**The Utilization of Antenatal and Maternity Services by Mothers Seeking Child Welfare Services in Alex Ekwueme Federal Teaching Hospital Abakaliki, Ebonyi State, Nigeria**

**ABSTRACT**

**Background**: Maternal and child health has become a key indicator of both global and national well-being. This is due to the fact that pregnancy and successful childbirth directly affect every individual, family, and community at some stage in life. Nigeria is among the African nations experiencing rapid population growth. As its economy continues to expand, a significant health challenge confronting the country is its ability to effectively support and sustain the growing numbers of infants and mothers. This includes ensuring adequate healthcare services, infrastructure, and resources to meet the increasing demand for maternal and child health care.

**Objectives:** This study aims to analyze the determinants of utilization of antenatal and maternal health care services among mothers seeking child welfare services with focus on the continuum of care for pregnant women during pregnancy and delivery, that is, the use of antenatal care services and skilled assistance during delivery.

**Methodology**: This study used data obtained from The Institute of Child health at Alex Ekwueme Federal University Teaching Hospital, Abakaliki Ebonyi State. Descriptive cross sectional study and a systematic sampling technique was used; the sample involved 392 participants and data was collected using questionnaire. Data was analyzed using IBM SPSS version 23.0 software for descriptive statistics.

**Results**: Out of the 392 mothers asked if they attend antenatal care 99.2% do attend while a meager 0.80% did not, these women did not have a reason for doing so. When asked if their husbands accompanied them during antenatal visits 73.7% said no while the remaining 26.3% said yes, however on further evaluation of consistency 36.9% were accompanied twice, 30.1% were accompanied thrice, 23.3% once, 4.9% four and 4.9% five times respectively.

**Conclusion:** Numerous factors were identified in the study to directly or indirectly influence mothers' utilization of maternal healthcare services. These include the mother's level of education, the distance between their homes and healthcare facilities, the influence of family, friends, and spouses, and the perceived quality of care provided. Additionally, how women are treated by healthcare workers, the financial costs associated with each antenatal visit and delivery services, the level of support from spouses, and most importantly, the woman’s personal understanding of the value of antenatal and maternity care all play significant roles.

**KEYWORDS: Delivery, Antenatal, Postnatal, Women, Utilization, Maternity**

**INTRODUCTION**

* 1. **Background Information**

Maternal and child health has emerged as the most significant matter that impacts global and national wellbeing [1]. This is due to that fact that every individual, family and community is at some point intimately involved in the process of pregnancy and success of child birth [2].

There is a close association between the health of a neonate and the health of their mothers [1]. About 30-40% of neonatal and infant deaths are associated with poor maternal health and inadequate care during pregnancy, delivery and the critical immediate postpartum period [2]. These deaths are related with the poor maternal health services in the country and could be avoided through provision of quality and effective maternal and child health services [1]. Nigeria is one of the African countries with a rapidly growing population. As a nation with a growing economy, one of the major health challenges facing the country today is the capacity to sustain the increasing infant and maternal population. The World Health Organization (WHO) advises that at least four high-quality antenatal care (ANC) visits are essential to ensure the best possible health outcomes for mothers and newborns before childbirth [3]. Insufficient ANC is linked to negative outcomes such as higher rates of low birth weight (LBW), preterm birth, miscarriage, and perinatal death [4], [5]. Nevertheless, despite notable improvements in ANC coverage globally, especially in low- and middle-income countries (LMICs), the anticipated declines in maternal and infant mortality have not been fully realized [6]. As the 2030 deadline approaches, there is renewed attention on Sustainable Development Goal (SDG) 3.1, which aims to lower maternal mortality to fewer than 70 deaths per 100,000 live births and neonatal mortality to below 12 deaths per 1,000 live births [7].

Studies done has explored antenatal care (ANC) utilization at the national level, specific country examples offer valuable insights. In Ghana, for instance, Dickson et al. found that 88% of women accessed ANC services [11], with factors such as maternal education, household wealth, residential location, parity, and ethnicity influencing ANC usage. Similarly, Adedokun et al., in their study on maternal health service utilization in Nigeria, identified key determinants including media exposure, educational attainment, marital and employment status, the need for permission to seek healthcare, and the physical distance to health facilities as significant influences on adequate maternal health service use [12]. According to the United Nations, achieving these targets would represent nearly a two-thirds reduction compared to the benchmarks set by the Millennium Development Goals (MDG) 5 [7], the predecessor to the SDGs.

While significant global advancements have been made since the launch of the SDGs in 2016, it is evident that many countries in sub-Saharan Africa (SSA) continue to fall short, underscoring the urgent need for further progress [8,9]. This gap highlights that poor-quality ANC remains a major contributor to ongoing adverse health outcomes for both mothers and their babies. To accelerate progress toward improving maternal health care services, it is important to understand the level of utilization of these services. This study aims at contributing to better understanding about utilization of maternal healthcare services by mothers in Abakaliki. Seeking Antenatal services on time by pregnant women helps detect complications and informs mothers on ways to care for themselves and the babies while skilled assistance during delivery decreases both neonatal and maternal morbidity and mortality [10].

To this end, the researchers sought to investigate the possible number of mothers that utilize Antenatal and maternity services and what factors that can influence the utilization of these services. Furthermore, researchers sought to assess the Antenatal and maternity services offered to women presenting for antenatal services with a view to determining the care and services received at delivery.

**METHODOLOGY**

**2.1 STUDY AREA**

This study was carried out in The Institute of Child Health (ICH) Center at AEFUTHA in Ebonyi State. Ebonyi State also known as “Salt of the Nation” because of its large salt deposits, it is one of the 36 States in Nigeria. There are a number of hospitals in Ebonyi State, they include 171 primary health centers that is one primary health center per ward, thirteen general hospitals that is one general hospital per local government area and one federal teaching hospital located in its capital city –Abakaliki.

**2.2 STUDY DESIGN**

A cross sectional descriptive study was conducted on the utilization of antenatal care by mothers seeking child welfare services in Abakaliki,

**2.3 STUDY POPULATION**

The respondents were mothers attending institute of child health of the hospital.

* **Inclusion criteria**
* Mothers who attended antenatal clinic in the study area
* **Exclusion criteria**
* Mothers who did not attend the antenatal clinic the study area.
* Mothers who attended the clinic in the study area but are not present at the time of the study.

**2.4 STUDY DURATION**

The study was done with in a period of 4months

**2.5 SAMPLE SIZE**

The sample size was determined by using the formula for sample size;

n=Z2×P×q/d2

n=Minimum sample size

Z = standard normal deviation, usually set at 1.96

 (Corresponds to the level of significance usually 5%)

P = prevalence of outcome of interest, gotten from previous study (p=50%) [20]

P =$ \frac{50}{ 100}$ =0.50

q = 1-p

q =1-0.50

q = 0.5

d = Level of precision or margin of error (0.05)

Inserting the appropriate figures in the formula gives

n =$\frac{1.96^{2}x0.50 x0.50}{\left(0.05\right)2}$

n =$\frac{3.8416 x0.50 x0.50}{0.0025}$

n =$\frac{ 0.9604}{0.0025}$

n = 384.16

We choose to make the sample size 384.16 app 384

Attrition or non-response rate = 10% of sample size

10% of sample size was added to cover for possible non-response during the course of study. Therefore, the estimated sample size was 384 + (10% of384) =384 + 38.4=422.4 App 422

**2.6 SAMPLING TECHNIQUE**

A systematic sampling technique was employed in the study. The total number of women who attended the antenatal Clinic was obtained looking at the 4 months of study. A total of about 500 women were seen in a month obtained from the attendance from the average of the past 4 months preceding data collection. A sample interval of 1/5th was obtained. Using random sampling, this process continued for a total of two months until the target sample size was achieved.

**2.7 STUDY INSTRUMENT**

Semi-structured, interviewer administered questionnaire.

The questionnaire consists of four sections:

* SECTION A: Socio-demographic Data.
* SECTION B: Maternal Attendance to Antenatal Care and Factors Influencing the Utilization of Antenatal and Maternity Services by these Mothers.
* SECTION C: Services obtained during antenatal Care.
* SECTION D: Care and Services received at delivery.

**2.8 DATA COLLECTION**

A semi-structured interviewer-administered questionnaire was used for the data collection of this study.

**2.9 PRETESTING**

To ensure the reliability, the study was pretested among pregnant women attending antenatal care at Irrua Specialist Teaching Hospital, who fit into the inclusion criteria. The first draft of questionnaires was based on the literature review on the specific objectives. The questionnaire will be administered to 10% of the sample size (38). The data collected was analyzed and used to design the standardized structured questionnaire.

**2.10 DATA ANALYSIS**

Statistical test of association between proportions was done by the use of appropriate test of statistics. Data analysis will be carried out using the Statistical Package for the Social Sciences (SPSS) version 23.0 (IBM Corporation, Armonk, Ny, USA). The use of tables and percentages (%) was employed in analyzing the variables of the respondents such as age, sex, marital status etc.

 Statistical level of significance was set at p < 0.05, construction of 95% confidence interval and odds ratio was done where applicable. Association between the dependent and independent variable was also tested using Chi-square. The data was analyzed using the descriptive statistical methods which were represented in frequency distribution tables, percentage and bar chart.

**3.0 RESULT and Discussion:**

In this chapter, the results obtained from data analysis with their interpretations were presented. Four hundred (422) copies of questionnaire were administered; three hundred and ninety two (392) were returned, which properly filled and fit for analysis. Therefore, the return rate was 92.8% which is a good return rate for a survey. The age range, mean standard deviation of age of the mothers are between 20 – 42years and 30.94±3.52years. The results of the analysis were presented with tables and charts.

 **Table 1: Socio-Demographic Characteristics of the Participants**

| **Characteristics** | **Frequency** | **Percentage%** |
| --- | --- | --- |
| **Age group** |  |  |
|  <=25yrs | 14 | 3.6 |
|  26 - 30yrs | 206 | 52.6 |
|  31 - 35yrs | 139 | 35.5 |
|  36 - 40yrs | 23 | 5.8 |
|  41 - 45yrs | 10 | 2.5 |
| **Parity** |  |  |
|  1 | 96 | 24.5 |
|  2 | 147 | 37.5 |
|  3 | 106 | 27.0 |
|  4 | 33 | 8.4 |
|  5 | 10 | 2.6 |
| **Marital Status** |  |  |
|  Single | 15 | 3.8 |
|  Married | 377 | 96.2 |
| **Ethnicity** |  |  |
|  Igbo | 288 | 73.5 |
|  Hausa | 2 | 0.5 |
|  Yoruba | 13 | 3.3 |
|  Others (Efik, Ibibio, Idoma, Ighala, Ijaw) | 89 | 22.7 |
| **Religion** |  |  |
|  Christianity | 392 | 100.0 |
| **Educational status (Expectant Mothers)** |  |  |
|  No formal Education | 0 | 0.0 |
|  Primary Education | 30 | 7.7 |
|  Secondary Education | 162 | 41.3 |
|  Tertiary Education | 200 | 51.0 |
| **Educational Status (Husbands)** |  |  |
|  No formal Education | 0 | 0.0 |
|  Primary Education | 0 | 0.0 |
|  Secondary Education | 68 | 17.3 |
|  Tertiary Education | 324 | 82.7 |
| **Occupation (Expectant Mothers)** |  |  |
|  Unemployment | 20 | 5.1 |
|  Student | 33 | 8.4 |
|  Civil servant | 132 | 33.7 |
|  House wife | 22 | 5.6 |
|  Trader | 185 | 47.2 |
| **Occupation (Husband)** |  |  |
|  Unemployed | 13 | 3.3 |
|  Artisan | 0 | 0.0 |
|  Business man | 70 | 17.9 |
|   Professional | 60 | 15.3 |
|  Civil Servant | 244 | 62.2 |
|  Politician | 5 | 1.3 |
| **Residence** |  |  |
|  Urban | 350 | 89.3 |
|  Rural | 42 | 10.7 |
| **Average monthly household income (10,000 – 500,000Naira)** | **104677.60±103108.47** |

**Objective 1: Attendance of mothers to Antenatal care and factors influencing the utilization of antenatal and maternity services.**

**Table 2: Frequency and Percentage of Factors Affecting Mothers’ Antenatal Care Attendance**

| **Item** | **Frequency** | **Percentage%** |
| --- | --- | --- |
| **Attends antenatal care** |  |  |
|  Yes | 389 | 99.20 |
|  No | 3 | 0.80 |
| **Reason for not attending** |  |  |
|  No reason | 3 | 100.00 |
| **Place they attended antenatal care in the last pregnancy** |  |  |
|  AEFUTHA | 346 | 88.30 |
|  Health Center | 34 | 8.70 |
|  Mile 4 | 10 | 2.60 |
|  TBA | 2 | 0.50 |
| **Who influenced their choice of antenatal center** |  |  |
|  Friend | 42 | 10.70 |
|  Husband | 26 | 6.60 |
|  Mother | 34 | 8.70 |
|  Self | 259 | 66.10 |
|  Sister | 31 | 7.90 |
| **Reason for choice of antenatal venue** |  |  |
|  Good care | 172 | 43.90 |
|  Health teaching | 6 | 1.50 |
|  Close to home | 147 | 37.50 |
|  Working there | 65 | 16.60 |
|  Affordable | 2 | 0.50 |
| **Derived satisfaction during antenatal visits** |  |  |
|  Yes | 354 | 90.30 |
|  No | 36 | 9.20 |
|  Don't know | 2 | 0.50 |
| **Stage of pregnancy when registered for antenatal care** |  |  |
|  2Months | 18 | 4.60 |
|  3Months | 101 | 25.80 |
|  4Months | 232 | 59.20 |
|  5Months | 22 | 5.60 |
|  6Months | 19 | 4.80 |
| **Frequency of antenatal visits** |  |  |
|  1 – 3times | 13 | 3.40 |
|  4 – 6times | 43 | 11.00 |
|  7 - 9times | 267 | 68.10 |
|  >9times | 69 | 17.60 |
| **Reason for obtaining antenatal care** |  |  |
|  Good care | 366 | 93.40 |
|  Health teaching | 11 | 2.80 |
|  Close to home | 15 | 3.80 |
| **Those husbands kept company during visits to antenatal clinics** |  |  |
|  Yes | 103 | 26.30 |
|  No | 289 | 73.70 |
| **Number of times their husband accompanied them** |  |  |
|  1 | 24 | 23.30 |
|  2 | 38 | 36.90 |
|  3 | 31 | 30.10 |
|  4 | 5 | 4.90 |
|  5 | 5 | 4.90 |
|  Total | 103 | 100.00 |
| **Registered/attended antenatal care in another facility** |  |  |
|  Yes | 10 | 2.60 |
|  No | 382 | 97.40 |
| **Reason for having alternative** |  |  |
|  Relocation | 7 | 70.00 |
|  No reason | 3 | 30.00 |
|  Total | 10 | 100.00 |
| **If pregnant again where to attend antenatal care** |  |  |
|  \*AEFUTHA | 321 | 81.9 |
|  Health Center | 23 | 5.9 |
|  Mile 4 | 5 | 1.3 |
|  Home | 5 | 1.3 |
|  \*TBA | 38 | 9.7 |
| **Reason for the choicest place** |  |  |
|  Good care | 305 | 77.80 |
|  Cost | 17 | 4.30 |
|  Health teaching | 25 | 6.40 |
|  Close to home | 45 | 11.50 |
| **Amount spent on each antenatal visits** |  |  |
|  <500 naira | 58 | 14.80 |
|  500 - 1000 naira | 175 | 44.60 |
|  1100 - 1500 naira | 143 | 36.50 |
|  >= 1600 naira | 16 | 4.10 |

\*AEFUTHA- Alex Ekwueme Federal University Teaching Hospital Abakaliki.

\*TBA-Traditional Birth Attendant.

Fig. 1: Chart showing Scale of preference of early antenatal booking

Fig. 2: Chart showing scales why antenatal visit is very important

**Objective 2: On services obtained during Antenatal care**

**Table 3: On services obtained during Antenatal care**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Service** | **Yes (%)** | **No (%)** | **Don’t know (%)** |
| A | Measurements of height | 392 (100.0) | 0 (0.0) | 0 (0.0) |
| B | Malaria prophylaxis | 392 (100.0) | 0 (0.0) | 0 (0.0) |
| C | Urine test | 392 (100.0) | 0 (0.0) | 0 (0.0) |
| D | Blood test | 392 (100.0) | 0 (0.0) | 0 (0.0) |
| E | Tetanus toxoid vaccination | 392 (100.0) | 0 (0.0) | 0 (0.0) |
| F | Health talks | 392 (100.0) | 0 (0.0) | 0 (0.0) |
| G | Measurement of blood pressure | 390 (99.5) | 2 (0.5) | 0 (0.0) |
| H | Abdominal palpation | 390 (99.5) | 2 (0.5) | 0 (0.0) |
| I | Measurement of weight | 389 (99.2) | 3 (0.8) | 0 (0.0) |
| J | Folic acid supplement | 388 (99.0) | 4 (1.0) | 0 (0.0) |
| K | Iron supplementation | 383 (97.7) | 9 (2.3) | 0 (0.0) |
| L | Ultrasound scan | 383 (97.7) | 8 (2.0) | 1 (0.3) |  |
| M | De-worming tablet | 382 (97.4) | 10 (2.6) | 0 (0.0) |
| N | Given ITN ( insecticide treated net) | 46 (11.7) | 346 (88.3) | 0 (0.0) |

**Objective 3: On care and services received at delivery**

**Table 4: Frequency and percentage of On services obtained during Antenatal care**

|  |  |  |
| --- | --- | --- |
| **Care and services** | **Frequency** | **Percentage(%)** |
| **Place of delivery** |  |  |
|  AEFUTHA | 250 | 63.8 |
|  Health Center | 44 | 11.2 |
|  Mile 4 | 54 | 13.8 |
|  Home | 31 | 7.9 |
|  TBA | 13 | 3.3 |
| **Method of delivery** |  |  |
|  Spontaneous Vaginal Delivery | 289 | 73.7 |
|  Assisted Vaginal Delivery | 60 | 15.3 |
|  Surgery | 43 | 11.0 |
| **Health providers that delivered their baby** |  |  |
|  Doctor | 303 | 77.3 |
|  Nurse/Midwife | 86 | 21.9 |
|  Health worker TBA Others(specify) | 300 | 0.80.00.0 |
| **Who influenced their choice of place of delivery** |  |  |
|  Friend | 24 |  6.1 |
|  Husband | 75 | 19.1 |
|  Mother | 85 |  21.7 |
|  Self | 183 |  46.7 |
|  Sister | 25 |  6.4 |
| **When decision was made on where to deliver** |  |  |
|  Before Pregnancy | 44 | 11.2 |
|  Early Pregnancy | 238 | 60.7 |
|  Late Pregnancy | 85 | 21.7 |
|  During Delivery | 25 | 6.4 |
| **Reason for choice of place of delivery** |  |  |
|  Good care | 273 | 69.6 |
|  Health teaching | 2 | 0.5 |
|  Close to home | 25 | 6.4 |
|  Working there | 44 | 11.2 |
|  Emergency | 43 | 11.0 |
|  Friends advice | 5 | 1.3 |
| **Was accompanied to delivery** |  |  |
|  Yes | 389 | 99.2 |
|  No | 3 | 0.8 |
| **Accompanied by** |  |  |
|  Friend | 11 | 2.3 |
|  Husband | 229 | 47.6 |
|  Mother | 181 | 37.6 |
|  Sister | 48 | 10.0 |
|  Brothers | 12 | 2.5 |
| **Been satisfied with care received during the delivery period** |  |  |
|  Yes | 350 | 89.3 |
|  No | 39 | 9.9 |
|  Don't know | 3 | 0.8 |
| **Where to deliver if pregnant again** |  |  |
|  AEFUTHA | 200 | 51 |
|  Health Center | 33 | 8.4 |
|  Mile 4 | 115 | 29.3 |
|  Home | 1 | 0.3 |
|  TBA | 33 | 8.4 |
|  Private hospital | 10 | 2.6 |
| **Reason for the choice** |  |  |
|  Good care | 153 | 39.0 |
|  Close to home | 44 | 11.2 |
|  Skilled health care | 83 | 21.2 |
|  Cost | 112 | 28.6 |
| **Amount paid for delivery services** |  |  |
|  <= 20,000 Naira | 96 | 24.5 |
|  21,000 - 40,000 Naira | 97 | 24.7 |
|  41,000 - 60,000 Naira | 147 | 37.5 |
|  >60,000 Naira | 52 | 13.3 |

**Table 5: Services obtained during delivery**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Service** | **Yes (%)** | **No (%)** | **Don’t know (%)** |
| A | Parenteral antibiotics | 267 (68.1) | 125 (31.9) | 0 (0.0) |
| B | Parenteral Oxytocic drugs | 366 (93.4) | 26 (6.6) | 0 (0.0) |
| C | Parenteral Anticonvulsants | 53 (13.5) | 339 (86.5) | 0 (0.0) |
| D | Manual Removal of Placenta | 30 (7.7) | 362 (92.3) | 0 (0.0) |
| E | Assisted Vaginal Delivery | 67 (17.1) | 325 (82.9) | 0 (0.0) |
| F | Caesarean Section | 50 (12.8) | 342 (87.2) | 0 (0.0) |
| G | Blood transfusion | 61 (15.6) | 331 (84.4) | 0 (0.0) |

In this study, a total of 422 respondents were recruited but 392 were properly filled and were analyzed. The mean age of the mothers was 30.94±3.52 years. Based on parity: 37.5% had 2, 27.0% had 3, 24.5% had 1, 8.4% had 4 and 2.6% had 5. This shows that majority of our respondents had two to three children and are likely to get pregnant again and so require antenatal and maternity services. 96.2% were married, 3.8% were single and none was divorced. The level of education for the mothers is as follows: 51.0% had tertiary education, 41.3% had secondary education, 7.7% had primary education and 0% had no formal education. This showed that majority of the mothers had tertiary education and this will affect their utilization of antenatal and maternity services as educated mothers have better health seeking behavior. This shows that majority of our respondents were married women. Study done in Ibadan shows a similarity in terms of socio-demographic characteristics whereby in a study of 261 participants 176 (67.5 % percent) were aged 25–34 years; majority (244, 93.5%) had tertiary education while (189, 72.4 %) were skilled workers or professionals. Most of the women (243, 93.2 %) were Para 1–3 and the pregnancy was planned (80.8 %) [13]. However, in sharp contrast in Congo, it was observed that most of the women that took part in an ANC survey had below secondary level of education [14].

As concerns the occupation of their husbands, 62.2% were civil servants, 17.9% were business men, 15.3% were professionals, 3.3% were unemployed and 1.3% was politicians. This showed that most of their husbands had a means of income and so will be able to provide for most of the antenatal and maternity services these mothers require. The level of their husbands’ education is as follows: 82.7% had tertiary education, 17.3% had secondary education and none had primary education or no formal education. This will also affect utilization of antenatal and maternity services as educated husbands will encourage their wives and support them in every way necessary to ensure they attend antenatal care and deliver in a center with skilled health provider available. These findings when compared to a study conducted in Debre Tabor town, North West Ethiopia, a total of 404 study participants were included, yielding a response rate of 98.5%. Six participants were excluded from the analysis. Among the respondents, approximately 46.8% of men showed a high level of involvement in their wives' antenatal care, with a confidence interval (CI) ranging from 41.6% to 51.5% [15].

89.3% of this mothers reside at urban areas while 10.7% of this mothers reside at rural areas, therefore most of them utilize the antenatal and maternity services provided by AEFUTHA as it is located in the urban area. Average monthly household income was between 10,000 and 500,000 Naira. Those who earn on the higher sides will tend to utilize the antenatal service more than those who earn on the lower side like 10,000 Naira monthly. In a comparison study done in Nigeria on ANC utilization, it was noted that similarity were not farfetched from the findings here as nationally (3.7%) and in urban areas (3.0%), while the North-West had the lowest in rural areas (2.7%) [16].

**4.2 ATTENDANCE OF THESE MOTHERS TO ANTENATAL CARE AND FACTORS INFLUENCING THE UTILISATION OF ANTENATAL AND MATERNITY SERVICES.**

AEFUTHA was the center with the highest attendance recorded with 88.3% of mothers attending the center, 8.70% attended health centers, 2.6% attended mile 4 while 0.5% used traditional birth attendants, majority of these women’s choices were self-influenced 66%, 10.7% were influenced by their friends, 6.6% by their spouses while the remaining 16.6% were influenced by other family members. When asked the reason for choice of antenatal center 43.9% said it was because of the quality of care received, 37.5% said it was because of the proximity of chosen center to their homes, 16.6% because they worked at chosen center, 1.5% was because of health teachings while 0.6% attended because of the affordability of antenatal care services. This shows that the quality of care given at a center plays a huge role in influencing the utilization of a center by mothers; also proximity to the center played a huge role in their choice making. This was well analyzed in a study done in Malawi were in the eight-contact ANC policy, attendance is encouraged by support from health workers, family, and partners, as well as women's understanding of ANC’s role in preventing and managing pregnancy-related issues. However, barriers include lack of awareness about the policy, financial challenges, poor service quality, negative attitudes of health workers, staff shortages, and personal or cultural beliefs [17]. In another study in two hospitals in Namibia were factors affecting ANC were investigated amongst 320 participants who ranged in age from 16 to 42 years, with a mean age of 27. Of these, 71.6% (229) accessed antenatal care (ANC), while 28.4% (91) did not. Barriers to ANC use included negative attitudes from healthcare workers, long distances to facilities, lack of transport funds, limited knowledge about ANC, and personal attitudes toward pregnancy [18].

The analysis following this section shows that quality of care was the most important factor influencing were mothers go for their antenatal care; this is closely followed by the proximity of the centers to their homes.

**4.3 SERVICES OBTAINED DURING ANTENATAL CARE**

In determining the services obtained during antenatal care the services that the mothers received 100% include; “Measurements of height”, Malaria prophylaxis”, “Urine test”, “Blood test”, “Tetanus toxoid vaccination”, and “Health talks”. The services that the women received 99% were “Measurement of blood pressure” and “Abdominal palpation”. However the lowest service received was provision of ITN (insecticide treated net) as only 11.7% of the women received this service. In a cross-sectional study in Dodoma City of Tanzania amongst 426 participants, it was seen that the most commonly delivered antenatal care (ANC) services among the majority of pregnant women were health education on the use of insecticide-treated bed nets for malaria prevention (92.9%), administration of the Tetanus Toxoid (TT) vaccine (86.8%), provision of Intermittent Preventive Treatment in pregnancy with Sulfadoxine-Pyrimethamine (IPTp-SP) to prevent malaria (90.8%), and distribution of mebendazole to treat or prevent intestinal parasitic infections (90.1%) [19].

**4.5 CARE AND SERVICES RECEIVED AT DELIVERY**

As concerns place of delivery: 63.8% delivered at AEFUTHA, 13.8% delivered at mile 4, 11.2% delivered at health center, 7.9% delivered at home and 3.3% delivered with the help of traditional birth attendants. This shows that there are still mothers who don’t access skilled health care at delivery and this will cause an increase in maternal mortality rate and ratio of the study area if calculated.

It was seen that 69.6% choose place of delivery because of Good care, 11.0% because of emergency, 11.2% because they work there, 6.4% because of proximity to home, 1.3% because of advice from friends. Therefore most of this mothers understand that good care is essential during pregnancy and delivery. This will go a long way to enhance the utilization of antenatal and maternity services in the study area.

Out of the 392 mothers who were respondents, 389 mothers were accompanied to delivery while 3 mothers were not accompanied to delivery. 47.6% were accompanied by their husbands, 37.6% were accompanied by their mothers, 10.0% were accompanied by their sisters, and 2.5% were accompanied by their brothers, 2.3% by their friends. This shows that most of the mothers had support during delivery and this is an important factor in utilization of antenatal and maternity services. Also majority of the mothers 83.9% were satisfied with care received during the delivery period. In a study done in Ekiti amongst 267 respondents as regards satisfaction of services in delivery, it was seen that a significant proportion of respondents reported satisfaction with various aspects of the healthcare services received. Specifically, 72.7% were satisfied with the proximity of health facilities, 65.2% with the affordability of services, 69.7% with the availability of medications, 82.0% with the cleanliness and overall environment of the hospital, and 70.2% with the professionalism of healthcare providers. However, areas of dissatisfaction included the referral system (40.1%), long waiting times (45.7%), inadequate communication (21.0%), and insufficient maintenance of patient privacy (19.1%). Despite these concerns, the vast majority—94.8%—expressed overall satisfaction with the delivery services provided, while only 5.2% were dissatisfied [20].

**5.0 CONCLUSION**

Utilization of antenatal and maternity services by mothers is an importanttopic of discussion as the maternal mortality rate and maternal mortality ratio are important parameters for accessing not just maternal healthcare but also the level of healthcare system of a place. This rate and ratio are affected by the way mothers utilize antenatal maternity services.

A lot of factors from the above study have a direct and indirect effect on utilization of these services by mothers, some of this factors include mother’s educational level, proximity of healthcare center to their homes, influence from family, friends and spouse, quality of care rendered by health facilities and the way they were handled by healthcare providers, expenses made on each antenatal visit, support from spouse, cost of delivery services and the last but not the least is a personal understanding of the importance of antenatal and maternity visits.

 **RECOMMENDATIONS**

From our study above and the observations we made, we deem it appropriate to make the following recommendations.

1. Girl child education must be emphasized and encouraged, as educated mothers have better health seeking behavior which will improve both her quality of life and that of her family.
2. Women empowerment especially financially is very important and must be encouraged; every mother should have a source of income.
3. Cost of antenatal and maternity services should be made affordable to ensure all mothers utilize these services. A reduction in cost would help low income families participate.
4. Healthcare providers should be patient and show empathy and care to mothers especially in labour as this will encourage them access health facilities better.
5. Mother should be sensitized regularly of the dangers of home delivery and utilization of traditional birth attendants.
6. Spouses should be part of antenatal visits and encouraged to attend services with their wives, this would go a long way in providing emotional support, increasing financial support and also will increase the acceptance of antenatal and maternity services.
7. Community sensitization on the importance of antenatal and maternity services must be strengthened, this would go a long way in debunking myths and superstitions that may be circulating in the community and curb its passing on from one mother to another.
8. Healthcare facilities should endeavour to include the provision of long lasting insecticide treated nets as part of services rendered during antenatal care, as this in combination with malaria prophylaxis would increase the success rate of reducing the incidence of malaria in pregnancy, in line with the rationale of integrated vector management.

**Ethical Approval and Consent:**

Ethical approval was gotten from the Research Ethics Committee of the hospital and The Office of The Director, Institute of Child Health Center. The HREC number was AE-FUTHA/REC/VOL 3/2021/144. Participants were duly educated about the study and their participation would be voluntary. Information collected from the respondents was treated with utmost confidentiality and consent would be obtained before administering the questionnaire.

**DISCLAIMER (ARTIFICIAL INTELLIGENCE)**

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts. This guarantees the fact that the originality of the study was maintained.

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