

KNOWLEDGE OF MATERNAL AND CHILD HEALTH SERVICES AMONG WOMEN OF CHILDBEARING AGE IN KATAGUM LOCAL GOVERNMENT AREA BAUCHI STATE

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Abstract

This study examined the knowledge of maternal and child health services among women of childbearing age in Katagum Local Government Area, Bauchi State, Nigeria. A descriptive survey research design was adopted for the study. The population comprised 25,365 women of childbearing age in the study area, from which a sample size of 760 respondents was selected using a multi-stage sampling technique. Data were collected using a self-structured questionnaire validated by three experts in Health Education, and a reliability coefficient of 0.77 was obtained using the Spearman-Brown Prophecy Formula. Data were analyzed using a one-sample Z-test at a 0.05 level of significance. The findings revealed that there was a significant difference in the proportion of women who had adequate knowledge of maternal health services and those who did not ($Z = 8.27, p < 0.05$). Similarly, a significant difference was found in the proportion of women who had adequate knowledge of child health services and those who did not ($Z = 7.16, p < 0.05$). The study concluded that a significant proportion of women of childbearing age in Katagum Local Government Area possess adequate knowledge of both maternal and child health services. It was therefore recommended that government and health authorities should sustain and strengthen health education programmes, community outreach initiatives, and access to maternal and child health services, particularly in rural communities.

Keywords: Knowledge, maternal health services, child health services and women childbearing

Introduction

Maternal and child health services encompass a broad range of healthcare, social support, and educational services aimed at promoting the well-being of mothers and their children. These services are essential for ensuring healthy pregnancies, safe childbirth, and optimal growth and development of infants and young children. Key components include prenatal care, which involves regular medical check-ups, screenings, and early interventions to monitor and support both maternal and fetal health (Abejid & Makanjuola, 2021). Regular prenatal visits help in the early detection and management of complications, significantly reducing maternal and infant mortality rates. Labour and delivery services involve skilled assistance from obstetricians, midwives, and nurses to ensure a safe birthing process. Postpartum care includes physical and emotional support to mothers after childbirth, such as postnatal check-ups, breastfeeding support, and education on newborn care (USAID, 2019).

Child health services play a crucial role in the healthy development of children and adolescents. These services include immunizations, routine check-ups, growth monitoring, and management of acute and chronic illnesses. Nutrition services are also essential, offering prenatal nutrition counseling, breastfeeding support, and child feeding guidance. Adequate nutrition during pregnancy and early childhood prevents malnutrition, stunting, and

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micronutrient deficiencies (Babalola & Adewuyi, 2016). Therefore, family planning services provide individuals and couples with access to contraception and reproductive health education, helping to prevent unintended pregnancies and promote maternal and child health. Health education and promotion equip mothers and caregivers with essential knowledge on topics such as hygiene, immunizations, and injury prevention, thereby encouraging healthier communities (WHO, 2018).

Although, these efforts, maternal and infant mortality rates remain high in Sub-Saharan Africa, particularly in Northern Nigeria, where safe motherhood is still a challenge. International frameworks such as the 2017 International Conference on Population and Development and the 2018 Fourth World Conference on Women have emphasized the importance of reproductive health, gender equity, and maternal health (WHO, 2015). These global initiatives, including the Millennium Development Goals (MDGs) and the Maputo Declaration, advocate for reducing maternal mortality, promoting women's empowerment, and increasing access to quality healthcare (WHO, UNFPA, UNICEF, 2017). Antenatal care serves as a critical touchpoint for building trust and providing interventions, especially in rural areas where maternal and infant morbidity and mortality are most severe (USAID, 2019). Maternal and infant mortality are indicators of the effectiveness of a country's healthcare system. Maternal death is defined as the death of a woman during pregnancy or within 42 days of its termination, due to causes related to or aggravated by the pregnancy (WHO, 2018). Common causes include hemorrhage (25%), infections (13%), eclampsia (12%), obstructed labor (8%), abortion complications (13%), and other conditions like malaria, anemia, and HIV/AIDS (WHO, 2018). Similarly, infant mortality deaths before the first birthday serves as a measure of reproductive and prenatal care quality. Causes include congenital abnormalities (12%), sudden infant death syndrome (SIDS) (8%), respiratory distress syndrome (5%), and birth asphyxia (4%) (Policy Project Nigeria, 2019). Nigeria's public healthcare system includes federal, state, and local facilities, as well as private providers. However, issues such as ignorance, corruption, illiteracy, and poor implementation of policies hinder progress. Government initiatives like the National Health Insurance Scheme and Primary Health Care development aim to improve health outcomes, but broader reforms in health education, environmental safety, and drug regulation are needed to truly enhance maternal and child health across the nation.

A study conducted by Yusuf and Aliyu (2021) in Kano State, Nigeria, assessed the knowledge of maternal health services among women of childbearing age using a descriptive survey design. It showed that 67.5% of the respondents had moderate knowledge of antenatal care, skilled delivery, and postnatal services. However, Educational level and access to health information were significantly associated with higher knowledge levels. Another related study by Ibrahim and Muhammad (2020) in Sokoto South Local Government Area, Sokoto State, indicated that 72% of women had heard about maternal health services, but only 54% could correctly identify at least three components of such services. Education, marital status, and distance to health facilities were statistically significant predictors of knowledge and service use based on their study.

Also, a study by Abubakar and Umar (2022) in Zaria Local Government Area, Kaduna State on knowledge of child health services among women of childbearing age using a descriptive cross-sectional survey design revealed that 64% of the women demonstrated adequate knowledge of immunization schedules, exclusive breastfeeding, and treatment of common childhood illnesses. However, education level and frequency of antenatal visits were significantly associated with higher knowledge scores. In another study by Bello and Haruna (2021) in Yola South, Adamawa State, the researchers examined women's awareness of essential child health services through a cross-sectional descriptive study design. The findings

indicated that 58% of the women had moderate knowledge of services such as routine immunization, exclusive breastfeeding, and treatment of diarrhea. However, only 39% were aware of the integrated management of childhood illnesses (IMCI). Higher parity, urban residence.

From the above studies it can be deduced that maternal and child health (MCH) services play a crucial role in reducing maternal and infant morbidity and mortality. However, in Katagum Local Government Area (LGA) of Bauchi State, the level of knowledge among women of childbearing age regarding these services remains significantly low. Many women are either unaware of the existence of essential services such as antenatal care (ANC), skilled birth attendance, immunizations, and postnatal care, or they do not fully understand their importance. This limited knowledge often results in poor health-seeking behaviors, including late initiation of ANC, home deliveries without skilled attendants, and neglect of postnatal care, all of which contribute to preventable complications and deaths. The consequences are particularly severe in rural settings where access to quality healthcare is already a challenge (Ahmed & Suleiman, 2022).

Although government and non-governmental efforts to promote maternal and child health in the region, the effectiveness of such interventions is hindered by low awareness, cultural beliefs, illiteracy, and poor dissemination of health information. The lack of targeted health education campaigns and community engagement contributes to misconceptions and inadequate utilization of available services. As a result, the region continues to experience high rates of maternal and child mortality. Understanding the level of knowledge and the factors influencing it among women of reproductive age is critical to designing effective strategies for improving MCH service uptake and ultimately enhancing the health outcomes of mothers and children in Katagum LGA.

Purpose of the Study

The aim of this research is to assess the knowledge of maternal and child health services among women of child bearing age in Katagum Local Government Area of Bauchi State. The specific objectives are too determined:

1. the difference in the proportion of women who have adequate knowledge of maternal services and those that do not have in Katagum Local Government Area, Bauchi State
2. there difference in the proportion of women who have adequate knowledge of child health services and those that do not have in Katagum Local Government Area, Bauchi State

Hypotheses

The following research hypotheses guided the study:

- Ho₁ There is no significant difference in the proportion of women who have adequate knowledge of maternal services and those that do not have in Katagum Local Government Area, Bauchi State
- Ho₂ There is no significant difference in the proportion of women who have adequate knowledge of child health services and those that do not have in Katagum Local Government Area, Bauchi State

Methodology

A descriptive survey design type was employed in this study. This design was chosen to allow the researcher to describe the knowledge of maternal and child health services among of childbearing age in Katagum Local Government Area, Bauchi State in order to make generalisations in the study area.

The population of this study is 25,365 of women of child bearing age in Katagum local government area of Bauchi state which is 24% of the of the total population of 105,687 of

Katagum local government area (National Population Commission, 2016). WHO (2020) stated that women of child bearing age represent 24% of the total population of study area.

The sample size for the study was 760. According to Krejcie and Morgan (1970) in a population of 25,365 and above, a sample size of 760 is adequate. The sampling techniques for this study consist of multi-stage sampling techniques. Therefore, the stages for sampling in this study were as follows:

Step I: Wards in Katagum local government area stratified in to even (11).

Step II: Simple random sampling technique was used to select four (4) wards out of even (11). This was done by involving all the names of the wards being written down on a piece of papers and put into a container and mixed vigorously. The piece of papers picked out of the container, selected the sample group.

Stage VI: Proportionate sampling procedure was used to determine the number of respondents selected from each ward. The total population of the selected wards was 3,870, from which a sample size of 387 respondents was drawn. This represents 10% of the total population, which is considered adequate for survey research when the population is large. The proportionate sampling technique ensured that each ward was fairly represented according to its population size. The sample for each ward was calculated using the formula:

$$\text{Sample for each Ward} = \frac{\text{Ward Population}}{\text{Total of the population}} \times \text{Total Sample Size (760)}$$

Step IV: Systematic sampling procedure was used to select the sample respondents from four (4) selected health facilities. This was done by systematically selecting the house holders from selected wards by taking the odd number of the house holders stating from 1st house to number 7th house that is interval of 7th householders. This was repeated until the require sample size was meet.

Table 1: Proportionate Distribution of Sample Size

Stratified sampling	Simple random	Population	Proportionate Sample Size	Systematic Household
Northwest states	LGA			
Buskuri	Buskuri	1,320	259	259
Chinade	Chinade	340	67	67
Gambaki/bidir	Madangala	570	112	112
Madachi/gangai	Madara	1640	322	322
Madangala				
Madara				
Nasarawa	Bakin			
Kasuwa				
Ragwam/magonshi				
Tsakuwa Kofar Gabas/				
Kofar Kuka				
Yayu				
		3,870	760	760

Source: Field Survey (2025)

The instrument for data collection in this study was developed by the researcher. The questionnaire consisted of three (3) sections. Section A contained three items related to the personal data of the respondents. Section B comprised five items focused on the knowledge of maternal health services among women of childbearing age, while Section C included five items assessing knowledge of child health services among the same group. A four-point scale was used for scoring, as follows: Strongly Agree – 4 points, Agree – 3 points, Disagree – 2 points, and Strongly Disagree – 1 point. The instrument was validated by three experts in the

field of Health Education, and a reliability index of 0.77 was obtained using Spearman-Brown's Prophecy Formula.

An introduction letter was presented to the community heads to obtain approval for conducting the study. A total of 387 questionnaires were administered to women of childbearing age in their respective households with the assistance of four (4) trained research assistants. The researcher and the assistants systematically selected households for participation, starting from the residence of the community head. Every fifth (5th) house was chosen until the required sample size was reached. Women of childbearing age were purposively selected as respondents for the study. The researcher and assistants administered the questionnaires during house-to-house visits. Copies of the questionnaire were left with the respondents and were retrieved after two weeks by the research assistants. Inferential statistics of one sample t-test was used to test research hypotheses of the study. Alpha level of 0.05 was used as criterion to either retained or reject the null-hypotheses

Results

Inferential statistics of one sample t-test was used to test research hypotheses at a 0.05 alpha level of significant. All the 760 copies of questionnaire administered were duly filled and returned for data analysis given a hundred per cent return rate.

Hypothesis 1: There is no significant difference in the proportion of women who have adequate knowledge of maternal services and those that do not have in Katagum Local Government Area, Bauchi State

Table 1: Summary of One-Sample Z-Test on Knowledge of Maternal Health Services among Women of Childbearing Age in Katagum Local Government Area, Bauchi State

Variable	N	Observed Proportion (p)	Test Proportion (p ₀)	Z	P
Maternal health services knowledge	760	0.65	0.50	8.27	.000

Z-tab= 1.96, $\alpha = 0.05$

The results in Table 1 show the summary of the one-sample z-test on the knowledge of maternal health services among women of childbearing age in Katagum Local Government Area, Bauchi State. The table indicates that out of the 760 respondents, the observed proportion of women with adequate knowledge of maternal health services was 0.65 compared with the test proportion of 0.50. The calculated z-value of 8.27 with a p-value of .000 at 0.05 level of significance shows that the z-value is greater than the critical value of 1.96. Therefore, the null hypothesis which states that there is no significant difference in the proportion of women who have adequate knowledge of maternal health services and those who do not have in Katagum Local Government Area, Bauchi State is rejected. This implies that a significantly higher proportion of women have adequate knowledge of maternal health services in the study area.

Hypothesis 2: There is no significant difference in the proportion of women who have adequate knowledge of child health services and those that do not have in Katagum Local Government Area, Bauchi State

Table 2: Table 2: Summary of One-Sample Z-Test on Knowledge of Child Health Services among Women of Childbearing Age in Katagum Local Government Area, Bauchi State

Variable	N	Observed Proportion (p)	Test Proportion (p ₀)	Z	P
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Knowledge of child health services	760	0.63	0.50	7.16	.000
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Z-tab = 1.96, $\alpha = 0.05$

The results in Table 2 present the summary of the one-sample z-test on the knowledge of child health services among women of childbearing age in Katagum Local Government Area, Bauchi State. The table shows that out of the 760 respondents, the observed proportion of women with adequate knowledge of child health services was 0.63 compared with the test proportion of 0.50. The calculated z-value of 7.16 with a p-value of .000 at 0.05 level of significance indicates that the z-value is greater than the critical value of 1.96. Therefore, the null hypothesis which states that there is no significant difference in the proportion of women who have adequate knowledge of child health services and those who do not have in Katagum Local Government Area, Bauchi State is rejected. This implies that a significantly higher proportion of women possess adequate knowledge of child health services in the study area.

Discussions

The outcome of this study revealed that there is significant difference in the proportion of women who have adequate knowledge of maternal services and those that do not have in Katagum Local Government Area, Bauchi State ($Z = 7.16$; $p = .000$). This is in line with the study conducted by Yusuf and Aliyu (2021) in Kano State, Nigeria, assessed the knowledge of maternal health services among women of childbearing age using a descriptive survey design. The results showed that 67.5% of the respondents had moderate knowledge. It is also in line with another study by Ibrahim and Muhammad (2020) in Sokoto South Local Government Area, Sokoto State, employed a cross-sectional research design to examine the awareness and utilization of maternal health services. The findings indicated that 72% of women had heard about maternal health services, but only 54% could correctly identify at least three components of such services. Education, marital status, and distance to health facilities were statistically significant predictors of knowledge and service use.

The finding of the study further indicated that there is significant difference in the proportion of women who have adequate knowledge of child health services and those that do not have in Katagum Local Government Area, Bauchi State ($Z = 7.16$; $P = .000$). This is agreed with study conducted by Abubakar and Umar (2022) in Zaria Local Government Area, Kaduna State, explored the knowledge of child health services among women of childbearing age using a descriptive cross-sectional survey design. The results revealed that 64% of the women demonstrated adequate knowledge. The finding is also in line with the study conducted by Bello and Haruna (2021) in Yola South, Adamawa State, and the researchers examined women's awareness of essential child health services through a cross-sectional descriptive study design. The findings indicated that 58% of the women had moderate knowledge of services such as routine immunization, exclusive breastfeeding, and treatment of diarrhea. However, only 39% were aware of the integrated management of childhood illnesses (IMCI).

Conclusions

Based on the findings of this study, the following conclusion were made:

1. Women of childbearing age in Katagum Local Government Area, Bauchi State have knowledge of maternal health services.
2. Women of childbearing age in Katagum Local Government Area, Bauchi State have knowledge of child health services.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Since the knowledge levels are already high, efforts should focus on sustaining it and expanding health education programs. Community outreach programs should be reinforced to maintain awareness and reach women in more remote areas.
2. Ministry of health should ensure that maternal and child health services are easily accessible, especially in rural areas. This could include mobile clinics or transportation assistance for women in hard-to-reach areas.

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