

Infant and Maternal Mortality Rate in Damaturu (Case Study of Specialist Hospital Damaturu)

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Abstract

This paper sheds light on the infant and maternal mortality rate in Damaturu, the Yobe state capital. It has been observed that some psychosocial factors like attitude, illiteracy and economic status of couples contributes highly to infant and maternal mortality and the contribution of the couples towards the aforementioned factors. The method used for data collection was self-administered questionnaire which shows 79.7% of the respondents agreed that attitudes of the couples contributes to the case while 20.3% disagreed, 88.7% agreed that economic status of the couples contributed to infant and maternal mortality rate while 11.3% disagreed, 90% of the respondents agreed that illiteracy contributed to the case while 10% disagreed. 59.1% of the respondents are undecided about whether Government and NGO's awareness campaign can reduce its surge, 31.2% disagreed while 9.7% agreed. Lastly it is recommended that the following should be prioritized: community health education programs, accessibility to health facilities, continuing education in safe delivery, safe motherhood initiative programs, planning services and health education should be emphasize in the factors responsible for infant and maternal mortality rate and how it can be prevented.

Key Words: *infant, maternal, mortality, health*

INTRODUCTION

This research work sheds light on a critical issue that demands our attention: infant and maternal mortality in Damaturu the Yobe state capital. In the heart of Nigeria, where the joy of childbirth should be celebrated, we find ourselves facing a stark reality. The loss of precious lives during childbirth and infancy weighs heavily on our community, impacting the well-being of mothers, robbing infants of their potential, and leaving families grieving.

The purpose of this presentation is twofold: to raise awareness about the concerning rates of infant and maternal mortality in Damaturu and to foster a collective understanding of the underlying causes and potential solutions. By delving into this topic, we hope to spark dialogue, encourage collaborative efforts, and drive change within our healthcare systems.

In our quest to tackle this issue, it is essential to comprehend the gravity of the situation. Infant and maternal mortality are not mere statistics but represent the profound loss of dreams, potential, and the future. These tragedies not only affect individual families but also impact the social fabric and development of our community as a whole.

To comprehend the magnitude of the problem, we will explore the current statistics and rates of infant and maternal mortality in Damaturu. By comparing these figures to national or international benchmarks, we gain a local perspective, enabling us to grasp the urgency of our collective responsibility. Together, we shall explore interventions and solutions that hold promise for reducing infant and maternal mortality. We will shine a light on initiatives such as improving access to quality prenatal care, promoting skilled attendance at birth, implementing vaccination programs, and

strengthening our healthcare systems. By examining successful collaborative efforts from other regions, we can gain valuable insights and adapt best practices to our local context.

In closing, let us remember that every life lost to infant and maternal mortality represents an urgent call to action. We have the power to make a difference and reshape the future of Damaturu. By coming together, raising awareness, and implementing effective strategies, we can create a community where mothers and infants thrive, where the joy of childbirth is protected, and where every life is cherished.

Definition and Measurements:

Infant and maternal mortality are critical indicators of the health and well-being of a community, reflecting the success or challenges of its healthcare system. Understanding the definitions and measurements of these terms is essential to grasp the gravity of the situation in Damaturu.

Infant Mortality:

Infant mortality refers to the death of infants within the first year of life. It serves as a sensitive barometer of the overall health, socioeconomic conditions, and healthcare access available to pregnant women, newborns, and infants. The infant mortality rate (IMR) is typically expressed as the number of infant deaths per 1,000 live births in a given year. (WHO)

Maternal Mortality:

Maternal mortality, on the other hand, refers to the death of women during pregnancy, childbirth, or within 42 days after the termination of pregnancy, irrespective of the duration or site of the pregnancy. Maternal mortality is influenced by a range of factors, including the quality and accessibility of reproductive healthcare services.

The maternal mortality ratio (MMR) is often used to measure maternal deaths and is expressed as the number of maternal deaths per 100,000 live births. (WHO)

Measurement Challenges:

Accurately measuring infant and maternal mortality can be challenging, particularly in resource-constrained settings. In Damaturu, where accurate and up-to-date data may be limited, obtaining precise figures can be an ongoing struggle. Some of the common measurement challenges include:

Underreporting: Not all deaths may be properly registered, and infant and maternal deaths that occur outside healthcare facilities or in remote areas may go unreported.

Data Quality and Completeness: Incomplete or inaccurate medical records, inconsistent cause-of-death reporting, and inadequate reporting systems can hinder the accuracy of mortality data.

Lack of Vital Registration Systems: In some cases, the absence of comprehensive vital registration systems may impede the collection of reliable mortality data, making it challenging to track trends and assess progress.

Despite these challenges, efforts are being made at the national and international levels to improve data collection mechanisms and enhance the accuracy of infant and maternal mortality estimates.

In the context of Damaturu, it is important to consider the available data sources, such as health facilities, community health workers, and surveys, to estimate infant and maternal mortality rates. While acknowledging the limitations, these estimates can still provide valuable insights into the prevailing situation and guide interventions.

By understanding the definitions and measurements of infant and maternal mortality, we can better appreciate the urgency and importance of addressing these issues in Damaturu. In the following sections, we will delve deeper into the factors contributing to these mortality rates and explore potential interventions to combat this pressing challenge.

Statement of the Problem

Infant and maternal mortality are some of the problems faced by Nigeria families especially Damaturu local government. It has been observed that some psychosocial factors like attitude, illiteracy and economic status contribute highly to infant and maternal mortality. Despite the fact that the establishment of the institution of safe motherhood initiative in the health sector, maternal mortality is still very high, ignoring the main aim of safe motherhood initiative. Such identified factors must be tackled by government and health works. This can be done by creating awareness to pregnant and lactating women when they come to the hospital for immunization and antenatal. Davis (2005) conducted a study on maternal mortality only but this research work investigated both maternal and infant mortality.

Objective of The Study

- I. To investigate how Couples attitude contribute to the increase in high infant and maternal mortality.
- ii. To examine how Couples illiteracy affect infant upbringing and maternal care.
- iii. To examine how Couples economic status affect infant and maternal mortality.
- iv. To investigate how awareness by Government and NGOs on factors that leads to infant and maternal mortality reduces the rate of maternal and infant mortality.

Scope

This study will focus on infant and maternal mortality rate in Damaturu, Yobe state, and of the study is limited to Yobe state only. Because the rate of infant and maternal mortality is high in Damaturu local government. WHO (2020).

Significance of the Study

The significance of this research will help women, men and readers to better understand psychosocial factor responsible for high rate of infant and maternal mortality rate. The result will help health workers to eradicate the factors that leads to high rate of infant and maternal mortality, such factors include attitude ,illiteracy and economic status etc. this research will serve as a body of knowledge where other researchers who wishes to carry out research on similar topic will use it as a reference. This research work serves as a recommendation which will draw the attention of government to interfere into issues of infant and maternal mortality.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The Maternal mortality rate, as defined by Bennet Brown (1999), is the number of deaths related to pregnancy and childbirth per 1,000 registered births. Deaths occurring more than 42 days after pregnancy or childbirth are excluded, aligning with the international definition of maternal death. This definition, supported by the International Federation of Gynecology and Obstetrics and the International Classification of Diseases, injuries and causes of Death (ICD,1994), describes maternal death as a woman's death within 42 days of pregnancy termination regardless of pregnancy type or duration due to causes directly or indirectly related pregnancy or its

management, excluding accidental or incidental causes. In developing countries like Nigeria, childbirth is a major cause of death for women in reproductive age, with pregnancy and childbirth complications being contributors. The World Health Organization (1996) reports that over one woman dies every minute from such causes, totaling 585,000 annual deaths globally with less than 1% occurring in developed countries. This disparity highlights that improved resources and services could significantly reduce maternal deaths in developing nations like Nigeria.

According to Davis (2005), maternal mortality measures the risk to mothers associated with childbirth, counting only deaths directly linked to pregnancy. For instance, a death from renal failure triggered by severe toxemia of pregnancy or pyelonephritis would be classified as a maternal death, even if it occurs years later. However, deaths from unrelated causes, such as road accidents or non-pregnancy related medical emergencies are not counted as maternal deaths, even if they occur during pregnancy. Maternal deaths are recorded when a disease (e.g cardiac disease, pulmonary tuberculosis, malaria, pyelonephritis, hypertension, or diabetes mellitus) is aggravated by pregnancy as a secondary cause. Bennet & Brown (1999) note that cardiac disease is known to be worsened by pregnancy in the medical field. In Nigeria, the neonatal mortality rate (deaths of infants within 28 days of life) is 48 per 1,000 live births (NDHS,2000). The National Demographic Health Survey (2000) reports the highest neonatal mortality rates in the North-East zone. Most neonatal deaths occur within the first week of life, reflecting the quality of maternal care (FMDH,2007). Nigeria sees approximately 5.3 million births

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annually (11,000 per day) with one million children dying before the age of five. The stillbirth rate (28 per 1,000) is among the highest globally.

METHODOLOGY

Introduction

This chapter will be discussed under the following headings: history of the study area, population of study, sample size and sampling techniques, methods of data collection, reliability and validity, method of data analysis, as well as the problem encountered in the study.

Research Design

The study adapts the quantitative approach with the use of survey method in investigating psychosocial factors responsible for high rate of infant and maternal mortality through self-design questionnaire which has two parts: descriptive which collect the data regarding demography of the respondents and analytical which collect data in order to address research questions.

Study Area

Damaturu local government was created in 1976 by Borno state Government. With the creation of Yobe state in 1991 it became the state capital. The town lies in a plain region that covered by savannah within latitude 11.7458 degrees N and longitude 11.9602 degrees E and it support crops like millet, sorghum (Guinea corn), and peanuts (groundnuts). The town is a market center on the road between potiskum and Maiduguri. Damaturu local government is divided in to (11) political wards namely Bindigari/fawari, Damakasu, Damaturu central, Gabir/maduri, Kalallawa/gabai, Kukareta/warsala, Maisandari/waziri Ibrahim Estate, Murfa kalam, Nayinawa, Njiwaji/gwange, Sasawa/kabaru. Damaturu as a settlement has people from neighboring Borno, Jigawa, kano, Bauchi, and Gombe states, and numerous others from

countries like Niger, chad, Cameroon, Benin and Central African Republic. Damaturu town still uses the traditional leadership despite having modern type of settlements. Here when we talk about Damaturu festival where mostly they are Muslims are joyous occasions. The largest of the Muslim festivals are Eid Al-Fitr, which takes place at the end of Ramadan, the month of ritual fasting, and Eid Al-Adha, which make the time of the pilgrimage to Makkah. There is also Christmas celebration on December 25, AD.

Population of Study

The target population of this study is Damaturu local government which include both literate and non-literate members residing in Damaturu local government as far as this research is concern, the areas of Damaturu local government encompassed 11 wards with a population of 350,458 (www.citypopulation.de). However, the scope of the study will cover only the Specialist Hospital as the wide clinic for maternity in Damaturu.

Sample Size and Sampling Techniques

The sample of this study was determined by using kregcie and morgan (1970) size determination table and according to the sample table in population of 350,458 the sample size is 384. The sampling techniques that will be use is sample random, sampling which is a probability sampling technique that gives every member or element of the population an equal probability or being choose for the sample. Shadish et al 2002.

Methods of Data Collection

The method for data collection was self-administered questionnaire was used by the researcher in which the questionnaire was in two form which section A comprises socio-demographic data and section B sought to determine the psychosocial factors responsible

for the high rate of infant and maternal mortality rate in Damaturu local government.

Reliability and Validity

The instrument of the study was validated through correction, and verified by the researcher who is expert within the field of the study. In terms of reliability, the questionnaire must be tested in order to make sure that it measures and covered the topic under investigation and will be reliable.

Method of Data Analysis

The Data collected was analyze using frequency table and percentage i.e. Descriptive statistics.

Data Analysis and Interpretation

This section deals with data analysis and presentation of result and the data collected were

Respondent	Frequency	Percentage
Married	200	62.5%
Single	100	31.3%
Divorced	20	6.3%
Others		
Total	320	100%

analyzed and presented based on each research questions as formulated.

Data Presentation and analysis

Personal biodata of the respondents

Table 1: age distribution of the respondents

Respondent	Frequency	Percentage
15-25	119	37.2%

26-36	141	44.06%
37-47	36	11.3%
48-58	24	7.05%
Total	320	100%

Source: field work, 2023

The above table, shows that 119 of the respondents, representing 37.2% are between the age ranges of 15-25 years. 141 respondents representing 44.06% are between the age range of 26-36 years, 36 of the respondents representing 11.3% are between the age range of 37-47 years, and finally 24 of the respondents representing 7.05% are within the age range of 48-58 years.

Table 2: sex of the respondents

Respondent	Frequency	Percentage
Male	184	57.5%
Female	136	42.5%
Total	320	100%

Source: field work, 2023

The above table, shows that 184 of the respondents representing 57.5% are males while 136 of the respondents representing 42.5% are females.

Table 3: marital status of the respondents

Source: field work, 2023

Table 3 shows that, 200 of the respondents representing 62.5% are married, 100 of the respondents representing 31.3% are single, while 20 of the respondents representing 6.3% are divorced.

Table 4: religion of the respondents

Respondent	Frequency	Percentage
Islam	280	87.5%
Christianity	40	12.5%
Traditional		
Others		
Total	320	100%

Source: field work, 2023

Table 4 shows that 280 of the respondents, representing 87.5% are Muslims, 40% of the respondents representing 12.5% are Christians.

Table 5: ethnic group of the respondents

Respondent	Frequency	Percentage
Hausa	66	20.6%
Fulani	52	16.3%
Kanuri	94	29.4%
Others	108	33.8%
Total	320	100%

Source: field work, 2023

Table 5 shows that 66 of the respondents, representing 20.6% are Hausa, 52 of the respondents representing 16.3% are Fulani, 94 respondents representing 29.4% are Kanuri, and finally 108 respondents representing 33.8% are others.

Table 6: Which of the factors responsible for the infant and maternal mortality rate in Damaturu

Respondent	Frequency	Percentage
Attitude of the couple	110	34.4%
Illiteracy	85	26.6%
Economic status of the couple	100	31.3%
Others	25	7.8%
Total	320	100%

Source: field work, 2023

Table 6 shows that 110 of the respondents, representing 34.4% agreed that attitude of the couple is the factor responsible for infant and maternal mortality. 85 of the respondents representing 26.6% agreed that illiteracy is the factor responsible for infant and maternal mortality, 100 respondents representing 31.3% agreed that economic status of the couple is the factor responsible for infant and maternal mortality, and finally 25 respondents representing 7.8% are Others.

Table 7: Do you agree that couples attitude affect infant and maternal mortality?

Respondent	Frequency	Percentage
Yes	255	79.7%
No	65	20.3%
Total	320	100%

Source: field work, 2023

Table 7 shows that 255 of the respondents, representing 79.7% agreed that couples attitude affect infant and maternal mortality, while 65 of the respondents, representing 20.3% disagreed.

TABLE 8: Do you agree that couples' economic status affect infant and maternal mortality?

Respondent	Frequency	Percentage
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Yes	284	88.7%
No	36	11.3%
Total	320	100%

Source: field work, 2023

Table 8 shows that 284 of the respondents, representing 88.7% agreed that couples economic status affect infant and maternal mortality, while 36 of the respondents, representing 11.3% disagreed.

Table 9: Do you agree that couples' illiteracy affect infant and maternal mortality?

Respondent	Frequency	Percentage
Yes	288	90%
No	32	10%
Total	320	100%

Table 10 shows that 31 of the respondents, representing 9.7% are agreed that the awareness by government and non-governmental organization on the factors that leads to infant and maternal mortality can reduce the rate of infant and maternal mortality in Damaturu, Yobe state, 100 of the respondents representing 31.2% and finally disagreed, 189 of the respondents representing 59.1 undecided.

Response Table

Suggestion	Frequency	Percentage
The following will go a long way: Awareness and orientation Easy access to medical and surgical service, Affability of psychosocial services.	100	31.3
We can reduce the high rate of infant the case in Damaturu by improving the economic status of every worker in the local government	104	32.5

Source: field work, 2023

Table 9 shows that 288 of the respondents, representing 90% agreed that couples illiteracy affect infant maternal mortality, while 32 of the respondents, representing 10% disagreed.

Table 10: Is awareness by government and non-governmental organization on the factors that leads to infant and maternal mortality reduce the rate of infant and maternal mortality in Damaturu, Yobe state?

Respondent	Frequency	Percentage
Yes	31	9.7%
No	100	31.2%
Undecided	189	59.1%
Total	320	100%

Source: field work, 2023

The way people can use to reduce infant mortality which are; preventing birth defects, getting pre pregnancy and prenatal care using newborn screening to detect hidden condition e.t.c	28	8.7
The government agencies should create awareness to the community people especially those at the rural area on maternal issue and hygiene.	11	3.5
Government should provide professional doctors and nurses in the hospital.	77	24.06
Total	320	100

Source: Field Work, 2023.

The response table shows that 100 of the respondents, representing 31.3% agreed that through the following will go a long way in improving infant and maternal mortality rate by:

Awareness and orientation, Easy access to medical surgical service, Affability of psychosocial services can reduce the infant and maternal mortality. 104 of the respondents representing 32.5% agreed that we can reduce the high rate of infant and maternal mortality in Damaturu by improving the economic status of every worker in the local government area, 28 respondents representing 8.7 agree that the way people can reduce infant mortality which are; preventing birth defects, Getting pre pregnancy and prenatal care using newborn screening to detect hidden condition e.t.c, 11 respondents representing 3.5% agreed that The government agencies should create awareness to the community people especially those at the rural area community on maternal issue and hygiene, and finally 77 of the respondents representing 24.06 agreed that Government should provide professional Doctors and nurses in the hospital.

Results

The discussion of the study is structured around the research questions, with findings aligned to responses from the 320 analyzed questionnaires:

1. Attitude of couples: 34.4% of respondents agreed that couples' attitudes contributes to high infant and maternal mortality rates, consistent with UNICEF (2000), which defines attitudes as conscious mental states, values, beliefs or feelings that predispose behaviour. Additionally, 79.7% of respondents strongly agreed with this factor, aligning with a UNICEF report indicating that women's fears and attitudes towards childbirth can influence the maternity care they receive and birth outcomes. This study aimed to profile women based on their attitudes toward birth and levels of childbirth related fear.
2. Economic status: 88.7% of respondents agreed that the economic status of couples contributes to high rates of the case. This finding is supported by a World bank report stating that low economic increases the likelihood of infant mortality, reflecting the broader impact of socioeconomic conditions on maternal and child health.

3. Illiteracy: 90% of the respondents agreed that illiteracy among couples contributes to elevated mortality rates. This is consistent with a Belgian study showing that increases in female literacy are associated with declining maternal mortality ratios, highlighting the role of education in improving health outcomes.
4. Awareness by Government and NGOs: 59.1% of respondents were undecided about whether awareness campaigns by government and non-governmental organization will reduce infant and maternal mortality in Damaturu. Additionally, 31.2% disagreed, while only 9.7% agreed, suggesting limited perceived effectiveness of such initiatives in the state.

These findings underscore the influence of attitudinal, economic and educational factors on infant and maternal mortality with mixed perceptions regarding the impact of awareness efforts.

Summary

The study conducted in Damaturu local Government aimed to identify factors contributing to high infant and maternal mortality rates. The sample included 384 mothers of child bearing age with data collected via a questionnaire of which 320 were analyzed using frequency distribution tables. Key findings include:

1. 79.7% strongly agreed that couples' attitudes contribute to high infant and maternal mortality rates.
2. 7.8% (other suggestion) strongly agreed that poor health care facilities increase these rates.
3. 90% strongly agreed that illiteracy contribute to the increase mortality rates.
4. 88.7% Strongly agreed economic status plays a significant role in the high rates.

Conclusion

The study concluded that:

1. Poverty is a major factor driving high infant and mortality rates.
2. Poor health care facilities contribute significantly to these rates.
3. Inadequate road infrastructure and lack of skilled health care personnel are additional factors.
4. Socio-economic and cultural factors also play critical role in the high mortality rates.

Future Direction

Based on the findings, the study recommends:

1. Implementing community health education programs to promote antenatal clinic attendance for early problem detection and care.
2. Establishing accessible healthcare facilities in remote areas and employing trained healthcare personnel to provide quality care.
3. Organizing regular training on safe delivery procedures for midwives to improve their skills.
4. Promoting and ensuring accessibility to Safe motherhood initiative programs for all women of child bearing age.
5. Providing accessible family Planning services to prevent unwanted pregnancies.
6. Educating women of child bearing age on the factors contributing to infant and maternal mortality and preventive measures.

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