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ASSESSMENT OF KNOWLEDGE, ATTITUDE AND FACTORS AFFECTING KNOWLEDGE AND ATTITUDE OF PREGNANT WOMEN TOWARDS ANTENATAL CLINIC IN A TERTIARY HEALTH FACILITY IN SOUTHERN NIGERIA

Onaadepo O[1] Efegbere HA[2,3,4,5,6,7] Akaninyene M[8]

[1]Department of Human Physiology, College of Health Sciences, University of Abuja, FCT-Abuja
[2]Department of Community Medicine, Edo State University Uzairue, Edo State, Nigeria
[3]Global Community Health Foundation
[4]Cashville Development Foundation
[5]International College of Health Sciences and Technology
[6]International Centre of Inter-Professional Team Building
[7]Cherish Specialist Clinic
[8]Ministry of Health, Uyo Akwa Ibom State, Nigeria

Corresponding Author; Efegbere, Henry Akpojubaro[2,3,4,5,6,7]
Email: henryefegbere@gmail.com; efegbere.henry@edouniversity.edu.ng
ORCID Id: https://orcid.org/0000-0002-5599-6584

ABSTRACT

The aim of this study was to assess knowledge, attitude and factors affecting knowledge and attitude of pregnant women towards antenatal clinic(ANC) in a tertiary health institute in Southern Nigeria. Methodologically, cross sectional descriptive study design and simple random sampling technique were utilized to recruit one hundred (100) participants who accessed ANC at Edo State University Teaching Hospital, Nigeria and responded to self-administered questionnaires. Descriptive and inferential statistics were deployed with" p-value" set at < 0.05. Results revealed that pregnant women attending ANC at Edo State University Teaching Hospital had adequate knowledge and positive attitude on infection control although some of them indulged in some unwholesome act which were contrary to the expected attitude of pregnant women attending antenatal clinic. Most respondents had fair attitude in terms of readiness to face any pregnancy and delivery complication. A good number of the pregnant women were not affected by factors that hinder knowledge and positive attitude toward antenatal clinic services. Association between knowledge and attitude towards antenatal clinic was statistically significant ($p=0.00001$). Conclusively, there was adequate knowledge and positive attitude among pregnant women but there were slight unwholesome attitude toward antenatal clinic activities. More family members and governmental agencies support should be encouraged in order to improve maternal health indices.

K**eywords:** Knowledge; Attitude; Factors Affecting Knowledge and Attitude; Pregnant Women; Antenatal Clinic; Edo State University Teaching Hospital, Nigeria

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INTRODUCTION

Antenatal care (ANC) is the care a woman receives throughout pregnancy in order to ensure that both the mother and child remain healthy.[1] Almost 90% of maternal deaths occur in developing countries and over half a million women die each year due to pregnancy and childbirth related causes. Proper antenatal clinic is one of the important ways in reducing maternal and child morbidity and mortality.[2]Unfortunately, many women in developing countries do not receive such care. According to recent estimates, each year more than 500,000 women between the ages of 15 and 49 die of causes related to pregnancy and child birth a leading cause of death among women in that age group.[3] Almost all maternal deaths (99%) occur in the developing world, and more than half occur in Africa.

Antenatal clinic services help pregnant women by identifying complications associated with the pregnancy or diseases that might adversely affect the pregnancy.[4] Some researchers identified socio-demographic characteristics, geographic area, attitudes towards pregnancy, and negative attitudes towards child immunization, language fluency, perceived cost of health services, transportation costs and efficiency, and childcare as factors and/or barriers related to the initiation of prenatal health services.[5] Another research revealed that women's understanding and perception of the need of early initiation of antenatal care in Niger-Delta, Nigeria for antenatal and postnatal care can also play a more dominant role in attending antenatal clinic.[6] Physical proximity to health services and limited availability of health services were major problems that influence the attendance of pregnant women at antenatal and postnatal clinics.[7] Furthermore, improving maternal health is vitally important for a child's prospects of survival. [8]Antenatal care is an essential safety net for healthy motherhood and childbirth, where the well-being of both the prospective mother and her offspring can be monitored.[9] Antenatal clinic is a key strategy to decreasing maternal mortality in low -resource settings.[10] ANC clinics provide resources to improve nutrition and health knowledge and promote preventive health practices.[11] Antenatal clinic is a critical strategy in reducing maternal mortality as it facilitates the identification and mitigation of risk factors early in pregnancy.[12]

THEORETICAL REVIEW

Ajzen's Theory of Planned Behavior

This study adopted the Theory of Planned Behavior (TPB) as its framework. The TPB differs from the TRA in that it added one additional construct to the original model-perceived behavioral control. Perceived behavioral control is a person's belief that it is possible to control a given behavior.[1.12] Simkhada added this construct to account for situations in which people's behavior or behavioral intentions are influenced by things that they believe are beyond their ability to control.[13] The model argues that people will be more successful in performing a behavior if they

believe that they have a high degree of control over whether or not they engage in the behavior. Like the TRA, this theory emphasizes the relationships between behavior and cognitions such as beliefs, attitudes and intentions. Like the TRA, it assumes that behavioral intention is the most important determinant of behavior and that behavioral intentions, in term, result from a person's attitudes toward performing a behavior and by beliefs about whether the individuals who are important to the person would approve or disapprove of the behavior.[14] Both of these models largely ignore factors such a culture or the surrounding environmental context, assuming that they do not add further explanatory benefit to the models' explanations of the likelihood that a person will behave in a particular manner.[2,14] Like the TRA, the TPB describes a causal chain of belief's, attitudes, and perceptions of controllability, and intentions that are believed to drive behavior which may necessitate the act of participation toward antenatal clinic and all it entails during pregnancy to promote the health of the mother and fetus.[15]

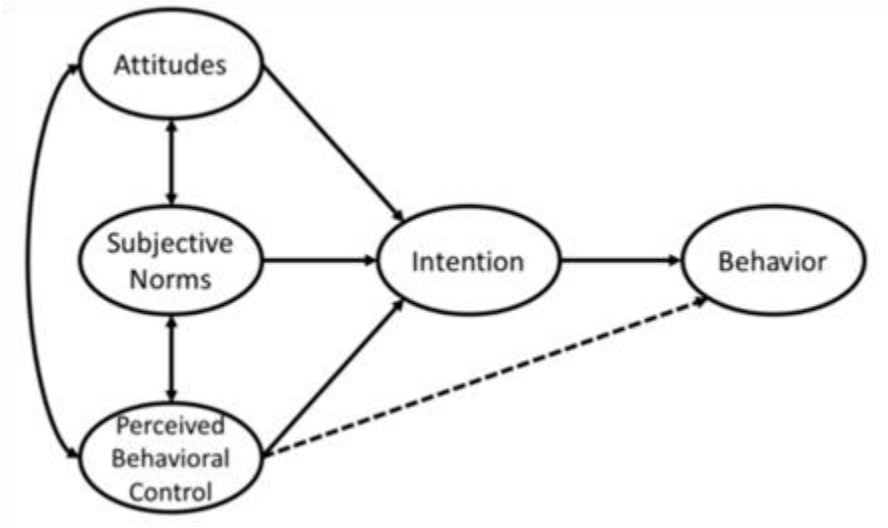

Figure 1: Theory of Planned Behavior Theoretical framework.[13]

MATERIALS AND METHODS

Study Setting: This study was carried out in Edo State University Teaching Hospital (EDSUTH) which is the largest Hospital in Etsako Local Government Area which was established by the state government.

Study Design: A descriptive cross sectional study design was used in this study.

Target Population: The target population of the study consists of all registered pregnant women who booked for antenatal clinic in Edo State University Teaching Hospital with a total of 100 participants.

Sampling Technique: This study adopted a simple random sampling technique to select 100 pregnant women attending antenatal clinic in Edo State University Teaching Hospital.

Sampling Criteria: These are factors upon which selecting the samples are based on certain inclusion and exclusion criteria.

(a) Inclusion Criteria

1. Pregnant women who are booked in Edo State University Teaching Hospital
2. Pregnant women who indicate interest
3. Pregnant women who are mentally fit to give information unaided

(b) Exclusion Criteria

1. Pregnant women who are not mentally fit to give information unaided.

Instrument for Data Collection: A Structured questionnaire was used for the data collection; the questionnaires were administered to the participants to elicit data on their socio-demographic characteristics, knowledge and attitude of pregnant women towards antenatal clinic. The questions from the questionnaire were close ended questions made up of 4 sections and 36 questions.

Section A**:** Contain questions on respondents demographic information

Section B**:** Contained information on knowledge of pregnant woman about antenatal clinic. Section C**:** Contained attitude of pregnant women towards antenatal clinic

Section D**:** Factors associated with the knowledge and attitude of antenatal clinic

Reliability of The Instrument: The question was administered to the respondents in test and retest to check the consistency of the instrument the coefficient obtained was 0.70.

Method of Data Collection: The researchers obtained permission to conduct the study from Human Ethics and Research Committee of EDSU and appropriate authorities and introduce ourselves to the respondents stating the purpose of the research. The questionnaire was self-administered by the researcher to those who met the inclusion criteria.

Data Analysis: Data collected was analyzed using frequency table and percentage analysis while having gathered the data through the administration of questionnaire, the collected data was coded, tabulated and analyzed using SPSS 20.0 statistical software Inferential statistics (chi square method) was used to test for association of variables.

Ethical Considerations: Confidentiality and anonymity of data were ensured.

Limitations of the Study: The study population for this study was limited only to antenatal women who attended Edo State University Teaching Hospital, Edo State.

RESULTS

A total of 100 questionnaires recovered from 100 that were distributed. The recovery rate of 100%. The results were represented in line with respect to the research questions stated in the study. The personal data and results of the research questions are presented.

Table 1: Demographic Characteristics of the Respondents

S/N	VARIABLES	FREQUENCY n=100	PERCENTAGE (%)
1	**Age**		
	15-25	24	24
	26-30	35	35
	31-40	30	30
	>41	11	11
	TOTAL	**100**	**100**
2	**Marital status**		
	Single	43	43
	Married	57	57
	TOTAL	**100**	**100**
3	**Religion**		
	Christianity	37	37
	Islam	40	40
	Traditionalist	13	13
	Others	10	10
	TOTAL	**100**	**100**
4	**Occupation**		
	No job	7	7
	Civil	25	25
	Artisan	19	19
	Business	38	38
	Others	11	11
	TOTAL	**100**	**100**
5	**Formal education**		
	Primary	14	14
	Secondary	30	30
	Tertiary	56	56
	TOTAL	**100**	**100**
6	**Number of children**		
	Primiparous	31	31
	Multiparous	69	69
	TOTAL	**100**	**100**
7	**Ethnicity**		
	Edo	50	50
	Yoruba	9	9
	Igbo	10	10
	Others	31	31
	TOTAL	**100**	**100**

Table 1 showed that the majorities 35% of the respondents were between age 26-30, 30% of respondents were between age 31-40, 24% of respondents were between age 15-25 while minority of respondents were more than 40 years old. Majority 57% of the respondents were married women while 43% of respondents were unmarried.

Table 2: Distribution showing the results on knowledge of respondents about Antenatal clinic.

S/N	VIARABLE – KNOWLEDGE	YES	NO
8	Do pregnant women need to go for an antenatal check-up?	56(56%)	44(44%)
9	If yes is it required to go for ANC even if there is no complication during pregnancy	68 (68%)	32(32%)
10	Should the first antenatal check-up be one in the first 3 months?	52(52%)	48(48%)
11	Does a pregnant woman need a vitamin supplement and iron and folic acid tablet during pregnancy?	62(62%)	38(38%)
12	Does a pregnant woman need to take extra food compared to a non-pregnant state?	85(85%)	15(15%)
13	Can high blood pressure affect the fetus growth?	80(80%)	20(20%)
14	Is ultrasound scan safe for the fetus?	51(51%)	49(49%)
15	Is antenatal class good to prepare expecting mothers mentally?	90(90%)	10(10%)
16	Can emotional disturbance affect fetal growth?	55(55%)	45(45%)
17	Is hospital the ideal place a pregnant woman should deliver her baby?	72(72%)	28(28%)

Table 2 revealed majority 56% said Yes that pregnant women need to go for antenatal check-up while minority 44% said No that pregnant women do not need to go antenatal checkup. Many 68% said Yes it required to go for ANC even if there is no complication during pregnancy while 32% said No it is not required to go for ANC even if there is no complication during pregnancy.

Table 3: Distribution showing the results on Attitude of respondents towards Antenatal clinic.

S/N	VARIABLE-ATTITUDE	YES	NO
18	Early antenatal booking is good for my pregnancy	68(68%)	32(32%)
19	I will go for antenatal booking before the third month of my Pregnancy	54(54%)	46(46%)
20	Do you believe that vitamin supplement is good for the fetus?	86(86%)	14(14%)
21	I believe alcohol drinking will affect fetal growth	91(91%)	9(9%)
22	Do you go for an antenatal checkup when pregnant	62(62%)	38(38%)
23	Antenatal follow up is good to monitor the mother's and fetus' Health	70(70%)	30(30%)
24	Will you allow the doctor to check your blood pressure and blood sugar level?	92(92%)	8(8%)
25	Do you plan to deliver in the hospital if you are pregnant again?	74(74%)	26(26%)
26	Would you do early preparation for the delivery?	79(79%)	21(21%)
27	Are you ready to face any pregnancy and delivery complication	57(57%)	43(43%)

Table 3 showed most (68%) of respondents said Yes that early antenatal booking is good for their pregnancy while 32% said no that early antenatal booking is not good for their pregnancy. About 54% said Yes that they will go for antenatal booking before the third month of their pregnancy while 46% said No that they will not go for antenatal booking before the third month of their pregnancy.

Table 4: The Association between the knowledge and attitude of respondents towards antenatal clinic

Variables	Level of knowledge on antenatal clinic			Chi-square		
Level of attitude towards antenatal clinic	**Poor (n=28)**	**Good (n=72)**	**Total (%)**	**X^2 59.68**	**Df 1**	**P-value 0.00001**
	16 (57%)	**38 (53%)**	**54 (100%)**			
	12 (43%)	**34 (47%)**	**46 (100%)**			
TOTAL	**28**	**72**	**100**			

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Table 4 showed the association between the knowledge and attitude of respondents towards antenatal clinic. The result showed that the calculated value 0.00001 is lesser than the tabulated value 0.05. It is concluded that there is a significant association between the knowledge and attitude of respondents towards antenatal clinic.

Table 5: Distribution showing the results on Factors associated with the knowledge and attitude of respondents towards Antenatal clinic.

S/N	VARIABLES	YES	NO
28	I wait to get permission before visiting an antenatal clinic	33(33%)	67(67%)
29	I am reluctant to visit the antenatal clinic because of long distance	46(46%)	54(54%)
30	I don't like to visit the antenatal clinic because I perceived it as showing off the pregnancy	34(34%)	66(66%)
31	I don't like to visit the antenatal clinic because I fear that witches may terminate the pregnancy	43(43%)	57(57%)
32	Were you forced to visit the antenatal clinic	32(32%)	68(68%)
33	I don't feel like visiting the antenatal clinic because there may be no midwife	28(28%)	72(72%)
34	I don't like to visit the antenatal clinic because of the bad attitude of the health workers	45(45%)	55(55%)
35	I don't like to visit the antenatal clinic because of the long waiting time	54(54%)	46(46%)
36	Are you shy or embarrassed to visit the antenatal clinic	35(35%)	65(65%)

Table 5 revealed majority (67%) said No that they do not wait to get permission before visiting an antenatal clinic while minority (33%) said Yes that they wait to get permission before visiting an antenatal clinic. About 54% said No that they are not reluctant to visit the antenatal clinic because of long distance while 46% said Yes that they are reluctant to visit the antenatal clinic because of long distance.

DISCUSSION

Demographic Data of Respondents

The result on the socio demographic variables revealed majority 35% of the respondents were between age 26-30, 30% of respondents were between age 31-40, 24% of respondents were between age 15-25 while minority of respondents were more than 40 years old. Majority 57% of the respondents were married women while 43% of respondents were unmarried. Majority 40% of respondents were Islam, 37% of respondents were Christian, 13% of respondents were traditionalist while 10% of respondents were from other religions. Majority 38% of respondents were business women, 25% of respondent were civil servant, 19% of

respondents were artisan, 11% of respondents engaged in other jobs while 7% of respondents had no job. Majority 56% of respondents had tertiary level of education, 30% of respondents had secondary level of education while 14% of respondents had primary level of formal education. Most 69% of the respondents were multiparous while a few number 31% of respondents were primiparous. Majority 40% of the respondents were from Edo, 25% of respondents were from other ethnic groups, 11% of respondent were from Yoruba while minority of respondent were from Igbo. These findings are similar to happenstances in the Edo State population.

Knowledge of the respondents towards antenatal clinic

Findings from this study revealed that, the overall knowledge regarding antenatal clinic among pregnant women was adequate. Almost everyone was in favour of antenatal care but many women did not know about screening of infectious disease, injection tetanus toxoid, folic acid importance and alarming signs of pregnancy. The findings showed that majority (87%) of the study respondents had good knowledge about antenatal care services. WHO recommended iron and folic acid supplementation to reduce the risk of pregnancy among pregnant women. A study conducted by [3.15], found that the mean score of the knowledge on antenatal care was 20.9±4.3 out of a total score of 36, which was 55.6%, It is quiet lower than our study. Although (49%) did not know the exact minimum number of ANC contacts a pregnant woman should have as per WHO recommendation of four contacts throughout her pregnancy period, this knowledge gab did not have any negative effect on the number of visits respondents had during their last pregnancy as some of the respondents reported that four contacts are not enough for healthy pregnancy. It was again noted in this study that, respondents had good knowledge as to when a pregnant woman should initiate ANC. This resulted in majority (77%) of them initiating their ANC attendance within the recommended gestational period (within first three months). But the findings from[16] challenges this observation as they found that, some percentage of women (24.6%) in Jamaica are not aware of when a pregnant woman should initiate her first ANC. In addition to this present study, majority of the respondents had good knowledge about some of the important provisions of ANC. This could however be a reason for the high ANC coverage and or attendance that was observed as they were influenced to attend ANC by been aware of its tremendous benefits. In a study done in Manipur, similar findings were observed where majority (97.9%) of postpartum mothers were aware that pregnant women have to attend ANC before birth.[17] However,[18] study findings debate against the fact that most women are not aware about the minimum number of ANC a pregnant woman should have. In their study, they observed that 89% of respondents were able to tell the correct number of minimum ANC visits

a pregnant woman should have in the course of her pregnancy till birth. As part of this study's objectives, the association between knowledge and ANC attendance was aimed to be known. It was however found that, the level of mother's knowledge on ANC services was found to be significantly associated with ANC service attendance. Mothers with poor knowledge were about 95.8% less likely to attend ANC compared to mothers with high knowledge about ANC services. This finding is therefore been buttressed by a lot of current literatures. Taking a study by Respress and colleagues, (2017) for example, mothers with good knowledge attended ANC not less than four times as against those with poor knowledge, generating an association between these two variables (knowledge and utilization). Also according to[19] good knowledge on maternal health issues can be deemed as a clairvoyant for skill birth attendance (SBA). Moreover,[1,19] also have established an association between knowledge on danger signs of pregnancy and the willingness to seek healthcare assistance in Tanzania. Yet,[20] is found to be in opposition to this finding by way of finding no significant relationship between knowledge and the attendance to antenatal clinic in a study they conducted.

Attitude of respondent toward antenatal clinic

A good attitude is the most valuable precondition for any healthy behavior. The study showed that 79% women who had a positive attitude towards ANC had a higher proportion of antenatal clinic than those with a negative attitude. The findings is similar in a study conducted by [3,20] conducted a study on the Knowledge Attitude and Practice Regarding Antenatal Care among Pregnant Women in Rural Area of Lahore. The attitude showed a positive somewhere as 69.6% women were agreed and as well as negative, also as 30.1% respondents were disagreed and therefore 61% participants have positive practices towards antenatal care. This finding was consistent with that of previous studies which reported that a respondent's attitude was a critical factor in encouraging pregnant women to receive antenatal clinic services.

Factors associated with the knowledge and attitude of respondents towards antenatal clinic

Majority (67%) said No that they do not wait to get permission before visiting an antenatal clinic while minority 33% said Yes that they wait to get permission before visiting an antenatal clinic. 54% said No that they are not reluctant to visit the antenatal clinic because of long distance while 46% said Yes that they are reluctant to visit the antenatal clinic because of long distance. 66% said No that they are like to visit the antenatal clinic because they do not perceive it as showing off the pregnancy while 34% said Yes that they do not like to visit the antenatal clinic because they perceived it as showing off the pregnancy. 57% said No that they like to visit the antenatal clinic because they do not fear that witches may terminate the pregnancy while

43% said Yes that they don't like to visit the antenatal clinic because they fear that witches may terminate the pregnancy. 68% said No that they were not forced to visit the antenatal clinic while 32% said Yes that they were forced to visit the antenatal clinic. This finding is contrary in line with the study by[20] who conducted a study aimed at determining the factors influencing the utilization of antenatal clinic among pregnant women in Ife Central Local Government Area, Osun State, Nigeria. The study showed that majority of the respondents opined that affordability of antenatal services, schedule of ANC, negative attitude towards the existing services in ANC and Husband's acceptance of the services rendered as the major factors influencing its utilization.

Association between the respondent's knowledge and attitude towards antenatal clinic.

This study showed that there is a significant association between the knowledge and attitude of respondents towards antenatal clinic with P-value (0.00001) which are less than 0.05 level of significance. This is similiar with the study conducted by[20] which showed that there was a statistical association between some socio demographic variables and the knowledge, attitude and practice of pregnant women towards antenatal care. This study's finding was contrary to the study conducted by[5,20] which shows that there was no statistical association between the knowledge, attitude and practice of pregnant women towards antenatal care.

Conclusion

Overall there was good knowledge and positive attitude among pregnant women but there was still unwholesome attitude toward some antenatal clinic activities. Family members support and public health facilities staff support should be provided to pregnant female in order to improve maternal health indices.

Recommendations

We recommended the following;

i. Health education programs should be initiated that target men in order to create awareness about the importance of ANC services and why they should involve themselves as husbands and strengthening/implementing incentives for husbands who involve themselves in ANC.

ii. Health promoters and educators should include the minimum and maximum ANC contact pregnant women are supposed to have according to the WHO recommendations in their education and promotion sessions.

iii. Another study can be done focusing only on adolescence to explore the factors associated with their ANC and other maternal health service utilization

iv. To train all health workers especially (doctors, nurse and midwives) in the health facility level across the country on the national Antenatal care guideline, policies and strategies to ultimately improve quality of health care services in the maternal and child health services.

Conflict of Interest: None declared by the authors.

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