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Determinants for Utilization of Antenatal Care Service's among Pregnant Women Attending Specialist Hospital Bauchi, Bauchi State

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Abstract: This research conducted to determine the utilization of antenatal care services among pregnant women attending specialist hospital Bauchi state. Three research objectives and three research questions guided the study. Literature where review on effects of culture on ANC services, socio economic factors on utilization of ANC services and attitudes and health care services on the utilization of ANC services among pregnant women. The study adopted description research survey design and purposive sampling technique was used to select 90 patients from the study area. The instrument used for the data collection was structured questionnaire. 90 questionnaires were distributed to 90 respondents with the help of research assistance. The data collected was analyzed using frequency distribution table and percentage. Based on the research findings, it was revealed that cultural belief of different kind, low socio-economic status and attitude of healthcare providers are factors that influence the utilization of antenatal care services among pregnant women attending specialist hospital Bauchi. the findings the researcher recommended that the health care provider should help in educating the pregnant women on the need and importance of antenatal clinic attendance, culture and religious belief that can affect health negatively should be discouraged through community mobilization and participation towards factors that are harmful to health. Adequate provision of qualified health personnel to manage the health facilities and health unit should be fully equipped. finally, Government should do much within its limited resources to provide free ANC services at all level of health institutions and to all groups of pregnant women and Community religious, leaders should be involved in promoting ANC services.

Keywords: **A**ntenatal care (anc); Utilization; Pregnant women; Cultural beliefs; Socio-economic factors; Attitude of health workers; Specialist hospital bauchi; Health services; Maternal health; Nigeria.

Introduction

Antenatal care is concerned with health of the mother and foetus. The purpose of antenatal care is to encourage good health in every expectant and lactating mother, to enable her to have normal delivery and a healthy baby and to teach the art of childcare. Antenatal care (ANC) refers to the care that is given to the pregnant women from the time that conception is confirmed until the beginning of labour (Kirsch et al., 2025; Meeta et al., 2026).Antenatal care is the key component of safe motherhood which lies as the foundation for basic health services, equity, emotional and psychological support, even though the direct relationship between antenatal care and reduction of maternal mortality remains a subject of much debate (Federal Ministry Of Health,

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2008). (Black et al., 2025; Goyal et al., 2025) stressed that, previously, a major feature of maternal care was the assessment of the risk of each pregnancy based on the woman's previous obstetric history and health status. Special services were offered to high-risk pregnancies including closer supervision during delivery. Antenatal care provides the opportunity of monitoring the progress of pregnancy so that any deviation from normal can be detected at an early stage before serious complication occurs (Machado et al., 2025).

The woman is encouraging to note and describe any symptom or sign that she has observed since her last visit to the clinic and she can be reassured when those signs and symptoms do not signify any serious abnormality. (Fasina et al., 2020; Ghosh et al., 2025) shows that, over seventy percent (70%) of women worldwide have at least one antenatal care (ANC) visit with a skilled attendant. However, this percentage varies by region. In industrialized countries ninety eight percent (98%) of woman have at least one ANC visit. In developing countries, the percentage drop to approximately sixty eight percent (68%) South East Asia has the lowest ANC attendance rate, with fifty four percent (54%) of women attending at least one ANC visit (Billingsley et al., 2025).

(Lucas & Gilles, 2025)asserted that, maternal mortality is the death of a woman while pregnant or within 42days of termination of pregnancy, regardless of the site or duration of the pregnancy, from any cause related to aggravated by the pregnancy or its management. While (Eke et al., 2021) added to this that is not from accidental or incidental causes. Maternal mortality is sub-divided into direct and indirect obstetric deaths. Direct obstetric death result from obstetric complication of pregnancy, labour or the postpartum period. They usually due to one of the five major causes – hemorrhage (usually occurring post-partum) sepsis, eclampsia, obstructed labour and complication of unsafe abortion as well as interventions, omissions, incorrect treatment or event resulting from any of these (Vishwakarma et al., 2025). (Merdy et al., 2025)further stressed that, indirect obstetric deaths result from previously existing diseases or from diseases arising during pregnancy (but without direct obstetric causes), which are aggravated by the physiological effect 0f pregnancy; examples of such diseases include malaria, anaemia, HIV/AIDS and cardiovascular diseases (Menozzi et al., 2025; Merdy et al., 2025).

Generally, there is a distinction between a direct maternal death that is as the result of complication of pregnancy, delivery or their management, and an indirect maternal death such as pregnancy related death in a patient with a pre-existing or newly developed health problem. Other fatalities during but unrelated to a pregnancy are termed as accidental, incidental or non-obstetrical maternal death (Eke et al., 2021; Vishwakarma et al., 2025).

Sana et al., 2025stressed that, the major causes of maternal mortality or death are infection, variants of gestational hypertension including pre-eclampsia, obstetric haemorrhage, ectopic pregnancy, puerperal sepsis amniotic fluid embolism, uterine rupture and complication of unsafe abortion or unsanitary abortions. Lesser-known causes of maternal death include renal failure, cardiac failure and hyperemesis gravidarium. Nigeria has the second highest maternal death in the world – 52,000 Nigerian women die every year. Unsafe practices of childbirth cause an average death of 114 Nigerian women. This means that, every 10 minutes one Nigerian woman dies due to childbirth and pregnancy related causes (Murosko et al., 2025; Potiris et al., 2025). The rate was highly significant number of women of child-bearing age who does not survive pregnancy and child birth or immediately within six weeks of delivery. Only 43.8% of women of Bauchi state received antenatal care during pregnancy, while 14.6% give birth in health facility with trained personnel, such as doctors, nurses and midwives attending to only about one third of the deliveries (Ardekani et al., 2025; Potiris et al., 2025). The result of the study further explained that, the increase in maternal mortality rate in Bauchi state is attributed to weak and poor primary health care system in the state, lack of skilled and motivated staff as well as in adequate drugs and equipment in health centres (Janaki & Prabakar, 2024). It is on this basis that, the researcher intended to study the relationship of antenatal care with the prevention of maternal mortality in Bauchi state

Statement of the Problem

Antenatal care refers to the care that is given to the woman from the time that conception is confirmed until the beginning of labour (Zambon et al., 2025). ANC provides the opportunity of monitoring the progress of the pregnancy so that any deviations from normal can be detected at early stage before serious complications occur (Lucas & Gilles, 2025). (Eke et al., 2021)reported that, more than 600,000 women die due to child birth or pregnancy related complications around the world annually. Nigeria is solely responsible for close to 10% of that figure. Africa has the highest maternal mortality ratio (MMR) with an estimated average of 800 deaths per 100,000 births.

The estimated average MMR in Nigeria, however, is 1,000 for every 100,000 births, but this figure varies according to the region of the country. Maternal mortality ratio is much higher in the North Eastern region of Nigeria, accounting for 75% of the country's maternal deaths compared to South East and South West region (Sana et al., 2025; Wright et al., 2025). United states Agency for international development (2009)

indicates that, most of the victims of maternal deaths are women between the ages of 15 and 45.

After India, Nigeria has the second highest maternal death in the world – 52,000 Nigerian women die every year. Unsafe practices of childbirth cause an average death of 114 Nigerian women. This means that, every 10 minutes one Nigerian woman dies due to childbirth and pregnancy related causes. (Murosko et al., 2025; Potiris et al., 2025)reported that, in Bauchi state alone studies were conducted which revealed that, maternal mortality rate worsened from 1350 per 100,000 of live births in 2003 to 1380 per 100,000 in 2006. However, some pregnant women in the area under review are not attending antenatal care regularly and failure to attend antenatal care can lead to anaemia in pregnancy haemorrhage, sepsis, abortion, obstructed labour among others and hence, death can occur (Ardekani et al., 2025). It is against this background that, the researcher became motivated to study the relationship of antenatal care with the prevention of maternal mortality among pregnant women in Bauchi state.

Method

Research Design

The research used the descriptive survey design adopted a quantitative method because of its appropriateness to determine the utilization of antenatal care service among pregnant women attending specialist Hospital Bauchi state. Descriptive survey design is a scientific method which involves observing and describing the behavior of the subjects without influencing of data for the purpose of answering research question under study (Zambon et al., 2025)

Data Collection

Primary sources and secondary sources shall be used as the source of data for this study; primary sources include only questionnaires. This study used a structured questionnaire to sample opinion of the respondents and also collect data for the study. The questionnaire is a closed-ended one section A consists of demographic data of the respondents, which section B consist of research questions (Hernandez et al., 2026).

Sampling Techniques

The researcher made use of the simple random sampling technique to obtain data and relevant information for the study (Rêgo et al., 2026)

Data Collection Instrument

The researcher developed the instrument used in this thesis in order to obtain the required information. The four (4) points likert's scale was scored as follows: Strongly agree, 1 point; Agree, 2 points; Disagree, 3 points; and Strongly Disagree, 4 points. From the questionnaire consisted of four sections A to E. Section A, demographic information of the respondents; section B contains information on the 1. Find out the level of awareness of pregnant women on the relationship of antenatal care attended with the prevention of maternal mortality in Bauchi state; section C, concern with the 2. Find out if pregnant women of Bauchi state utilize antenatal care services for the prevention of maternal mortality. D, contains information on the 3. Find out the availability of equipment/facilities of antenatal care services for the prevention of maternal mortality in Bauchi State. E, contains information on the 4 Find out the availability of equipment/facilities of antenatal care services for the prevention of maternal mortality in Bauchi State. E, contains information on the 5 Find out the proficiency of ANC personnel among pregnant women for the prevention of maternal mortality in Bauchi State (Hernandez et al., 2026; Rêgo et al., 2026).

Data Analysis

The data was collected and analyzed based on research questions, Descriptive statistics was used in data analysis. This entails the use of frequency distribution tables and percentages to summarize data on the close ended items in questionnaire. All information obtained on this research work from the responders were handled and permission was sought from the participants with maximum confidentiality, inform consent was fulfilled by seeking participants permission before administering the questionnaire to the sample participants. The participants were treated with respect and courtesy (Craciun et al., 2026; Hernandez et al., 2026).

Sample Size

The sample size which to be used for the purpose of this research Yamane Formula for sample size, in which the sample size is (90) represented through the total population of (114) as at 1st February 2024 requested the active pregnant women attending specialist hospital Bauchi state (Hernandez et al., 2026).

Result and Discussion

Based on the data obtained in table 4.6 it shows that the majority of the respondent's opinion believe that yes culture affects them from utilization of ANC about 77 (85.5%) of them. While about 9 (10 %) of them respond to parent as decision makers regarding ANC services in their family some cultures practices not only prevent a large number of women from utilizing ANC services but also causes harmful effect on the patient (Craciun et al.,

2026; Pirritano et al., 2026). Based on the data obtained in table 1. majority of the respondents 63 (70.1%) agreed on financial constraint that influence the utilization of ANC services, 18 (20 %) dis agreed to that while 9 (9.9 %) where uncertain this finding is similar with the finding of (Maalman et al., 2026; Silva & Miano, 2026) that the socio - economic status of mothers, ability of women to manage resources and make independent decisions about there health as an impact on reduction of maternal mortality are the major factors that influence ANC service utilization among pregnant women (Qasim et al., 2026).

Based on data obtained in table 4.8, it shows the majority of the respondents 68 (75.6 %) respond to yes in their opinion that attitude of health care provider prevent them from utilization of ANC services while 9 (10 %) respond to Attendant / Cleaners as the cadres of health providers with high negative attitude as (Arboh et al., 2026; Kumar et al., 2026; Nyabi et al., 2026) said that some health care providers where accuse of providing care in a discriminatory manner.

Section A: Demographic Information

The questionnaire was designed to initially gather information on respondents' gender, age, level of university education, and account type. These demographic variables were included to describe the basic characteristics of the participants involved in the study. Collecting such information provides a general overview of the respondent population. It also helps identify patterns or differences among respondents based on their background characteristics.

The demographic data serve as a foundation for interpreting the main research findings. Furthermore, this information allows the researcher to assess the representativeness of the sample. Understanding the respondents' profiles helps place their answers in an appropriate context. In addition, demographic characteristics provide insight into potential variations among respondents. These variations may influence how participants perceive or respond to the research variables. Moreover, presenting demographic data enhances the transparency and credibility of the research. Therefore, analyzing these data helps ensure that the study results are interpreted more accurately and meaningfully.

Table 1. The Distribution of Respondents by Age

Age (Year)	Frequency	Percentage (%)
16 – 19	18	20.0
20 – 25	27	30.0
26 – 30	31	33.4
31 – 35	14	16.6
Total	**90**	**100**

Source: *Field survey 2025*

Table 1. Shows that 18 of the respondents representing (20.0%) are between the of 16 – 19 years, 27 (30.0 %) are between the age of 20 – 25 years, 31 (33.4 %) are between the age 26 – 30 years, and 14 (16.6%) are between the age of 31 – 35 years.

Table 2. Tribe Distribution of the Respondents

Tribe	Frequency	Percentage (%)
Fulani	63	70
Hausa	18	20
Others	9	10
Total	**90**	**100**

Source: *Field survey 2025*

Table 3 shows the distribution of respondents based on their tribe. The table indicates that 63 (70%) of the respondents are Fulani, while 18 (20%) are Hausa. The remaining 9 (10%) belong to other tribes.

Table 3. Religious Distribution of the Respondents

Religion	Frequency	Percentage (%)
Islam	67	76.7
Christianity	23	23.3
Total	**90**	**100**

Source: *Field survey 2025*

Table 4 presents the religious distribution of the respondents. The table shows that 67 (76.7%) Muslim. Meanwhile, 23 (23.3%) Christians. This indicates that the majority of the respondents are Muslim.

Table 4. Occupational Distribution of Respondents

Occupation	Frequency	Percentage (%)
Civil servant	9	10.0
House wife	72	80.
Private	5	5.6
Others	4	4.4
Total	**90**	**100**

Source: *Field survey 2025*

Table 4. shows that 9 (10 %) of the respondents are civil servants, 72 (80 %) are houses wives 5 (5.6 %) are private while 4. (4.4 %) as others.

Table 5. Distribution of the Respondents According to Educational Level.

Educational level	Frequency	Percentage (%)
Primary	36	40.0
Secondary	27	30.0
Tertiary	23	25.6
No education	4	4.4
Total	**90**	**100**

Source: Field survey 2025

Table 5. shows that 36 (40 %) of the respondents attended primary, 27 (30 %) attended secondary, 23 (35.6) attended tertiary and 4 (4.4 %) do not attend education.

Table 6. Effect of Culture on Utilization of ANC Services

S/N	Items	Responses	Frequency	Percentage (%)
1	Opinion on culture affect utilization of ANC service.	Yes	77	85.5 %
		NO	13	14.5 %
		Total	**90**	**100** %
2.	Persons cultural factor that prevents individual from utilization of ANC	Religion	17	17.0 %
		Husband	48	55.2 %
		In law	25	17.8 %
		Total	**90**	**100** %
3.	Does your culture avoid you from exposing your private part to male staff which present you from utilizing ANC?	Yes	51	56.7 %
		No	39	43.3 %
		Total	**90**	**100** %
4.	Decision makers regarding ANC services in your family.	Husband	61	67.8 %
		In law	20	22.2 %
		Parent	9	10 %
		Total	**90**	**100** %

Source: *Field survey 2025*

Table 6. shows that 77 (85.5 %) believed that yes culture affects the utilization of ANC services and 13 (14.5 %) respond to NO. Also 17 (17.0 %) of the respondent responds that religious is a cultural factor of an individual that present the utilization of ANC services, 48 (55.2 %) responds to husband and 25 (27.8 %) responds to In laws. 51 (56.7 %) of the respondent respond YES that their culture avoids them exposing their private part to male staffs which present them from utilizing ANC, while 39 (43.3 %) respond to NO. 61. (67. 8 %) of the respondents responds to husband and .20 (22.2 %) respond to in laws while 9 (10%) responds to parent as decision makers regarding ANC services in their family (Alibhai et al., 2022; Islam et al., 2022).

Table 7. Socio Economic Factors Influencing Utilization of ANC Services

S/N	Items	Reasons	Frequency	Percentage (%)
1.	Economic factor that influences proper utilization of ANC service	High cost of ANC	53	60 %
		High cost of drugs.	18	20 %
		Far distance to the hospital.	19	20 %
		Total	**90**	**100 %**
2.	Means of transportation influence proper utilization of ANC services	Agree	49	54.4 %
		Uncertain	14	15.6 %
		Disagree	27	30 %
		Total	**90**	**100 %**
3.	Lack of adequate equipment in the facility is a factor that influence the utilization of ANC service	Agree	40	44.4 %
		Uncertain	14	15.6 %
		Disagree	36	40 %
		Total	**90**	**100 %**
4.	Financial constraints influence utilization of ANC service.	Agree	63	70.1 %
		Uncertain	9	9.9 %
		Disagree	18	20 %
		Total	**90**	**100 %**

Source: Field survey 2025

Table 7. shows that 53 (60 %) of the respondents responds that high cost of ANC influence them from proper utilization of ANC services 18 (20 %) responds to high cost of drugs while 19 (20 %) responds to far

distance to the hospital, 49 (54.4 %) of the respondents agreed that means of transportation influence proper utilization of ANC, 14 (15.6 %) were uncertain while 27 (30 %) disagree. 40 (44.4%) of the respondent agreed to lack of adequate equipment can affect utilization of ANC service, 14 (15.6%) were uncertain while 35 (40 %) disagree to that. 63 (70.1 %) of the respondents agreed that financial constraints influence utilization of ANC services, 9 (9.9 %) were uncertain and 18 (20 %) disagree to that. Table 4.8 shows that 68 (75. 6 %) of the respondents answered yes that health care workers attitude has an influence on utilization of ANC services 22 (24.4 %) respond to NO. 60 (70 %) of respondent respond that the health providers were somehow / partly friendly, 12 (10 %) responded that they were arrogant, while 18 (20 %) respond that the services were delayed for no reason. 44 (50 %) of the responded to midwives / nurses, 37 (40%) responds to community health workers, while 9(10%) responds to attendants /cleaners according to their high negative attitudes .

Table 8. Attitudes of Health Care Provider as a Determinant for Utilization of ANC Service.

S/N	Items	Responses	Frequency	Percentage (%)
1.	Opinion on health care works attitude as an influence on the utilization of ANC service.	Yes	68	75.6 %
		No	22	24.4 %
		Total	**90**	**100 %**
2.	Common attitudes as a hindrance to utilization of ANC services.	They were somehow/ partly friendly.	60	70 %
		They were arrogant	12	10 %
		The services were delayed for no reason.	18	20 %
		Total	**90**	**100 %**
3.	Cadres of health care providers with high negative attitude.	Midwives / Nurses	44	50 %
		Community health workers	37	40 %
		Attendants /cleaners	9	10 %
		Total	**90**	**100 %**

Based on the data obtained in table 4.6 it shows that the majority of the respondent's opinion believe that yes culture affects them from utilization of ANC about 77 (85.5%) of them (Islam et al., 2022). While about 9 (10 %) of them respond to parent as decision makers regarding ANC services in their family some cultures practices not only prevent a large number of women from utilizing ANC services but also causes harmful effect on the patient(Ambaw et al., 2022; Kota et al., 2023).

Based on the data obtained in table 4.7 majority of the respondents 63 (70.1%) agreed on financial constraint that influence the utilization of ANC services, 18 (20 %) dis agreed to that while 9 (9.9 %) where uncertain this finding is similar with the finding of (Ambaw et al., 2022; Jebena et al., 2022) that the socio - economic status of mothers, ability of women to manage resources and make independent decisions about there health as an impact on reduction of maternal mortality are the major factors that influence ANC service utilization among pregnant women (Azhar et al., 2020; Kisiangani et al., 2020). Based on data obtained in table 4.8, it shows the majority of the respondents 68 (75.6 %) respond to yes in their opinion that attitude of health care provider prevent them from utilization of ANC services while 9 (10 %) respond to Attendant / Cleaners as the cadres of health providers with high negative attitude as (Hamal et al., 2020; Xu et al., 2023)said that some health care providers where accuse of providing care in a discriminatory manner (Bhutada et al., 2024; Jebena et al., 2022).

Conclusion

In conclusion the researcher discovered that cultural belief, insufficient funds, means of transportation, economic factor, attitudes of health providers are factors contributing to the utilization of antenatal care services among pregnant women attending specialist hospital Bauchi. There is need for continues supply of economic resources for making functional antenatal clinics and to provides free antenatal care services by the government and NGOs, there is need also for health care personnel to adopt positive attitude towards pregnant women during each ANC visit. Nurses should participate in health educating the community and individual on the need

and importance of ANC services. Nurses/ Midwives clear away any cultural misconception in regard to ANC services. Nurses / Midwives should encourage pregnant women to be attending ANC services. Nurses/ Midwives should develop good interpersonal relationship with the pregnant women as this affects the quality of care being rendered.

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The authors declare no conflict of interest.

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