ASSESSMENT OF ANTENATAL CARE SERVICES KNOWLEDGE, PERCEPTION, UTILIZATION AND ASSOCIATED FACTORS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN STATE HOSPITAL, OYO STATE, NIGERIA

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ABSTRACT

Maternal morbidity and mortality remain a major public health challenges in developing countries, often linked to poor utilization of antenatal care (ANC). Assessment of antenatal care services knowledge, perception, utilization and associated factors among pregnant women attending antenatal clinic in state hospital, Oyo State, Nigeria. A descriptive cross-sectional design was used, with data collected from 220 pregnant women through a self-developed questionnaire. Data analysis included descriptive statistics and chi-square tests at a 0.05 significance level. The majority of respondents were aged 26–30 years (40%), Christians (63.6%), Yoruba (73.6%), and married (94%). Most came from monogamous families (64.5%), had 3–4 children (44.5%), and held OND/HND qualifications (28.6%). Many were civil servants (28.6%), with average monthly incomes between 31,000–50,000 (28.2%). Most were in their 33–40 weeks of gestation (73.6%) and had attended two ANC visits (45.7%), though 60% reported completing their scheduled ANC visits. The result of this study reveal that respondents are highly knowledgeable about the benefit of antennal services (68.8%) and the perceptions of pregnant women towards ANC services providers is positive (64.4%). This study further observe that utilization of Antenatal Care Services is poor (40%) and the factors associated with antenatal care services utilization include proximity to health care facility (63.3%), Poor environmental condition of the health care facility (70.9%), Availability of traditional birth attendance (63.3%), Cost of services (60.0%). Hypothesis tested showed a statistically significant relationship between socio-demographic characteristics like age (P-value = 0.000), family type (P-value = 0.038), family size (P-value = 0.003), educational qualification (P-value = 0.007), occupation (P-value = 0.007) and average monthly income (P-value = 0.000) and utilization of antenatal care services. Ho2 shows that there is a statistically significant relationship between obstetric histories of gravid (P-value = 0.027),, parity (P-value = 0.0025), antenatal visits (P-value = 0.011), and place of delivery (P-value = 0.000). H03 revealed that there is a statistically significant relationship between knowledge of the benefits of antenatal care services and utilization of antenatal care services. (P-value= 0.014). H04 observed that there is a statistically significant relationship between perception about health care providers conducting antenatal care services and utilization (P-value = 0.001) of antenatal care services.The study concludes that despite good knowledge and positive perceptions, ANC utilization remains low, highlighting the need for improved access, education, and supportive health policies.

Keywords: Assessment; Antenatal Care Services; Knowledge; Perception; Utilization; Associated Factors; Pregnant Women.

INTRODUCTION

Morbidity and Mortality associated with pregnancy and childbirth contribute a great threat to public health and is one of the major health challenges being experienced in developing countries. Antenatal care has potential to reduce the death of women of childbearing age and improve neonatal health by early risk detection, prevention and management of pregnancy-related conditions, health education and health promotion activities (Barasa et al., 2015). Adverse pregnancy outcome has been linked to insufficient antennal care visits, late appointment and booking and irregular visit to the clinic (Margue et al., 2020; Fieldman, 2016). World health organization estimates that more than half a million women lose their lives in the process of reproduction worldwide every year and most of these mortalities are avoidable if mothers have access to antenatal care services (Haddad et al., 2020). According to Abimbola et al. (2016), Nigeria accounts for only 2% of the world's population, but contributes up to 10 % of the global estimates of maternal deaths. In addition, the world demographic profile has shown that women and children together constitute a high

proportion of the population accounting for over 60 percent of the population in the developing countries. This is largely due to limited access to maternal health care by rural women as health facilities are often located far from where they live, with the result that they rely more on use of traditional sources of care or to no care at all (Ononokpono, et al.2013; Odetola, 2018; Ademuyiwa etal., 2020).

It has been established that antenatal care (ANC) is a key strategy for reducing maternal morbidity and mortality directly by affording increased chances of the timely identification of high-risk pregnancies (Bitew et al. 2016; Asamoah & Agardh, 2017). It also represents an entry point for the integrated use of skilled health personnel. Similarly, empirical studies of preventive services have often found that regular monitoring of women during pregnancy is vital to reduce birth-related complications, provide supportive care, and promote safer motherhood. In contrast, low health service utilization throughout the prenatal period breaks the critical link in the continuum of care and contributes to poor birth outcomes (Liu et al. 2017; Kifle et al. 2017). In other words, improved maternal and neonatal outcomes have been associated with utilization of antenatal care services (MHCS) (Babalola & Fatusi, 2019). Evidences suggested that Nigeria is currently one of the leading countries in maternal mortality which was attributed to the fact that majority of pregnant women are still patronizing unregistered health facilities being managed by quack and unskilled birth attendants and usually referred to registered facilities when complications has already set in (Olanade et al., 2019; Ope, 2020). Although, issue of high rate of maternal mortality has been established as a major public health concern in several developing countries, particularly in Nigeria. However, there is need for the authority and other stakeholders in health sector to provide efficient services and ensure effective utilization of antenatal facilities.

Generally, maternal and child health services including antenatal care services are necessary services that should be provided in an ideal primary and secondary health care facilities, particularly at the grassroots level. This is essential in order to improve maternal healthcare of women, particularly the pregnant women at such level. Consequently, the pregnant women will be well informed about certain aspects of pregnancy such as danger signs that are associated with pregnancy and labour, necessary dietary requirements, the need for adequate daily rest and exercise, timing of the antenatal visits, the importance of not smoking during pregnancy and the proper spacing of babies (Parada, 2019). Moreover, it is necessary for the monitoring of fetal growth so as to have a safe pregnancy and delivery; as well as to detect maternal and fetal complications (Keely, 2021). Besides, maternal mortality could be guided against provided the pregnant women utilize antenatal facilities appropriately when the need arises. Despite all the benefit of antenatal care services, its utilization has been documented to be low which has been linked to some factors (Konlan et al., 2020). Therefore, this study aimed at assessing the Antenatal Care Services Knowledge, Perception, Utilization and Associated Factors among Pregnant Women attending Antenatal Clinic in State Hospital, Oyo State, Nigeria

METHODOLOGY

Research Design: This is a descriptive cross-sectional research design carried out among pregnant women attending antenatal clinic in state hospital, Oyo State. The LGA has one state hospital which was selected for the study.

Population: The population of pregnant women attending antenatal clinic was estimated to be 400 based on clinic registered

Sample Size Determination: Sample size of 220 was calculated using Leslie Kish formula with 10% non-response rate.

Sampling Technique: Simple random sampling technique was used to select the participant until the desired number of participant was attained.

Instrument for Data Collection: Self-developed questionnaire in line with the objective of the study was used for data

collection. The questionnaire consisted of six (6) sections namely:

Section A: Socio-demographic characteristics consisting of 11 items;

Section B: Obstetric history and antenatal care services utilization consisting of 7 items;

Section C: Knowledge of pregnant women on benefits of antenatal care services utilization of antenatal care services consisting of 14 items with 'yes' or 'no' response. The 'yes' response indicate positive response and was allotted 2scores while the 'no' response indicates negative response and was allotted 1. The maximum possible score was 28 while the minimum possible score was 1. The score below 50% indicate poor knowledge average score indicate moderate knowledge while the score above 50% indicates good knowledge;

Section D: Perception of pregnant women towards antenatal care providers consisting of 8 items on four Likert scale ranging from strongly disagree to strongly agree with allotted score of 1-4. The maximum possible score was 32 while the minimum possible score was 1. The scores between 1-15 was considered poor perception while the scores between 16-32 was considered good perception;

Section E: Utilization of antenatal care services consisting of 13 items on Likert scale ranging from strongly agreed to strongly disagree in descending order 4-1. The maximum possible score was 52 while the minimum score was 1. The score of 1-26 was considered poor utilization while the score of 27-52 was considered good utilization.

Section F: Factors associated with ANC services utilization consisting of 5 items with yes or no response.

Reliability: Validated questionnaire was administered to 10% of the sample size in another setting having similar characteristics with the research setting. Cronbach Alpha coefficient was used to determine the reliability of the questionnaire the value obtained was 0.78.

Data Analysis

Data collected were analysed using statistical package for social science version 23. Descriptive statistics of frequencies and percentages were used for data analysis while inferential statistics of chi-square was used to test the stated hypotheses. The results were presented in tables and charts.

Ethical Consideration

Permission and approval to carry out the study was obtained from Research and Ethics Committee of Ladoke Akintola University of Technology and Oyo State ministry of Health respectively. Verbal and written informed consent were taken and participants were assured of utmost confidentiality of the information provided.

RESULTS

Table 1 shows that majority of the respondents were aged 26-30 years 88 (40%) followed by 31-35 years 70(31.8%) with mean age of 29.45 years, Christianity 140(63.6%) by religion, married 208(94.5%) in monogamous family 142(64.5%) setting with 3-4 98(44.5%) number of family size. Majority of the respondent were OND/HND holder 63(28.6%) and civil servant 75(34.1) by occupation 63(28.6%) as well as their spouses with average monthly income greater than 50.000 67(30.4%). More so, majority of the respondent had 1-3 pregnancies 98(44.5%) and children 98(44.5%). Majority had 4-6 antenatal visits 72(32.7%) during the previous pregnancy and delivered in government owned health facility 132(55.5%). Almost three-fourth of the respondent were in their 33-40 weeks 162(73.6%) of gestation and had only 2 antenatal visits. This indicates poor utilization of antenatal care services. The sociodemographic characteristics of this study shows that majority of the respondents are within the ages of 26-30years (40%), Christains (63.6%), from Yourba ethic group (73.6%) and are married (94%). Result also revealed that majority of the respondents are from monogamous family (64.5%), with 3-4

children (44.5%), having education qualification of OND/HND (28.6%) and also OND/HND as spouse qualification (34.1%). Majority of the respondents are Civil servants (28.6%), and spouse occupation as civil servants (36.4%) with average income of N31,000-50,000 (28.2%), gravida 1-3 (44.5%), para 1-3(44.5%), with previous ante natal visit of 4-6times (32.7%). Lastly majority of the respondents complete there ante natal visits (60%), the current gestaional age of respondents is 33-40 weeks (73.6%) and had we ante natal visits (45.7%).

Table 1: Socio-Demographic Characteristics (N=220)

Socio-demographic characteristics	Variables	Frequency	Percentage
Age	20-25 years	42	19.1
	26-30 years	88	40.0
	31-35 years	70	31.8
Mean Age 29.45 years	36-40 years	20	9.1
Religion	Christianity	140	63.6
	Islam	80	36.4
Ethnicity	Yoruba	162	73.6
	Igbo	36	16.4
	Hausa	22	10.0
Marital status	Divorced	2	0.1
	Married	208	94.5
	Widow	10	4.6
Type of family	Polygamous	78	35.5
	Monogamous	142	64.5
Family size	1-2	20	9.1
	3-4	98	44.5
	5-6	48	21.8
	More than 6	54	24.5
Educational Qualification	Primary school	43	19.5
	Secondary school	54	24.5
	NCE	60	27.3
	OND/HND	63	28.6
	BSC	10	4.5
Spouse educational qualification	Primary school	10	4.5
	Secondary school	25	11.4
	NCE	60	27.3
	OND/HND	75	34.1
	BSC	50	22.7
Occupation	Artisan	54	24.5
	Trading/business	60	27.3
	Civil servant	63	28.6
	Unemployed	10	4.5
	Housewife	43	19.5
Spouse occupation	Artisan	27	12.3
	Trading/business	63	28.6
	Civil servant	80	36.4
	Unemployed	55	25.0
Average monthly income	Below 10,000	45	20.5
	10,000-30,000	56	25.5
	31,000-50,000	62	28.2
	More than 50,000	67	30.4

Gravidity	Primipara	20	9.1
	1-3	98	44.5
	3-5	48	21.8
	More than 5	54	24.5
Parity	Nulipara	20	9.1
	1-3	98	44.5
	3-5	48	21.8
	More than 5	54	24.5
Number of previous antenatal visits	None	48	21.8
	1-3 times	40	18.2
	4-6 times	72	32..7
	More than 6 times	60	27.3
Did you complete your antenatal sessions on appointment basis (WHO recommends 8 times)	Yes	132	60.0
	No	88	40.0
Place of delivery of previous pregnancy	Private hospital	30	13.6
	Mission house	28	12.7
	TBA	40	18.2
	Government hospital	122	55.5
Current Gestational age	Less than 16 weeks	3	1.4
	16-24 weeks	12	5.5
	25-32 weeks	43	19.5
	33-40 weeks	162	73.6
Number of antenatal visit	First visit	24	10.5
	Second visit	100	45.5
	Third visit	8	3.6
	Fourth visit	49	22.3
	More than four visits	39	17.7

Table 2 shows that Antenatal care services are provided for pregnant women to have access to medical care 148(63.3%), Antenatal clinic should be patronized before the end of the first trimester 156(70.9%), ANC has qualified nurses and doctors that do routine check-up for pregnant women 105(47.7%), Frequency of ANC is determined by health care providers and should be kept 148(63.3%), ANC services provides routine drugs for the benefit of women and her fetus 132(68.2%), Immunization for antetanus provided at ANC is compulsory for women 150(68.2%), Good antenatal care prepares the family for the coming baby and post-delivery life 172(78.2%), Antenatal care services are provided to educate women on family [planning, ANC series provides information to childbearing women on family planning 180(81.8%), ANC aims at preventing maternal and child mortality rate 142(64.5%), ANC promote the health of mothers and babies 152(69.1%), ANC encourages family planning and bonding between husband, wife and their children 120(54.5%), ANC aims at preventing unwanted complications during pregnancy and delivery 172(78.2%), ANC also promote knowledge on exclusive breastfeeding 180(81.8%). Findings of this study indicate that respondents are highly knowledgeable about the benefit of antennal services (68.8%)

Table 2: Knowledge of the Participants about Benefit of Antenatal Services

Knowledge of antenatal Care services	Yes F (%)	No F (%)
Antenatal care services are provided for pregnant women to have access to medical care	148(63.3)	72(36.7)
Antenatal clinic should be patronized before the end of the first trimester	156(70.9)	64(29.1)
ANC has qualified nurses and doctors that do routine check-up for pregnant women	105(47.7)	115(52.3)
Frequency of ANC is determined by health care providers and should be kept	148(63.3)	72(36.7)
ANC services provides routine drugs for the benefit of women and her fetus	132(60.0)	88(40.0)
Immunization for antetanus provided at ANC is compulsory for women	150(68.2)	7031.8
Good antenatal care prepares the family for the coming baby and post-delivery life	172(78.2)	48(21.8)
Antenatal care services are provided to educate women on family [planning	180(81.8)	40(18.2)
ANC series provides information to childbearing women on family planning	180(81.8)	40(18.2)
ANC aims at preventing maternal and child mortality rate	142(64.5)	78(35.5)
ANC promote the health of mothers and babies	152(69.1)	68(30.9)
ANC encourages family planning and bonding between husband, wife and their children	120(54.5)	90(45.5)
ANC aims at preventing unwanted complications during pregnancy and delivery	172(78.2)	48(21.8)
ANC also promote knowledge on exclusive breastfeeding	180(81.8)	40(18.2)

In Summary figure 1 showed that more than three-fourth 153(69.5%) of the respondent had high knowledge of the benefits of antenatal care services.

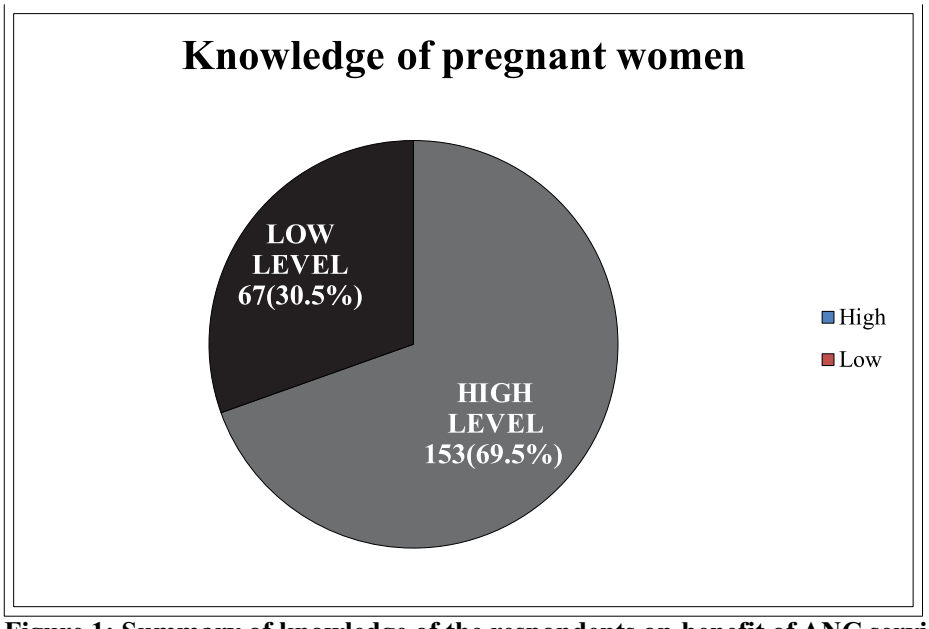

Figure 1: Summary of knowledge of the respondents on benefit of ANC services

Table 3 shows that majority of the respondents perceived Long time waiting and delay by health care providers during at antenatal clinic 132(60.9%), Shortage of health care personnel at the hospital contribute to their unhealthy attitude 132(60.9%), Lack of commitment of health care providers 150(68.2%)), Poor attitude unfriendly attitude of health care providers, No guarantee of confidentiality among health care providers 172(78.2%) , Long distance to health facilities 156(70.9), Poor privacy by health care provider 105(47.7), poor organization of ANC services by the health care providers 148(63.3). This study reveals that perceptions of pregnant women towards ANC services providers is positive (64.4%)

Table 3: Perceptions of Pregnant Women towards ANC Services Providers

Perception of pregnant women	Yes F (%)	No F (%)
Long time waiting and delay by health care providers during at antenatal clinic	148(63.3)	72(36.7)
Shortage of health care personnel at the hospital contribu te to their unhealthy attitude	132(60.0)	88(40.0)
Lack of commitment of health care providers	150(68.2)	70(31.8)
Poor attitude unfriendly attitude of health care providers	172(78.2)	48(21.8)
No guarantee of confidentiality among health care providers	148(63.3)	72(36.7)
Long distance to health facilities	156(70.9)	64(29.1)
Poor privacy by health care provider	105(47.7)	115(52.3)
Poor organization of ANC services by the health care providers	148(63.3)	72(36.7)
	64.4%	**35.6%**

Table 4 shows that 6.4% of the respondents strongly agreed that they attend ANC at least four times while 44.5% agree, 29.5% disagree and 19.5% strongly disagree. 16.4% of the respondents strongly agreed that they receive tetanus toxoid while 23.6% agree, 38.2% disagree and 21.8% strongly disagree. 19.1% of the respondents strongly agreed that physical examination done while 20.5% agree, 40% disagree and 20.5% strongly disagree. Further findings observed that 20.5% of the respondents strongly agreed that palpation done during visit and 44.1% agree, 18.6% disagree while 16.8% strongly disagree. 30% of the respondents strongly agreed that height and weight carried out and 9.5% agree, 30.9% disagree while 29.5% strongly disagree. 22.7% of the respondents strongly agreed that urine testing done at each visit and 10% agree, 50.5% disagree while 16.8% strongly disagree. 18.2% of the respondents strongly agreed that conducting various test such as blood test, HIV tests STI tests and 24.5% agree, 37.3% disagree while 20% strongly disagree. 17.7% of the respondents strongly agreed that blood pressure measured at each visit and 30.9% agree, 30.9% disagree while 20.5% strongly disagree. Result of this study also indicate that 15% of the respondents strongly agreed that health education given at each visit and 18.2% agree, 46.4% disagree while 20.5% strongly disagree. 11.8% of the respondents strongly agreed that assessment of fetal wellbeing is done and 17.3% agree, 45.5% disagree while 25.5% strongly disagree. 23.6% of the respondents strongly agreed that giving of folic acid, iron tablets etc at each visit and 25.9% agree, 30.9% disagree while 19.5% strongly

disagree. 10.9% of the respondents strongly agreed that Screening and management of diabetes, pre ecalmpsia, anemia and social health including intimate partner violence and 14.5% agree, 61.8% disagree while 12.7% strongly disagree. Lastly, 4.5% of the respondents strongly agreed that conducting imaging test is at last trimester of pregnancy and 19.5% agree, 64.5% disagree while 11.4% strongly disagree. This study shows that Utilization of antenatal care services is poor (40%).

Table 4: Utilization of Antenatal Care Services

	SA	A	D	SD
Attending ANC at least four times	14(6.4)	98(44.5)	65(29.5)	43(19.5)
Receive tetanus toxoid	36(16.4)	52(23.6)	84(38.2)	48(21.8)
Physical examination done	42(19.1)	45(20.5)	88(40.0)	45(20.5)
Palpation done during visit	45(20.5)	97(44.1)	41(18.6)	37(16.8)
Height and weight carried out	66(30.0)	21(9.5)	68(30.9)	65(29.5)
Urine testing done at each visit	50(22.7)	22(10.0)	111(50.5)	37(16.8)
Conducting various test such as blood test, HIV tests STI tests	40(18.2)	54(24.5)	82(37.3)	44(20.0)
Blood pressure measured at each visit	39(17.7)	68(30.9)	68(30.9)	45(20.5)
Health education given at each visit	33(15.0)	40(18.2)	102(46.4)	45(20.5)
Assessment of Fetal wellbeing	26(11.8)	38(17.3)	100(45.5)	56(25.5)
Give of folic acid, iron tablets etc at each visit	52(23.6)	57(25.9)	68(30.9)	43(19.5)
Screening and management of diabetes, pre ecalmpsia, anemia and social health including intimate partner violence	24(10.9)	32(14.5)	136(61.8)	28(12.7)
Conducting imaging test t is at last trimester of pregnancy	10(4.5)	43(19.5)	142(64.5)	25(11.4)
	16.7%	**23.3%**	**40.4%**	**18.3%**
	40%		**58.7**	

Table 5 shows that majority of the respondents indicated proximity to health care facility 148(63.3%), Poor environmental condition of the health care facility 156(70.9%), my cultural belief and family tradition 105(47.7%), Availability of traditional birth attendance 148(63.3%), Cost of services 132(60.0%) as factors associated with antenatal care services. This study noted that factors associated with poor antenatal care services utilization include proximity to health care facility (63.3%), Poor environmental condition of the health care facility (70.9%), Availability of traditional birth attendance (63.3%), Cost of services (60.0%) while cultural belief and family tradition (47.7%) is not a factor.

Table 5: Factors Associated with Antenatal Care Services Utilization

Factors	Yes	No	Sig.
	F(%)	F(%)	
Proximity to health care facility	148(63.3)	72(36.7)	Sig.
Poor environmental condition of the health care facility	156(70.9)	64(29.1)	Sig.
cultural belief and family tradition	105(47.7)	115(52.3)	Not Sig.
Availability of traditional birth attendance	148(63.3)	72(36.7)	Sig.
Cost of services	132(60.0)	88(40.0)	Sig.

Hypotheses

HO1: There is no significant relationship between socio-demographic characteristics and utilization of antenatal care services.

Table 6 showed a statistically significant relationship between socio-demographic characteristics of age (x^2 = 21.577; d = 3; P-value = 0.000), family type (x^2 = 4.290; d = 1; P-value = 0.038), family size (x^2 = 14.236; d = 3; P-value = 0.003), educational qualification (x^2 = 12.079; d = 3; P-value = 0.007), occupation (x^2 = 12.079; d = 3; P-value = 0.007) and average monthly income (x^2 = 19.392; d = 3; P-value = 0.000) and utilization of antenatal care services at 0.05 level of significance. Thus, the null hypothesis is rejected and alternate hypothesis accepted

Table 6: Relationship between socio-demographic characteristics and utilization of antenatal care services

Socio-demographic characteristics	Utilization					
	Low	High	Total	Chi-square	df	p-value
Age						
20-25 years	21 (15.9)	21 (23.8)	42(19.2)			
26-30 years	68 (51.5)	20(22.7)	88(40.0)			
31-35 years	37 ()28.0	33 (25.0)	70(31.8)			
36-40 years	6 (4.5)	14(15.9)	20(9.1)			
Total	132(60)	88(40)	220(100)	21.577	3	0.000
Type of family						
Polygamous	54 (40.9)	24 (27.3)	78 (35.5)			
Monogamous	78(59.1)	64 (76.1)	142(64.5)			
Total	132(60)	88(40)	220(100)	4.290	1	0.038
Family size						
1-2	8 (6.0)	12 (9.1)	20(9.1)			
3-4	70(53.0)	28(21.2)	98(44.5)			
5-6	30(22.7)	18(20.5)	48(21.8)			
More than 6	24(18.2)	30(34.1)	54(24.5)			
Total	132(60)	88(40)	220(100)	14.236	3	0.003
Educational Qualification						
Primary school	23(17.4)	20(22.7)	43(19.5)			
Secondary school	24(18.2)	30 (34.1)	54(24.5)			
NCE	38(28.8)	22(25.0)	60(27.3)			
OND/HND	47(35.6)	16 (18.2)	63(28.6)	12.079	3	0.007
Total	132(60)	88(40)	220(100)			
Occupation						
Artisan	24 (18.2)	30 (34.1)	54(24.5)			
Trading/business	38 (28.8)	22 (25.0)	60(27.3)			
Civil servant	47(35.5)	16 (18.2)	63(28.6)			
Housewife	23 (17.4)	20 (22.7)	43(19.5)			
Total	132(60)	88(40)	220(100)	12.079	3	0.007
Average monthly income						
Below 10,000	21 (15.9)	14 (15.9)	35(20.5)			
10,000-30,000	36 (27.3)	20 (22.7)	56(25.5)			
31,000-50,000	24(18.2)	38 (43.2)	62(28.2)			
More than 50,000	51 (37.9)	16 (18.2)	67(30.4)			
Total	132(60)	88(40)	220(100)	19.392	3	0.000

Ho2: There is no significant relationship between obstetric history and utilization of antenatal care services

Table 7 showed the relationship between obstetric history and utilization of antenatal care services. There was a statistically significant relationship between obstetric histories of gravid ($x^2 = 9.164$; d = 3; p-value = 0.027),, parity ($x^2 = 9.3387$; d = 3; p-value = 0.0025), antenatal visits ($x^2 = 11.205$; d = 3; p-value = 0.011), and place of delivery ($x^2 = 28.525$; d = 3; p-value = 0.000). The null hypothesis is thereby rejected and alternate hypothesis accepted.

Table 7: Relationship between obstetric history and utilization of antenatal care services

	Utilization					
	Low	High	Total	Chi-square	Df	p-value
Gravidity	F (%)	F (%)	F (%)			
Primi-para	18(13.6)	2 (2.3)	20(9.1)			
1-3	72(54.5)	26 (29.5)	98(44.5)			
3-5	32(24.2)	16 (18.2)	48(21.8)			
More than 5	28(21.2)	22 (25.0)	54(24.5)	9.164	3	0.027
Total	132(60)	88(40)	220(100)			
Parity						
Nulipara	16(12.1)	4 (4.5)	20(9.1)			
1-3	62(49.9)	36 (40.9)	98(44.5)			
3-5	30(22.7)	18 (20.5)	48(21.8)			
More than 5	24(18.2)	30 (34.1)	54(24.5)			
Total	132(60)	88(40)	220(100)	9.338	3	0.025
Number of Antenatal visits						
None	36(27.3)	12 (13.6)	48(21.8)			
1-3 times	28(21.2)	12 (13.6)	40(18.2)			
4-6 times	40(30.3)	32 (36.4)	72(32.7)			
More than 6 times	28(21.2)	32 (36.4)	60(27.3)			
Total	132(60)	88(40)	220(100)	11.203	3	0.011
Place of previous delivery						
Private hospital	16(12.1)	14 (15.9)	30(13.6)			
Mission house	13 (9.8)	15 (17.0)	28(12.7)			
TBA	12 (9.1)	28 (31.8)	40(18.2)			
Government hospital	91(68.9)	31 (35.2)	122(55.5)			
Total	132(60)	88(40)	220(100)	28.525	3	0.000

H03: There is no significant relationship between knowledge and utilization of antenatal care services

Table 8 showed a statistically significant relationship between knowledge of the benefits of antenatal care services and utilization of antenatal care services at 0.05 level of significance. The null hypothesis is thereby rejected and alternate hypothesis accepted. ($x^2 = 6.013$; d = 1; p-value = 0.014).

Table 8: Relationship between knowledge and utilization of antenatal care services

Knowledge	Utilization					
	Low	High	Total	Chi-square	Df	p-value
	F(%)	F(%)	F(%)			
High	100(75.8)	53(60.2)	153(69.5)			
Low	32(24.2)	35(39.8)	67(30.5)			
Total	132(60)	88(40)	220(100)	6.013	1	0.0142

H04: There is no significant relationship between Perception and utilization of antenatal care services

Table 9 showed a statistically significant relationship between perception about health care providers conducting antenatal care services and utilization ($x^2 = 12.138$; d = 1; p-value = 0.001) of antenatal care services at 0.05 level of significance. The null hypothesis is thereby rejected and alternate hypothesis accepted.

Table 9: Relationship between perception and utilization of antenatal care services

Perception	Utilization					
	Low	High	Total	Chi-square	Df	p-value
	F (%)	F (%)	F(%)			
Good	57(43.2)	18(20.5)	75 (35.1)			
Poor	75(56.8)	70(79.5)	145(65.9)			
Total	132(60)	88(40)	220(100)	12.138	1	0.001

DISCUSSION

This study aimed at assessing the antenatal care services knowledge, perception, utilization and associated factors among pregnant women attending antenatal clinic in State Hospital, Oyo State, Nigeria. The sociodemographic characteristics of this study shows that majority of the respondents are within the ages of 26-30years, Christains, from Yourba ethic group and are married. Result also revealed that majority of the respondents are from monogamous family, with 3-4 children, having education qualification of OND/HND and also OND/HND as spouse qualification. Majority of the respondents are Civil servants, and spouse occupation as civil servants with average income of N31,000-50,000, gravida 1-3, para 1-3, with previous ante natal visit of 4-6times. Lastly majority of the respondents complete there ante natal visits, the current gestational age of respondents is 33-40 weeks and had we ante natal visits. This study is not in support of Tadesse et al. (2020) who reported that majority of their participants were aged 25-34 years, Muslim, married and housewife with primary level of education. This study is consistent with Rustagi et al. (2021) who noted that the mean age of their respondents is 25.6 years, being in monogamy family setting with tertiary level of education but were not employed, majority of their participants were multigravida with average number of two children. This study is in contrast to Patel et al. (2016) and SanjeL et al. (2021) who reported mean age of 24 $\pm$ 3.45 years and 25.62 $\pm$ 3.38 years respectively which is slightly different from the mean age of the participants in this study. This study agrees with Dulla et al. (2017) who also reported that obstetric history of gravida 2.

Findings of this study indicate that respondents are highly knowledgeable about the benefit of antennal services. This study support Bashir et al. (2023) who revealed that their respondents are highly knowledgeable about antenatal care services. The result of this study is in line with the Nangolo et al. (2020) who reported that pregnant women had good knowledge of antenatal care services, also, Mohammed et al. (2017) reported that majority of pregnant women knowledge about the benefit of antennal services is high. This study agrees with Ojong et al. (2015) who reported good knowledge of ANC services likewise Akpan-Nnah et al. (2011), Yar'zever and Said (2013). This study is in contrast with Bashir et al. (2023) who reported average knowledge of antenatal care services among pregnant women with overall level of knowledge having positive correlation with utilization.

This study reveals that perceptions of pregnant women towards ANC services providers is positive. This study is not in support of Warri and George (2020) who reported that participants perceived the booking system to be user-unfriendly and complained of overcrowded conditions, long waiting times and some rude service providers. This study is consistent Ahmed and Manzoor (2019) who reported positive perception among pregnant women towards the benefit of antenatal care services which was also supported by Maken et al. (2017).

This study shows that Utilization of Antenatal Care Services is poor. In support of this findings, Bashir et al. (2023) revealed low practice of antenatal care services among their respondents despite the good knowledge of the services observed. This study is in contrast with Ademuyiwa et al. (2020) who observed high utilization level of antenatal services among their respondents in Lagos, also, Rustagi et al. (2020) reported high utilization of antenatal care services as against the finding from this study. This study is consisted with Adedokun and Yahyah (2020) who reported that more than half of their participants adequately utilized antenatal care services which was said to be highest among women aged 25-34 years. Dulla et al. (2017) also reported high utilization of antenatal care services among their participants with middle age women utilizing the services more than other age group. The writers posited that difference in the level of antenatal care utilization in this setting might be due to geographical location of the health facilities and level of exposure to modern antenatal care.

This study indicates that factors associated with poor antenatal care services utilization include proximity to health care facility, poor environmental condition of the health care facility, availability of traditional birth attendance and cost of services. This result does not corroborate with Ademuyiwa et al. (2020) who revealed that availability of facilities, affordability of ANC services waiting time, attitude of health care providers were associated factors contributing to antenatal care services utilization. This study is consistent with Warri and George (2020) who reported that distance limits women's ability and willingness to seek health care, as the road network is poor, financial constraints, uncomfortable transport and poor road conditions have also been found to be barriers to the utilization of antenatal care by pregnant women. This study is tandem with Ziblim et al. (2018) who reported that distance to health facilities is one of the factors constituting ANC services utilization. This study is in line with Dapaah and Nachinab (2019) who established that cost involved in accessing healthcare services during pregnancy was a significant determinant of women's non utilization of maternal care services. This study is in contrast with Ikechukwu et al. (2020) emphasized the influence of cultural and traditional belief on key maternal and child health practices in the developing nations including antenatal services. Rustag et al. (2021) reported sub-optimal utilization of antenatal care services. This study is in contrast with Amungulu et al (2023) who reported higher utilization of ANC among their respondents. This study is not in agreement with Sabo et al, (2024) Alkema et al., (2016) who reported high utilization of ANC in Kano.

First hypothesis showed a statistically significant relationship between socio-demographic characteristics (age, family, family size educational qualification, occupation and average monthly income) and utilization of antenatal care services. This

study is not consistent with Ademuyiwa et al. (2020) who revealed that thare is no statistically significant association between respondents' level of utilization of antenatal services. This study is in agreement with Tadesse et al. (2020) who reported that age of the respondents was positively and significantly associated with antenatal care services utilization.

Also, the second hypothesis revealed that there is a relationship between obstetric history (gravid, parity, antenatal visits, and place of delivery) and utilization of antenatal care services

Similarly, third hypothesis observed that there is a statistically significant relationship between knowledge of the benefits of antenatal care services and utilization of antenatal care services. This study is consistent with Rustagi et al. (2021) who reported that the knowledge of pregnant women on antenatal care services was significantly associated with level of education and amount to good utilization of the services.

Fourth hypothesis indicate that there is a statistically significant relationship between perception about health care providers conducting antenatal care services and utilization of antenatal care services.

CONCLUSION

The finding from this study showed that majority of the participants had good knowledge about the importance of antenatal care services, however, poor perception of ANC services providers and utilization of the services were observed in the study setting. This calls for collaborative effort of the stakeholders to debunk the poor perception of pregnant women about healthcare providers and encourage effective utilization of antenatal care services in this domain. It is therefore recommended that healthcare providers should always show favourable attitude to pregnant women irrespective of their age, educational and social status.

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