirically based investigation which does not involve the researcher's direct control or manipulation of the independent variables (Dixon-Wood, M; Boot, A and Sulton, A. J, 2007). The study population consisted of all the women of reproductive age who were patients at the University of Lagos Teaching Hospital and the Federal Medical Centre, Ebute Metta respectively, at the time of data collection for this study. The choice of Lagos as the study site for this work was necessitated by the fact that women from the varying ethnic groups in Nigeria could easily be accessed in it considering that Lagos is the largest urban city and the focal point of population concentration in the nation (Afolabi & Dada, 2014). The category of women studied in this work were seen at the Obstetrics and Gynaecology, Pediatrics Outpatient and Antenatal clinics of the two Hospitals. Hence, the purposive sampling technique was adopted in selecting the three clinics (Obstetrics and Gynaecology, Pediatrics Outpatient, and Antenatal clinics) where women of reproductive age could be seen.

The population of the study is not declared in this study because the researcher was unable to access the list of registered patients which would have given information on the population size. The hospital staff for the two hospitals refused to release the information with the reason that it is private and confidential. However, following a regular weekly visits for a period of two (2) months to the clinics on their working days, the researcher was able to meet with two hundred and thirty five (235) patients whom eventually formed the sample population. Questionnaire was the instrument used for data collection. The participants were first of all made to realize that the information was needed solely for research purposes hence, the need for them to be sincere in their responses. They were informed that the outcome will help in finding solution to the problem of high maternal mortality rate presently experienced. The questionnaires were collected back immediately after completion. Data collected were analyzed using both descriptive and inferential statistical methods. The statistical package for social sciences (SPSS) was used to conduct a combination of univariate and bivariate analyses to ascertain the socio-demographic variables as predictors of access to and use of maternal health information, including, maternal health knowledge among the women. The regression method was adopted to show whether the predictor variables account for variability on access to and utilization of maternal health information with, maternal health knowledge.

### **Inclusion/Exclusion criteria**

The primary target for the study was women of reproductive age whose youngest children are not above eighteen (18) months old at the time of the study. In order to be eligible for this research, the women had to be resident in Lagos and either be pregnant or have a child below 18 months old. The selection of this category of women was based on the fact that maternal health is concerned with health of women during pregnancy, childbirth and the postpartum period.

### **Results**

#### **Questionnaire distribution and response pattern**

Out of the 235 copies of questionnaires that were distributed and collected back, 218 being 92.8% of the entire number distributed were found useful as the remaining 17 being 7.2% were not properly filled and could not be used for the study.

#### **Demographic variables of the respondents**

The research outcome on the demographic distributions of the respondents reveals that almost all the respondents 205 (94%) were married. About half of the entire respondents 108 (49.5%) fall within the age bracket of 30- 39 years old with only 14(6.4%) that were within the ages of 50 years and above. For educational status, 123(56.4%) of the respondents had post-secondary education while 85(39%) had secondary education. Majority of them 117(53.7%) are involved in petty trading as their occupation whereas 85(39%) are employees of organizations. As

regards ethnic group, Yoruba had 108(49.5) respondents followed by Igbo 81(37.2%). (See **Table 1** for detailed information).

**Table 1. Demographic distribution of the respondents**

Variables	Options	Frequency	Percentages
Marital status	Single	4	1.8
	Married	205	94.0
	Separated/ Divorces	6	2.8
	Widowed	3	1.4
Age	20- 29yrs	59	27.1
	30- 39yrs	108	49.5
	40- 49yrs	37	17.0
	50yrs and above	14	6.4
Educational status	No formal education	2	1.0
	Primary education	8	3.6
	Secondary education	85	39.0
	Post-secondary education	123	56.4
Occupation	Employee	85	39.0
	Petty trading	117	53.7
	Farming	3	1.4
	Others/ idle	13	5.9
Ethnic group	Yoruba	108	49.5
	Igbo	81	37.2
	Hausa	22	10.1
	Others	7	3.2

**N= 218**

**H<sub>01</sub>**. Joint and relative contributions of socio-demographic variables on access to maternal health information among women in Lagos.

The result on the joint and relative contributions of socio-demographic variables on access to maternal health information among women is presented in two Tables (Table 2a and 2b).

**Table 2a.** Regression summary and estimates of the joint and relative contributions of socio-demographic variables on access to maternal health information among women in Lagos.

R	= 0.853				
R Square	= 0.663				
Adjusted R Square	= 0.677				
Std. Error of Estimate	= 6.1321				
Source of Variation	Sum of Squares	df	Mean Square	F- Ratio	Sig. of P
Regression	7658.56	7	1094.08	59.196	.000
Residual	3866.28	210	18.41		

Total	11524.85	217	53.12		
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- a. Predictors: (Constant), Marital status, Age, Educational status, Occupation, Ethnic group.  
b. Dependent variable: Access to MHI – Criterion variable

**Table 2b. Regression estimates of contributions of socio-demographic variables to the prediction of access to maternal health information among women in Lagos.**

<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	T	Sig
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
(Constant)	48.346	1.123		43.051	.000
Marital status	5.821	.728	.610	7.996	.000
Age	-2.263	.212	.282	-12.373	.006
Educational status	3.401	.686	.599	4.958	.000
Occupation	2.320	.552	.512	4.202	.003
Ethnic group	-1.246	.402	-.096	-3.100	.056

- a. Dependent variable: Access to MHI – Criterion variable

The result presented in Table 2a shows the regression summary on the joint contribution of the independent variables (marital status, age, educational status, occupation and ethnic group) to predict access to maternal health information among the women. The result gave a multiple correlation of  $R = 0.853$ ,  $R^2 = 0.663$ , Adjusted  $R^2 = 0.677$ , F-Ratio of 59.196 and  $P < 0.05$ . This implies that the socio-demographic variables (predictors) jointly accounted for 67.7% of the total variance in the prediction of access to maternal health information among the women. The remaining 32.2% is explained by other several factors aside from marital status, age, educational status, occupation and ethnic group. A p-value of 0.000 which is less than the common alpha level of 0.05 was equally generated. This indicates that there is significant relative contribution of socio-demographic variables on access to maternal health information among the women. The null hypothesis is therefore rejected.

In Table 2b, the parameter estimates of the relative contribution of the five socio-demographic variables to predict access to maternal health information among the women shows that there is significant relative contribution of marital status ( $\beta = 0.610$ ;  $t = 7.996$ ;  $p < 0.05$ ), age ( $\beta = 0.282$ ;  $t = -12.373$ ;  $p < 0.05$ ), educational status ( $\beta = 0.599$ ;  $t = 4.958$ ;  $p < 0.05$ ) and occupation ( $\beta = 0.502$ ;  $t = 4.202$ ;  $p < 0.05$ ) while on the other hand, ethnic group has no significant contribution on access to maternal health information among the women. It should also be noted that while marital status, educational status and occupation have strong correlation on their strength of relationship with access to maternal health information at coefficient variation of 61%, 59.9% and 50.2% respectively, age, even though it is highly significant at  $p < 0.05$ , also has weak correlation on its strength of relationship at coefficient of variation at 28.2%.

**Ho2.: Relative contributions of socio-demographic variables on utilization of maternal health information among women in Lagos.**

**TABLE 3:** Joint and relative contributions of socio-demographic variables on access to maternal health information among women in Lagos.

The result on the joint and relative contributions of socio-demographic variables on utilization of maternal health information among women is also presented in two Tables (Table 3a and 3b).

**Table 3a.** Regression summary and estimates of the joint and relative contributions of socio-demographic variables on utilization of maternal health information among women in Lagos.

R	= 0.833				
R Square	= 0.681				
Adjusted R Square	= 0.695				
Std. Error of Estimate	= 5.8023				
Source of Variation	Sum of Squares	df	Mean Square	F- Ratio	Sig. of P
Regression	6958.24	7	994.034	64.871	.000
Residual	3248.89	210	15.471		
Total	10207.13	217	47.037		

c. Predictors: (Constant), Marital status, Age, Educational status, Occupation, Ethnic group.

d. Dependent variable: Utilization of MHI – Criterion variable

**Table 3b.** Regression estimates of contributions of socio-demographic variables to the prediction of utilization of maternal health information among women in Lagos.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	64.201	2.864		22.417	.000
Marital status	6.789	8.801	.656	8.476	.000
Age	2.774	.518	.429	5.355	.006
Educational status	3.528	.530	.586	6.657	.003
Occupation	-1.042	.601	-.298	-1.734	.025
Ethnic group	-.911	.120	-.058	-7.592	.056

b. Dependent variable: Utilization of MHI – Criterion variable

The outcome presented in the Table 3a yielded a multiple regression analysis of  $R = 0.833$ ,  $R^2 = 0.681$ , Adjusted  $R^2 = 0.695$ , F-Ratio of 64.871 and  $P < 0.05$ . This outcome indicates that the five socio-demographic variable taken together explains 69.5% of the variability in the prediction of utilization of maternal health information among the women. The p-value of 0.000 generated, which is less than the common alpha level of 0.05 indicates that there is significant relative contribution of socio-demographic variables on utilization of maternal health information among the women. The null hypothesis is therefore rejected.

The parameter estimates of the relative contribution of the five socio-demographic variables to predict utilization of maternal health information among the women in as presented in Table 3b shows that there is significant relative contribution of marital status ( $\beta = 0.656$ ;  $t = 8.476$ ;  $p < 0.05$ ), age ( $\beta = 0.429$ ;  $t = 5.355$ ;  $p < 0.05$ ), educational status ( $\beta = 0.586$ ;  $t = 6.657$ ;  $p < 0.05$ ) and occupation ( $\beta = -0.298$ ;  $t = -1.734$ ;  $p < 0.05$ ) while on the other hand, there is no significant contribution of ethnic group on utilization of maternal health information among the women.

The result also revealed that both marital status and educational status in addition to being highly significant, also have very strong correlation on the strength of their relationship with utilization of maternal health information.

**Ho<sub>3</sub>: Relative contributions of socio-demographic variables on maternal health knowledge among women in Lagos.**

The joint and relative contributions of socio-demographic variables on maternal health knowledge among women in Lagos is presented in two Tables (Table 4a and 4b).

**Table 4a.** Regression summary and estimates of the joint and relative contributions of socio-demographic variables on maternal health knowledge among women in Lagos.

R	= 0.487				
R Square	= 0.259				
Adjusted R Square	= 0.263				
Std. Error of Estimate	= 8.3801				
Source of Variation	Sum of Squares	df	Mean Square	F- Ratio	Sig. of P
Regression	14715.22	7	2102.17	9.25	.000
Residual	42086.01	210	200.41		
Total	56801.23	217	261.76		

e. Predictors: (Constant), Marital status, Age, Educational status, Occupation, Ethnic group.

f. Dependent variable: Maternal health knowledge – Criterion variable

**Table 4b.** Regression estimates of contributions of socio-demographic variables to the prediction of maternal health knowledge among women in Lagos.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	36.781	1.048		35.096	.000
Marital status	3.022	.567	.528	5.330	.000
Age	2.804	.306	.504	9.163	.003
Educational status	5.623	.601	.696	9.356	.004
Occupation	-1.021	.280	-.377	-3.646	.052
Ethnic group	-.460	.201	-.448	-2.289	.054

c. Dependent variable: Maternal health knowledge– Criterion variable

The outcome presented in Table 4a reveals that the use of the five socio-demographic variable to predict maternal health knowledge yielded a multiple regression  $R = 0.487$ ,  $R^2 = 0.259$ , Adjusted  $R^2 = 0.263$ , F-Ratio of 9.25 and  $P < 0.05$ . The variables (predictors) jointly accounted 26.3% of the total variance in women’s maternal health knowledge while several other variables that were not used as predictors in this study explained the remaining 73.7%. The result also indicates that the independent variables taken together predicts maternal health knowledge among the women.

The individual contributions which is presented in Table 4b reveals that age ( $\beta = 0.504$ ;  $t = 9.163$ ;  $p < 0.05$ ), educational status ( $\beta = 0.696$ ;  $t = 9.356$ ;  $p < 0.05$ ) and marital status ( $\beta = 0.528$ ;  $t = 5.330$ ;  $p < 0.05$ ) have relative contributions and could predict maternal health knowledge among the women while on the other hand, no significant contribution is observed in favour of ethnic group and occupation.

## **Discussion**

The outcome of this study reveals that the five independent variables (age, marital status, educational status, occupation and ethnic group) jointly predicted access to maternal health information, utilization of maternal health information and maternal health knowledge among women in Lagos. They jointly have positive significant relationship with access and utilization of maternal health information, including, maternal health knowledge. The socio-demographic variables, taken together, contributed most to utilization of maternal health information than accessibility and maternal health knowledge. The implication of this finding is that utilization of maternal health information is a fundamental issue that should be given attention as availability of information resources might not automatically imply that they are being utilized. An individual who is not educated might not be able to utilize available maternal health information just as a person who is not prepared for child bearing by virtue of being single might not see reasons to utilize these resources. This finding is in agreement with discoveries of some previous studies which revealed that the socio-demographic variables predict women's knowledge of their reproductive health; that the higher the level of mothers' education, the more likely it is that they will use health facilities, information or attend ANC counseling. (Pandey and Singh, 2015; Kwamboka, 2013; Falaye and Adeleke, 2012 and Dagne, 2010).

The beta weights in Tables 2b, 3b and 4b indicates the relative contributions of the socio-demographic variables (that were considered in this study) to predict access to maternal health information, utilization of maternal health information and maternal health knowledge among the women. As presented in Table 2b, the strongest predictor for accessibility of maternal health information among the women is their marital status ( $\beta = 0.610$ ) while the least predictor is ethnic group ( $\beta = -0.096$ ). This outcome has symmetrical stance with the study of Ochako et.al (2011) which revealed that marital status has strong positive relationship with access to maternal health care services and information. The reason for this could be attributed to the special need for maternal health information by married women during their preconception, pregnancy and postnatal periods. Women who are not married will most likely not need these information as much as the married ones. Another likely reason could be the possibility of receiving support and assistance from their spouses in accessing these information. This kind of support is likely not available to unmarried women.

The highest predictor for utilization of maternal health information as presented in Table 3b, is also marital status followed by educational status and age. The least predictor is established to be occupation. The reason for this outcome could be linked to the fact that married women by virtue of their marital status are most obviously positioned to start giving birth thus, the heightened need for utilization of maternal health information. The study outcome here corroborates with the findings of Anasi (2016) which established that marital status has the most

potent predictor of the students' utilization of reproductive health information. Age was also established in the same study as predicting students' utilization of reproductive health information. Another study by Nwosu, Urama and Uruakpa (2012) found that health seeking behaviour increases with age and decreases at older ages, thus, establishing that age has a relationship with health information seeking behavior. On the contrary, a study carried out by Kalule-Sabiti, Amoateng and Ngake (2014) found no significant differences between young and old mothers with regard to seeking antenatal and delivery health care services and information in Uganda. The disparity in the result of the above studies could be associated with the differences in the study population groups. While Anasi's study population are students (which comprised of both very young unmarried women and mature married women), Kalule-Sabiti, Amoateng and Ngake's study concentrated on married women who notwithstanding the difference in their ages, are seeking same information based on the similarity of their status. The first implication of this result is that married women have more need and utilize maternal health information more effectively than the unmarried ones because of the peculiarity of their status. Similarly, age of the women is expected to predict their use of these information as older women who might have stopped bearing and rearing children might not have as much need to use maternal health information as those in their reproductive age.

For the variable of maternal health knowledge, the result presented in Table 4b reveals that educational and marital status were established to be the most prominent predictors while occupation is the least. The possible reason for this is not far-fetched as the previous paragraphs have established that education and marital status strongly predict both access and use of maternal health information and, will inevitably leads to maternal health knowledge. This result corroborates with the outcome of the study conducted by Silali and Owino (2016) in which it was reported that level of education statistically had a significant influence on source of and access to quality maternal child health information. It is generally believed that the more educated an individual is, the more knowledgeable the person would be. [Abajobir](#) and Seme (2014) also confirmed in his study on reproductive health knowledge and services utilization among rural adolescents in East Gojjam that age is associated with reproductive health services utilization and respective knowledge for reproductive health.

## **Conclusion**

This study was carried out to determine socio-demographic variables as predictors of accessibility and utilization of maternal health information including, maternal health knowledge among women in Lagos. The result of this study has led to four basic conclusions. The first one is that the socio-demographic variables studied jointly predicted access to maternal health information, utilization of maternal health information and maternal health knowledge among women in Lagos. The second one is that the socio-demographic variables jointly have positive significant relationship with the three dependent variables. The third one is that the socio-demographic variables, taken together, contributed most to utilization of maternal health information out of the three dependent variables and fourthly, the study has been able to establish that educational status, marital status and age are the three key predictors of accessibility and utilization of maternal health information including, maternal health

knowledge. The implication of this findings is that curbing maternal mortality and morbidity requires that attention should be paid to the socio-demographical characteristics of the women as this has the possibility of influencing their ability to access and utilize maternal health information and by extension impact their maternal health status.

Finally, the study has made a novel contribution to the existing literature by providing information on the relationship of women's socio-demographic variables with their access to and use of maternal health information, including, their maternal health knowledge.

### **Recommendation**

Based on the findings of this study, the following intervention strategies are recommended;

- The government should engage in the promotion of the social status of women through the provision of affordable, if not, free education. This will enable them the opportunity of acquiring the basic skills required to access and make effective use of health information
- Aggressive public enlightenment and maternal health information distribution campaign should be embarked upon by all stakeholders (Healthcare providers, Medical librarians, Government parastatals, etc.) in order to achieve enhanced access and utilization of these information by the women.
- The governments at all levels (Federal, State and Local) should institute social policies that will enable the socio-economic development of the people. This will help in arresting the situation where women die unnecessarily following ignorance, lack of access to and utilization of maternal health information.
- Medical librarians should repackage health information with the focus on the varying literacy status of the women since educational status has been established as a key variable

### **Limitations of the Study**

The major limitations experienced in the course of this study were time and financial constraints. The researcher did not have adequate time that could have enabled her to expand the scope of the study as she was engaged with official assignments at the time of conduct of this study. The financial constraint also contributed in restricting the study to only two hospitals in Lagos.

### **Suggestions for Further Research**

Further study could be undertaken to determine if there is a relationship between environmental factors and accessibility and utilization of maternal health.

This study could also be replicated using another location that is outside of Lagos.

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