

**KNOWLEDGE OF MOTHERS ABOUT THE EFFECTS OF MALNUTRITION
ON CHILDREN 0 TO 5 YEARS OLD IN ODUNA COMMUNITY IN OVIA
NORTH EAST**

Victory OGBEBOR

EDU2102600

**DEPARTMENT OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION
FACULTY OF EDUCATION
UNIVERSITY OF BENIN
BENIN CITY**

NOVEMBER, 2025

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**BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF
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THE AWARD OF BACHELOR OF SCIENCE DEGREE B.Sc. IN HEALTH
EDUCATION, UNIVERSITY OF BENIN, BENIN CITY.**

NOVEMBER, 2025

CERTIFICATION

We, the undersigned certify that this project work is adequate in scope and was carried out by **Victory OGBEBOR** with the Matriculation Number **EDU2102600**, in the Department of Health Safety and Environmental Education, Faculty of Education, University of Benin, Benin City, Edo State, Nigeria in partial fulfillment of the requirements for the award of B.Sc (Ed.) Degree in Health Education.

Dr. (Mrs.) H. E Ehiorobo
(Project Supervisor)

Date: _____

Mrs. B. H. Enabulele
(Project Co-Ordinator)

Date: _____

Dr. (Mrs.) O.H. Obasuyi
Head of Department

Date: _____

DEDICATION

I dedicate this project to my beloved father, Late Mr. Thomas Ogbebor. Though you are no longer here to see this achievement, your wisdom, prayers, and encouragement shaped the person I have become. You remain forever in my heart.

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ABSTRACT

This study assessed the knowledge of women of childbearing age regarding the causes, signs, barriers, and factors contributing to malnutrition among children under five years. Four research questions guided the study, focusing on maternal awareness of malnutrition causes, recognition of its signs, obstacles to applying nutritional knowledge, and factors that enhance understanding.

The study adopted a descriptive survey design, as data were collected from a sample population with specific characteristics. The target population comprised women of childbearing age in the study area, and a total of 300 respondents were selected using a combination of random and purposive sampling techniques. A structured questionnaire consisting of relevant items was personally administered by the researcher, with instructions provided to ensure accurate responses.

The findings revealed that women demonstrated a moderate level of knowledge regarding the causes of malnutrition (grand mean = 2.51) and its signs (grand mean = 2.53). While most respondents recognised inadequate feeding practices, lack of exclusive breastfeeding, stunted growth, and poor weight gain as indicators of malnutrition, gaps existed in awareness of poverty, repeated childhood illnesses, and maternal nutrition during pregnancy. Key barriers to applying nutritional knowledge included financial constraints, cultural beliefs, household responsibilities, limited access to health professionals, and inadequate health education programmes. Factors contributing to improved maternal knowledge included access to health professionals, participation in health education programmes, formal education, community-based campaigns, and media sources.

The study concluded that although women of childbearing age have moderate awareness of malnutrition, cultural, economic, and educational limitations restrict the effective application of their knowledge. It is recommended that government and non-governmental organisations implement intensive maternal education programmes, community awareness campaigns, women's empowerment initiatives, and media-based nutrition education to enhance maternal understanding and improve child nutrition outcomes.

CHAPTER ONE

INTRODUCTION

Background of the study

Malnutrition remains a major public health challenge affecting children under five years of age globally, and Nigeria is among the countries with the highest burden. According to the World Health Organization (WHO, 2021), malnutrition is linked to nearly 45% of all deaths among children under five. In Nigeria, the situation is critical: about 37% of children under five are stunted, 7% are wasted, and 22% are underweight (National Population Commission [NPC] & ICF, 2019). The first 1,000 days of a child's life from conception to the second birthday are vital for growth, development, and long-term health. Poor nutrition during this period can lead to irreversible damage, including impaired cognitive development, increased susceptibility to infections, and reduced academic performance later in life (Black et al., 2013; UNICEF, 2020).

In Nigeria, several studies have indicated that one of the leading factors contributing to child malnutrition is the lack of maternal knowledge on appropriate feeding practices (Ajani, 2010; Ogunba, 2010). Many women of childbearing age are not fully aware of the effects of malnutrition, nor do they consistently apply recommended practices such as exclusive breastfeeding for the first six months or timely and adequate complementary feeding (NDHS, 2018). This knowledge gap is often influenced by factors such as low

educational levels, poverty, cultural beliefs, and limited access to health education and services, particularly in rural and underserved communities (Akorede & Abiola, 2013). As a result, children under five are more vulnerable to malnutrition and its long-term consequences.

Understanding the extent of knowledge among women of childbearing age regarding malnutrition is essential in addressing these challenges. This study seeks to assess this knowledge with the aim of identifying gaps that can inform public health interventions, health education programs, and policies designed to improve child nutrition and survival rates in Nigeria.

Statement of the Problem

Malnutrition among children under the age of five remains a major public health challenge in many developing countries, including Nigeria. Despite numerous government programs and international interventions aimed at combating malnutrition, its prevalence continues to threaten child survival and development. According to the United Nations Children's Fund (UNICEF, 2021), Nigeria accounts for a significant proportion of malnourished children in Sub-Saharan Africa, with millions of children suffering from stunting, wasting, and underweight conditions. The consequences of malnutrition extend beyond immediate health risks; it impairs cognitive development,

weakens the immune system, and has long-term effects on educational attainment and economic productivity (World Health Organization [WHO], 2020). In Ovia North East Local Government Area of Edo State, these challenges are compounded by socio-economic factors such as poverty, food insecurity, inadequate access to healthcare services, and limited maternal education. Studies have shown that a mother's knowledge of nutrition plays a critical role in preventing childhood malnutrition, as informed mothers are more likely to adopt appropriate feeding practices and seek timely healthcare interventions (Okolie & Nnamdi, 2019). However, many women of childbearing age in rural communities still lack adequate knowledge of the causes, signs, and long-term consequences of malnutrition on child development (Eze & Uche, 2021).

This knowledge gap is further aggravated by cultural beliefs, limited health education programs, and poor dissemination of nutritional information within rural areas. As a result, many mothers fail to recognize early signs of malnutrition in their children, leading to delayed interventions and avoidable health complications (Olanrewaju et al., 2020). Without proper knowledge, women are also less likely to utilize available healthcare and nutritional services, thereby perpetuating a cycle of malnutrition and poor child health outcomes. If this situation remains unaddressed, malnutrition will continue to pose a serious threat to child survival and human capital development in Ovia North East. It is therefore imperative to assess the level of knowledge among women of childbearing

age regarding the effects of malnutrition on children under five, in order to provide evidence-based recommendations that will inform targeted health education programs and community-based interventions.

Research Questions

The following research questions were raised to guide the study;

1. What is the level of Awareness among women of childbearing age regarding the causes of malnutrition in children under five?
2. What do women of childbearing age know about the signs of malnutrition on child development?
3. What are the barriers that prevent women of childbearing age from accessing or applying proper nutritional knowledge?
4. What are the factors that can contribute to the knowledge of malnutrition?

Objective of the Study

The main objective of this study is to assess the knowledge of the effects of malnutrition on children under age five among women of childbearing age in Ovia North East. The specific objectives are to:

1. Determine the level of knowledge among women of childbearing age regarding the causes of malnutrition in children under five.
2. Examine what women of childbearing age know about the signs of malnutrition in child development.
3. Investigate the barriers that prevent women of childbearing age from accessing or applying proper nutritional knowledge.
4. Identify the factors that can contribute to the knowledge of malnutrition among women of childbearing age.

Significance of the Study

This study is important because it focuses on a serious public health issue malnutrition among children under five in Ovia North East. Malnutrition continues to be one of the leading causes of illness and death among young children in Nigeria, particularly in rural communities. By concentrating on the knowledge of women of childbearing age, who play a central role in the feeding and care of children, the study aims to highlight how maternal understanding can influence the nutritional well-being of children. The findings of this research will be useful to health professionals, such as nutritionists, pediatricians, and community health workers, by helping them to identify specific gaps in knowledge that can be addressed through better health education and

community outreach. With this information, they will be able to design programs and interventions that are not only effective but also tailored to the unique needs of mothers in the study area.

This research will also benefit policymakers and government agencies such as the Ministry of Health and other child-focused organizations. By providing evidence on what mothers know about malnutrition and the barriers they face in applying nutritional knowledge, the study will offer a solid basis for planning and implementing community-based nutrition programs that can reduce malnutrition rates in the region. In addition, the study will serve as a valuable reference for researchers and students in the fields of public health, nutrition, and maternal-child health. It will add to existing knowledge on maternal roles in preventing childhood malnutrition and may inspire further research in other communities with similar challenges.

Most importantly, the women of childbearing age in Ovia North East stand to benefit directly from the outcome of this study. By creating awareness and shedding light on the importance of proper nutrition, the study can help them improve their understanding of the causes, signs, and effects of malnutrition. This, in turn, can lead to better child-feeding practices, early detection of malnutrition, and greater use of health services, ultimately improving the health and development of their children. In general, this study

is significant because it does not only contribute to academic research but also provides practical solutions that can help improve child health outcomes and reduce malnutrition in the community.

Scope /Delimitations of the Study

Scope of the Study:

This study focuses on assessing the knowledge of the effects of malnutrition on children under five years of age among women of childbearing age (15–49 years) IN Ovia North East. It specifically examines their understanding of the causes, signs, consequences, and prevention of malnutrition in young children. The study also considers factors such as educational level, access to health information, and sources of nutritional knowledge.

Delimitation of the Study:

- The study will include only women of reproductive age who have at least one child under the age of five or who are primary caregivers to children within that age group.
- It will not include women outside the childbearing age range, men, or health professionals.
- The study focuses on knowledge and self-reported practices only; it does not

include clinical or nutritional assessments of the children themselves.

Limitations of the Study

- **Limited Resources:** Time constraint and financial limitations tends to impede the efficiency of the researcher in sourcing for the relevant materials, literature or information and in the process of data collection (Internet, questionnaire and review)
- **Literacy and Language Barriers:** Some respondents may have limited literacy levels or language understanding, which could influence their ability to comprehend and respond accurately to survey questions, especially if translation is needed.
- **Cultural Sensitivities:** Cultural beliefs and practices regarding child feeding and health may influence how women respond, especially if certain topics are considered sensitive or taboo in the community

Definition of Terms

Malnutrition: A health condition resulting from an imbalance in a person's intake of nutrients either too little or too much.

Undernutrition: A form of malnutrition that occurs when the body doesn't get enough calories, protein, or micronutrients needed for healthy growth and development. It

includes conditions such as stunting, wasting, and underweight (UNICEF, 2020).

Stunting: Impaired growth and development in children due to chronic malnutrition, usually reflected in low height-for-age. Stunting can have long-term effects on cognitive ability and school performance (NPC & ICF, 2019).

Wasting: A severe form of acute malnutrition, resulting in low weight-for-height. It typically indicates recent and severe weight loss due to illness or lack of food (WHO, 2021).

Underweight: A condition where a child's weight is low for their age, combining elements of both stunting and wasting. It is used as a general indicator of malnutrition (NDHS, 2018).

Women of Childbearing Age: In the context of this study, women between the ages of 15 and 49 who are biologically capable of becoming pregnant and raising children.

Knowledge: Awareness, understanding, and information that women have regarding causes, consequences, and prevention of malnutrition in children under five.

Child Under Five: Any child between the ages of 0 and 59 months (birth to 5 years). This group is most vulnerable to the effects of malnutrition.

Infant and Young Child Feeding (IYCF) Practices: Refers to a set of guidelines and

behaviors recommended for feeding children, including exclusive breastfeeding for the first six months, and appropriate complementary feeding afterward (UNICEF, 2020).

Exclusive Breastfeeding: Feeding infants only breast milk (no other food or drink, not even water) for the first six months of life, except for oral rehydration salts, drops, or syrups (NPC & ICF, 2019).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter deals on review of existing literature and research studies relevant to The Knowledge of the Effects of Malnutrition on Children Under Age Five Among Women of Childbearing Age of Oduna Community in Ovia North East. Thus, this chapter is guided by the following sub-headings.

- Theoretical Framework
- Conceptual Clarification
- Concept of Malnutrition on Children Under Age Five
- Causes of Malnutrition in Children Under Five
- Effects of Malnutrition on Children Under Five
- Knowledge and Awareness of Women of Childbearing Age
- Empirical Review of Related Studies
- Summary of Literature Review

Theoretical Framework

The understanding of women's knowledge about the effects of malnutrition on children under five in the Oduna community can be deeply enhanced through the application of relevant behavioral theories. These theoretical perspectives provide a foundation for analyzing the factors that influence women's health choices, nutritional practices, and caregiving behaviors. For this study, two key frameworks are adopted: The Social Cognitive Theory (SCT). Each of these models offers distinct but complementary insights into how knowledge, belief systems, environmental influences, and personal efficacy shape maternal behavior, particularly in low-resource settings like rural communities.

The Social Cognitive Theory (SCT), originally proposed by Albert Bandura, expands on the individual-level focus of the HBM by introducing a broader perspective that includes social and environmental influences. SCT posits that behavior is a result of the dynamic interaction between personal factors, environmental influences, and behavioral patterns, a concept known as reciprocal determinism. This theory is especially useful in analyzing how women in communal or traditional societies acquire knowledge and form health-related behaviors. In SCT, a woman's knowledge and behavior concerning child nutrition are not formed in isolation, but are influenced by observing others, receiving feedback, and interacting with role models or influential figures in the community.

Observational learning plays a key role in SCT. In a close-knit community like Oduna, women often learn from one another by observing the practices of other mothers and by noting the health outcomes of their children. For instance, a woman who sees a peer being praised for her healthy, well-fed child may be motivated to imitate similar feeding practices. Reinforcement, whether in the form of social approval or health improvements in a child, serves to strengthen such behaviors. Furthermore, just like in the HBM, self-efficacy is a central concept in SCT. A woman's confidence in her ability to provide adequate nutrition despite limited resources can influence her likelihood of consistently applying healthy practices. According to M'Saad et al. (2021), when mothers receive support through peer groups, health talks, and accessible nutrition education, they are more likely to develop the confidence needed to implement positive child-feeding behaviors.

Social Cognitive Theory also emphasizes the importance of the social environment. Cultural beliefs, norms, family traditions, and the availability of community resources all play a role in shaping maternal behavior. In Oduna community, for instance, cultural beliefs about breastfeeding duration, the use of herbal concoctions, or the appropriateness of certain foods for infants could either reinforce or contradict modern nutritional guidelines. The SCT, therefore, enables a more nuanced understanding of how these social and environmental factors influence the knowledge and decisions of women

regarding child nutrition and health.

Conceptual Clarification

In research, particularly within the field of public health and nutrition, it is imperative to clearly define core concepts to ensure the reader's full understanding of the study's scope and relevance. Clarifying these concepts lays the foundation for the research, ensuring that theoretical assumptions, research questions, and analytical discussions are coherent and precise. This study provides an in-depth clarification of key terms: malnutrition, children under five, women of childbearing age, and knowledge within a health context.

Malnutrition is a broad term that refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. The World Health Organization (WHO, 2021) classifies malnutrition into three major categories: undernutrition (which includes wasting, stunting, and underweight), micronutrient-related malnutrition (deficiencies or excesses of vitamins and minerals), and overweight or obesity. For the purpose of this study, the focus is on undernutrition, which remains a critical public health concern, particularly in developing countries like Nigeria. Undernutrition in children under the age

of five can be caused by inadequate dietary intake, repeated infections, and poor maternal care practices. It is a condition that severely hampers physical growth, weakens the immune system, and impairs cognitive development, especially when it occurs during the first 1,000 days of life from conception to a child's second birthday (UNICEF, 2020). In rural areas like Oduna community, malnutrition is often exacerbated by poverty, food insecurity, traditional feeding practices, limited access to healthcare, and low levels of maternal education.

Children under five refer to infants and young children between the ages of 0 and 59 months. This stage is universally recognized as the most vulnerable period in human development. It is a critical window during which adequate nutrition is essential to ensure proper physical growth, immune system development, brain function, and psychological well-being. According to the United Nations Children's Fund (UNICEF, 2019), one in every three children under five worldwide is malnourished in some form, either suffering from stunting, wasting, or being overweight. In Nigeria, this challenge is even more pronounced in rural communities, where undernutrition is often underestimated and inadequately addressed. Malnutrition in this age group is not only associated with high morbidity and mortality rates but also has long-term consequences, including reduced academic performance, lower productivity in adulthood, and intergenerational cycles of poverty and poor health.

The term women of childbearing age refers to females between the ages of 15 and 49 years, who are biologically capable of conceiving and giving birth. This demographic is pivotal to child health and development, particularly in the context of nutrition. Women in this age group are typically the primary caregivers of children and are directly responsible for child feeding, healthcare-seeking behavior, and early education in most African societies. Their knowledge, practices, and attitudes regarding food, hygiene, and nutrition strongly influence the nutritional status of their children. In low-income rural communities such as Oduna, various socio-cultural and economic barriers hinder women from acquiring accurate information about nutrition, resulting in practices that may unintentionally promote malnutrition. According to Bhutta et al. (2017), maternal education, empowerment, and access to healthcare services significantly affect the nutritional outcomes of children under five. Therefore, understanding the role of women of childbearing age is not only important but fundamental to addressing malnutrition effectively.

Knowledge, in the context of this study, is conceptualized as the awareness, understanding, and perception of facts, principles, and practices related to child nutrition and the prevention of malnutrition. This includes familiarity with exclusive breastfeeding practices, appropriate complementary feeding, hygiene, food diversity, meal frequency, and signs of nutritional deficiencies. Knowledge is not limited to cognitive understanding;

it also includes the interpretation and application of information in real-life caregiving and feeding practices. In the public health literature, maternal knowledge has been identified as a crucial determinant of child health. However, knowledge alone does not always translate to appropriate practice. It is often influenced by additional factors such as income level, cultural beliefs, education, family support, and access to health facilities. For example, a mother may be aware of the importance of exclusive breastfeeding but may introduce water or traditional herbs early due to pressure from family members or long-standing cultural beliefs. As noted by Nguyen et al. (2017), while knowledge significantly improves the likelihood of adopting proper feeding practices, behavioral change requires reinforcement through health education, peer influence, and social support. These concepts malnutrition, children under five, women of childbearing age, and knowledge are interwoven and central to the focus of this study. Understanding them in-depth provides the framework upon which the research objectives and hypotheses are built. In examining the knowledge of women in Oduna community regarding malnutrition and its effects on their children, this study seeks to uncover not just the extent of their understanding but also how such understanding or its absence affects real-world nutrition practices and child health outcomes.

Concept of Malnutrition on Children Under Age Five

Malnutrition among children under the age of five remains one of the most critical public health challenges globally, particularly in low- and middle-income countries like Nigeria. It is not only a medical or nutritional condition but also a social and developmental issue that reflects the overall well-being of individuals, households, and communities. The concept of malnutrition, especially in children under five, encompasses a range of conditions resulting from deficiencies, excesses, or imbalances in a child's intake of energy and/or nutrients. It is a multifaceted phenomenon with biological, economic, cultural, and environmental dimensions. Malnutrition in children is typically classified into two broad categories: undernutrition and overnutrition, though undernutrition is far more prevalent and devastating in developing communities such as Oduna in Ovia North East. Undernutrition includes four primary conditions: stunting (low height-for-age), wasting (low weight-for-height), underweight (low weight-for-age), and micronutrient deficiencies such as iron, iodine, zinc, and vitamin A deficiency. According to the World Health Organization (WHO, 2021), malnutrition is responsible for nearly 45% of deaths among children under five worldwide, with stunting affecting about 144 million children, wasting affecting 45 million, and overweight affecting 38.3 million globally as of 2020.

In children under five, malnutrition begins as early as conception, depending on the mother's nutritional status, and can become critical during the first 1,000 days of life

an essential period that spans from pregnancy to the child's second birthday. Poor maternal nutrition, lack of exclusive breastfeeding, improper complementary feeding, frequent infections, poor sanitation, and limited access to quality healthcare all contribute to malnutrition in early childhood. During this developmental stage, children experience rapid physical and mental growth that demands high nutritional support. Inadequate nutrition during this period can lead to irreversible consequences such as impaired brain development, weakened immune response, delayed motor and cognitive skills, increased risk of infections, and even death (Black et al., 2016). Stunting, one of the most common and insidious forms of chronic malnutrition, reflects a prolonged deficiency in essential nutrients. Children who are stunted not only appear shorter than their peers but often suffer from delayed cognitive development and poor academic performance later in life. Wasting, on the other hand, is a result of acute food shortages and illnesses, leading to rapid weight loss and high susceptibility to disease and mortality. Micronutrient deficiencies sometimes called "hidden hunger" are equally dangerous, often occurring without obvious signs but causing serious health impairments such as anemia, blindness, and developmental delays (UNICEF, 2020).

The burden of child malnutrition is especially severe in rural communities where poverty, illiteracy, food insecurity, poor sanitation, and cultural beliefs strongly influence dietary practices. According to the Nigeria Demographic and Health Survey (NDHS,

2018), about 37% of children under five are stunted, 7% are wasted, and 22% are underweight, with rural regions disproportionately affected. These statistics are not just numbers but stark reminders of the lived realities of many children, especially in underdeveloped communities like Oduna, where access to health services and nutrition education is limited or non-existent. Cultural practices and misinformation among caregivers often worsen the situation. For instance, some mothers may delay breastfeeding or introduce water and herbal mixtures early due to traditional beliefs, thus denying the child the full benefits of exclusive breastfeeding. Others may misunderstand the importance of dietary diversity, feeding children monotonous meals with little nutritional value. Women of childbearing age who are often the primary caregivers play a pivotal role in preventing malnutrition through appropriate knowledge, attitudes, and practices. As highlighted by Amugsi et al. (2017), maternal knowledge of nutrition, supported by access to health services and education, is a significant predictor of better child feeding practices and improved nutritional outcomes.

In essence, the concept of malnutrition in children under five cannot be isolated socioeconomically and culturally in which it occurs. It is a condition rooted in complex interactions between individual, household, and systemic factors. In communities like Oduna, tackling malnutrition requires not only food and medical interventions but also a deliberate effort to improve maternal knowledge, empower women, and challenge

traditional practices that hinder optimal child feeding and care. Recognizing the centrality of the caregiver's role, this study explores how much women in Oduna community know about the causes, effects, and prevention of malnutrition, and how this knowledge shapes the nutritional status of their children under the age of five.

Causes of Malnutrition in Children Under Five

Malnutrition in children under the age of five is the result of a complex interplay of multiple, often interrelated, factors that span biological, social, economic, and environmental dimensions. In many low- and middle-income countries, especially in rural communities like Oduna in Ovia North East, these causes are not only prevalent but deeply entrenched in cultural norms, poverty, and systemic inequality. Identifying and understanding the specific causes of malnutrition in children within this vulnerable age group is crucial for designing effective interventions and empowering caregivers, especially women of childbearing age, to take preventive action.

One of the most immediate and direct causes of malnutrition is inadequate dietary intake. When children do not receive enough food, or when the food consumed lacks essential nutrients such as proteins, vitamins, and minerals, the body is unable to grow or function properly. This situation is common in households experiencing food insecurity, where the quality and quantity of meals are compromised. Children may be fed

monotonous diets consisting mainly of carbohydrates such as cassava, yam, or rice, with little or no access to protein-rich or micronutrient-dense foods such as eggs, legumes, fruits, or vegetables. According to UNICEF (2020), millions of children globally are fed poor diets that fail to meet their basic nutritional needs, with dietary inadequacy being one of the leading drivers of stunting and wasting in sub-Saharan Africa.

Poor infant and young child feeding practices are another major contributor to malnutrition. These include early cessation of exclusive breastfeeding, delayed initiation of breastfeeding after birth, inappropriate timing of complementary feeding, and failure to provide age-appropriate and diversified meals. Exclusive breastfeeding for the first six months is widely recognized as a fundamental nutritional practice that significantly improves child survival and development. However, many women in rural Nigerian communities still introduce water, herbal concoctions, or pap (fermented cereal) too early due to cultural beliefs or misinformation. In a study conducted by Akombi et al. (2017), it was found that inadequate breastfeeding and complementary feeding practices were directly linked to high malnutrition rates in Nigerian children under five.

Infectious diseases and poor health status also contribute substantially to childhood malnutrition. There exists a bidirectional relationship between malnutrition and infections: malnourished children have weakened immune systems, making them more

susceptible to illnesses such as diarrhea, pneumonia, malaria, and measles; conversely, frequent infections reduce the body's ability to absorb and utilize nutrients, further worsening the nutritional status. Diarrheal diseases, in particular, lead to rapid nutrient loss and dehydration, which can quickly deteriorate a child's health, especially if proper feeding and hydration are not maintained during illness. The World Health Organization (WHO, 2021) has consistently emphasized the role of infections in aggravating malnutrition among under-five children, especially in unhygienic living conditions where access to clean water and sanitation is limited.

Maternal factors, including the health, education, and nutritional status of the mother, play a central role in determining a child's risk of malnutrition. Children born to mothers who are undernourished during pregnancy, or who lack basic health knowledge, are more likely to be malnourished. Maternal illiteracy and low levels of formal education have been repeatedly linked to poor child-feeding practices, delayed care-seeking, and reliance on harmful traditional norms. According to Amugsi et al. (2017), maternal education significantly improves feeding practices and reduces the risk of malnutrition in children. In many parts of rural Nigeria, including Oduna, low levels of maternal literacy mean that many women do not understand recommended nutrition guidelines, nor do they have access to updated health information.

Poverty and food insecurity remain deeply structural and widespread causes of malnutrition. Families living below the poverty line often struggle to meet daily nutritional needs, relying on cheap, energy-dense foods that are filling but nutritionally poor. Poverty also affects access to healthcare, clean water, and hygiene products, all of which are necessary for maintaining good health and nutrition. In the absence of stable income, parents may prioritize quantity over quality when feeding their children, resulting in hidden hunger micronutrient deficiencies that manifest subtly but have severe developmental consequences. As documented by the Nigeria Demographic and Health Survey (NDHS, 2018), there is a strong correlation between household wealth index and the nutritional status of children in Nigeria.

Environmental factors, including poor sanitation, unsafe drinking water, and inadequate hygiene practices, indirectly contribute to child malnutrition by facilitating the spread of infectious diseases and intestinal parasites. In many rural communities, children are exposed to environments where open defecation is common, waste disposal is poorly managed, and water sources are contaminated. These conditions increase the risk of enteric infections, especially in infants and toddlers who are more likely to crawl, play in dirt, and put contaminated objects in their mouths. The frequent bouts of illness resulting from such exposure contribute to what is termed "environmental enteropathy," a condition that damages the gut lining and impairs nutrient absorption (Humphrey, 2019).

Lastly, cultural and societal practices also have a significant impact on child nutrition. In some communities, male children are prioritized over female children in food allocation, or certain food types are reserved for adults only. Others may believe that children should only eat when they cry or that certain foods (like eggs or meat) cause early puberty and are thus withheld from young children. These traditional beliefs, though often well-intentioned, can restrict children's access to a balanced and nutritious diet. In Oduna community, these sociocultural factors may influence the decisions women make regarding feeding and caregiving, regardless of their actual knowledge of nutrition. The causes of malnutrition in children under five are deeply interconnected and embedded in both the physical and social environment of the child. From inadequate dietary intake and poor feeding practices to maternal education, poverty, disease burden, and traditional norms, each factor plays a role in shaping a child's nutritional outcomes. Addressing malnutrition, therefore, requires a comprehensive approach that includes educating mothers, strengthening health systems, improving food security, and promoting behavioral change within families and communities.

Effects of Malnutrition on Children Under Five

The effects of malnutrition on children under the age of five are profound and multidimensional. From growth retardation and impaired brain development to heightened disease susceptibility and long-term health risks, the damage caused by poor

nutrition during early childhood is often lifelong. These effects underscore the urgent need to raise awareness among women of childbearing age, promote early interventions, and strengthen nutritional education, especially in rural communities like Oduna. Effective policy implementation, community-based support systems, and behavior change communication are essential to mitigate these impacts and improve child health outcomes.

Malnutrition in children under five years of age remains one of the most serious public health challenges in developing countries. During this early stage of life, the body and brain grow rapidly, and adequate nutrition is essential for normal development. When a child lacks essential nutrients such as proteins, vitamins and minerals, the result is a wide range of health problems that affect physical growth, brain function, immunity and even survival. According to the World Health Organization (2024), undernutrition is responsible for nearly half of all deaths among children under five, as it increases vulnerability to common infections such as diarrhoea, pneumonia and malaria. Children who are malnourished have weak immune systems and reduced resistance to disease, making them more likely to suffer severe illness or death from infections that healthy children can easily recover from.

Malnutrition affects physical growth in different ways. It commonly appears as stunting, wasting or being underweight. Stunting, which refers to low height for a child's age, is a sign of chronic undernutrition and repeated infections over time. Wasting, on the other hand, is low weight for height and usually indicates acute food shortage or recent illness. These conditions limit a child's ability to develop properly and often lead to poor physical strength and delayed motor skills (UNICEF, 2019). Stunted children tend to remain shorter in adulthood and may experience long-term health problems, including difficulties during childbirth for women who were stunted as children (WHO, 2024). The effects of malnutrition are not only physical but also cognitive. The early years of life are critical for brain development, and a lack of proper nutrients can interfere with brain growth and function. Nutrient deficiencies, especially during the first 1,000 days of life from conception to the child's second birthday can affect brain structure and the formation of neural connections. Studies have shown that children who are stunted or undernourished during early life often experience delays in language, motor and social development. They also tend to have lower cognitive scores and perform poorly in school compared to their well-nourished peers (Alam et al., 2020; Ekholuenetale et al., 2020). Such children may struggle to concentrate, learn new skills, and participate effectively in educational activities. These effects can persist into adulthood, reducing the person's ability to reach their full potential.

Malnutrition contributes to poor educational outcomes and reduced economic productivity later in life. Children who experience undernutrition are more likely to miss school due to illness and are less likely to perform well academically. As a result, they may drop out of school earlier and earn lower incomes as adults. Research evidence shows a clear link between childhood stunting and lower wages or reduced productivity in adulthood (McGovern et al., 2017). This means that malnutrition not only affects individual children but also slows national economic growth because it reduces the overall quality of human capital. The social and economic consequences of malnutrition extend beyond the affected child. Families with malnourished children often face higher medical expenses due to frequent hospital visits, while the community loses potential productivity when affected children grow into adults with limited capacity. At the national level, the combined effect of childhood malnutrition can lead to huge economic losses. Akseer et al. (2022) reported that the cost of childhood stunting and other forms of undernutrition can amount to a significant percentage of a country's gross domestic product in low- and middle-income countries. Therefore, investing in proper nutrition for children is not only a health issue but also an important economic strategy for national development.

Malnutrition also interacts with infections in a vicious cycle. Poor nutrition weakens the immune system, increasing the risk of infection, while infections such as

diarrhoea and malaria further deplete the body's nutrients and worsen malnutrition. This cycle can continue unless both problems are addressed together through improved feeding, better hygiene, clean water and access to healthcare (WHO, 2024). Malnutrition can affect the psychosocial well-being of both the child and the family. Children who are malnourished often become irritable and less active, which can affect how caregivers interact with them. Over time, this may reduce the child's emotional stimulation and social development. Moreover, the effects of malnutrition can pass from one generation to another. Girls who suffer from poor nutrition in childhood are more likely to become underweight mothers and give birth to babies with low birth weight, thereby continuing the cycle of malnutrition (UNICEF, 2019).

Malnutrition in children under five years of age has serious consequences that go beyond visible signs such as thinness or small body size. It leads to increased illness and death, delays in physical and mental development, poor school performance, and reduced productivity in adulthood. The effects are not limited to individuals but extend to families, communities and nations. Improving mothers' understanding of these effects is therefore essential, as informed mothers are more likely to practise healthy feeding, hygiene and care habits that protect their children from malnutrition. Awareness of both the immediate and long-term impacts can motivate positive behavioural changes that improve the overall well-being of children and strengthen community health.

Knowledge and Awareness of Women of Childbearing Age

Knowledge and awareness among women of childbearing age are critical factors in promoting child health and reducing malnutrition in children under five. Women, particularly mothers, serve as the primary caregivers and nutritional decision-makers in most households, especially in rural settings like Oduna Community. Their understanding of nutritional practices, child feeding, and health-seeking behaviors directly influence the nutritional outcomes of their children. The term *knowledge*, in this context, refers to the accurate information and comprehension women have regarding proper child nutrition, breastfeeding, complementary feeding, hygiene practices, and the consequences of poor nutrition. *Awareness* goes a step further by encompassing not just the possession of information but the ability and willingness to act on it in real-life situations. Together, knowledge and awareness shape attitudes, influence beliefs, and guide behaviors related to infant and young child feeding (IYCF) practices.

Studies have shown a significant correlation between maternal knowledge and child nutritional status. For example, mothers who understand the importance of exclusive breastfeeding for the first six months are more likely to follow this practice, thus improving their children's immunity and preventing early childhood malnutrition (Ameh et al., 2016). Similarly, knowledge about the timely introduction of

complementary foods, the nutrient content of local foods, and sanitation can significantly reduce the prevalence of stunting and underweight in children. Unfortunately, many rural women lack such information due to low educational attainment, cultural practices, and limited access to health education programs. In communities like Oduna, traditional beliefs often play a powerful role in shaping nutritional behaviors. Some women may avoid feeding their infants protein-rich or iron-rich foods due to misconceptions, such as beliefs that certain foods cause illness or delay speech development. Others may adhere strictly to traditional postpartum food taboos that restrict the mother's diet, consequently affecting the quality of breastmilk and the infant's health. These socio-cultural influences underscore the need not only for increased knowledge but also for targeted awareness campaigns that are culturally sensitive and locally relevant. Access to formal education has been recognized as one of the most important determinants of maternal knowledge. Women with at least a secondary school education are more likely to understand the causes and signs of malnutrition, the importance of immunization, and appropriate feeding practices (Onyeneke et al., 2019). Moreover, educated mothers are more inclined to seek professional medical advice, attend antenatal and postnatal clinics, and adopt modern child-rearing practices. However, in many parts of rural Nigeria, including Ovia North East LGA, a significant proportion of women do not complete basic education due

to early marriage, poverty, and gender inequality, thereby limiting their exposure to vital health information.

Health care services and community-based health workers also play a key role in improving maternal awareness. The presence of trained health professionals who engage in routine sensitization and counseling during antenatal and immunization visits has proven effective in increasing knowledge about child nutrition. The effectiveness of these interactions, however, depends on the availability of personnel, infrastructure, and support from local authorities. In areas where primary health care systems are weak or underfunded, women often rely on hearsay or traditional healers for guidance, which may lead to harmful practices. Mass media and mobile technology have emerged as important tools in bridging the knowledge gap among women of childbearing age. Radio programs, community drama groups, and health campaigns conducted in local languages have shown success in improving awareness in remote areas. Recent studies also point to the use of mobile phones for delivering nutrition education messages and reminders, especially in areas with limited access to physical health facilities (Ogbo et al., 2017). However, the penetration of such technologies remains a challenge in marginalized communities where digital literacy and connectivity are low.

Structural and environmental conditions such as poverty, food insecurity, and access to clean water affect a mother's ability to act on her nutritional knowledge. Even the most informed mother cannot provide adequate nutrition if she lacks the economic means to access diverse foods or clean water for food preparation and sanitation. Therefore, improving knowledge and awareness must be coupled with broader poverty alleviation and social support programs to be effective. The level of knowledge and awareness among women of childbearing age is a central determinant in the fight against childhood malnutrition. Empowering women with accurate, practical, and culturally appropriate nutrition information can lead to significant improvements in child health outcomes. For rural communities like Oduna, targeted interventions such as mother-to-mother support groups, health education through traditional leaders, and community-based outreach by trained health workers are essential in fostering informed and proactive caregiving. Strengthening these channels will ensure that knowledge is not only acquired but also applied to safeguard the nutritional well-being of children under five.

Empirical Review of Related Studies

The empirical review of related studies provides a comprehensive evaluation of previous research efforts concerning maternal knowledge of malnutrition and its effects on children under five. By analyzing studies conducted both locally and internationally,

this section aims to identify common findings, discrepancies, and existing knowledge gaps relevant to the Oduna community in Ovia North East.

A growing body of research underscores the critical role maternal knowledge plays in determining the nutritional outcomes of young children. In a study conducted by Onabanjo et al. (2020) in Ogun State, Nigeria, the authors explored the knowledge and feeding practices of mothers of children under five. The results showed that although the majority of the respondents had a fair understanding of malnutrition, their actual practices did not reflect this knowledge. Specifically, only 28.4% of the mothers practiced exclusive breastfeeding for the recommended six months, and less than half were aware of the importance of micronutrients in child development. This highlights the gap between knowledge and practice, often influenced by cultural norms and economic hardship. Similarly, a study by Olorunfemi and Ojewale (2019) conducted in rural Ekiti communities examined the correlation between maternal education and child nutrition. The findings revealed that mothers with higher educational levels were significantly more likely to adopt appropriate feeding practices and recognize the signs of malnutrition. The study concluded that educational attainment remains a powerful predictor of both awareness and preventive behavior regarding child health and nutrition.

A study by Amugsi et al. (2017) in Ghana, Kenya, and Malawi assessed maternal health knowledge and its impact on stunting rates in children under five. The cross-sectional analysis revealed that mothers who had received antenatal and postnatal nutrition counseling had children with significantly lower rates of stunting. It also established that access to community health education services, even more than formal education, could positively affect outcomes in low-income rural settings. This suggests the need for improved access to community-level nutrition education in areas like Oduna. Another Nigerian study by Ogechi and Chilezie (2017) investigated the influence of maternal nutrition knowledge on child feeding in Imo State. The study found that although 72% of mothers had heard about exclusive breastfeeding, only 39% could correctly define it. Moreover, there was widespread misinformation about the appropriate age for introducing solid foods. The study called for the intensification of nutrition education campaigns using community-based health workers to bridge these information gaps.

Internationally, Nguyen et al. (2016) conducted a multi-country study across Asia and Africa, assessing the role of maternal behavior change communication on child nutritional status. The findings showed that tailored nutrition education programs especially those delivered through interpersonal communication and community outreach were effective in improving feeding practices and reducing the incidence of

undernutrition. The study emphasized that knowledge transfer must be supported by contextual understanding, sustained follow-up, and family involvement for long-term success. Closer to home, a recent field study by Okoh and Oboh (2022) in Edo State examined how knowledge of malnutrition among mothers in rural communities impacted their dietary choices for children under five. The research indicated that while some women had a good understanding of protein-energy malnutrition, most lacked awareness about hidden hunger caused by micronutrient deficiencies. The study advocated for targeted sensitization on the importance of iron, vitamin A, and iodine in the diets of young children.

Despite the growing awareness of the need for maternal knowledge in improving child health outcomes, many studies also point to barriers that prevent the translation of knowledge into practice. These include food insecurity, poverty, lack of decision-making power among women, and deeply entrenched traditional beliefs that often conflict with modern nutritional advice. Empirical studies conducted both within and outside Nigeria reveal a consistent link between maternal knowledge and child nutritional outcomes. However, they also show that knowledge alone is insufficient without adequate support systems, community engagement, and access to resources. These findings justify the need for a localized study in Oduna community to assess the specific level of knowledge, the

contextual barriers, and the potential areas of intervention for improving child nutrition among women of childbearing age.

Summary of Literature Review

This study has explored extensive literature on the knowledge and effects of malnutrition on children under five, particularly from the perspective of women of childbearing age. The conceptual clarification established the foundational definitions of malnutrition, including its various forms undernutrition, micronutrient deficiency, and overnutrition as well as a clear understanding of who constitutes women of childbearing age. The review also highlighted how the term “knowledge” functions within a public health context, particularly in influencing maternal behavior and decision-making.

The causes of malnutrition in children under five were shown to be multifactorial, encompassing inadequate dietary intake, poor feeding practices, frequent infections, household poverty, and socio-cultural beliefs. These factors often interact in complex ways, especially in rural communities where access to healthcare, food, and information is limited. These conditions make children particularly vulnerable to malnutrition during their formative years. The section on the effects of malnutrition demonstrated that malnutrition in early childhood has far-reaching consequences, affecting not just physical growth (e.g., stunting, wasting) but also cognitive development, immune function, and

long-term productivity. It was emphasized that the first five years of life represent a critical window for intervention, as deficiencies during this period can result in irreversible damage. In examining the knowledge and awareness of women of childbearing age, the literature showed a significant variation in levels of understanding depending on education, cultural exposure, and access to health information. Several studies suggested that even when mothers have some awareness of nutritional principles, economic constraints, cultural practices, and lack of support systems often prevent this knowledge from being translated into healthy practices. This underscores the need for more community-based interventions and behavior change strategies.

The theoretical frameworks discussed namely, the Health Belief Model (HBM) and Social Cognitive Theory (SCT) offered valuable lenses through which maternal behavior regarding child nutrition can be understood. These models stress the importance of personal beliefs, perceived risks, self-efficacy, and environmental influences in shaping health-related decisions. Their relevance to the current study lies in their emphasis on not only what women know but how that knowledge is influenced by their social, cultural, and economic context.

The empirical review further validated these claims, offering data from local, national, and international studies that consistently point to the central role of maternal

knowledge in combating child malnutrition. However, these studies also highlighted a recurrent gap between awareness and action, particularly in rural areas like Oduna. Key themes from the empirical literature included the influence of maternal education, the effectiveness of community health education, and the persistent challenges posed by poverty and traditional beliefs. The literature reviewed provides a strong foundation for this study. It shows that while awareness and education are critical, they must be complemented by practical support systems, economic empowerment, and culturally sensitive interventions to effectively combat malnutrition in children under five. The gaps identified in previous studies particularly the lack of localized data from communities like Oduna further justify the need for this research. The findings from this study will contribute to the growing body of knowledge and serve as a guide for targeted interventions in similar rural settings.

CHAPTER THREE

METHODOLOGY

This chapter described the research methodology used in this study under the following subheadings:

- Research Design
- Population of the Study
- Sample and Sampling Techniques
- Research Instruments
- Validity of the Research Instrument
- Reliability of the Research Instrument
- Method of Data Collection
- Method of Data Analysis

Research Design

The descriptive survey research design was adopted in gathering relevant information from the respondents for the purpose of understanding some aspects of the behavior of the population. The method was suitable because it enabled the researcher to get specific response from the respondents and most essentially to the knowledge of the effects of malnutrition on children under age five among women of child bearing age of Oduna Community in Ovia North East.

Population of the Study

The population for this study consists of women of childbearing age residing in Oduna Community, located in Ovia North-East Local Government Area. A total of 300 women have been identified within this group, from which a representative sample will be selected using random sampling techniques to facilitate the investigation.

Sample and Sample Technique

The sample size of this study was all the women of child bearing age of Oduna Community in Ovia North East whose population amounting to three hundred (300) women will be used for this study. Simple random sampling technique will be used for the sampling for the study.

Research Instrument

The instrument that was adopted for the collection of the needed data for the study is the questionnaire. The questionnaire is titled **“Knowledge of Mothers about the Effects of Malnutrition on Children 0 to 5 Years Old in Oduna Community In Ovia”**. The questionnaire comprised of two sections; “A and B”. The section ‘A’ of the instrument focused on the gathering of personal information of the respondents while the section B was designed towards seeking information on the study.

Validity of the Instrument

The questionnaire was given to the researcher’s supervisor and two other experts

in the Department of Health Safety and Environmental Education, Faculty of Education, University of Benin, Benin City, Edo State for scrutiny. Thereafter their suggestions and observations were taken into consideration before the final copy of the instrument was produced and administered to the respondents.

Reliability of the Instrument

To determine the reliability of the instrument, the test re-test reliability procedure was adopted. Fifteen (15) copies of the research instrument were administered to a set of respondents who were part of the population but not part of the sample.

Method of Data Collection

The instrument for the data collection was personally administered by the researcher to the respondent. The researcher explained to the respondent on how to indicate their views on each item. Efforts were made to explain the questions to the respondents in a manner that enable them to respond objectively to the questions.

Method of Data Analysis

Data were analyzed using percentages, frequency counts in order to facilitate the interpretation of the data collected.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

In this chapter, the presentation of results from data analysis and discussion of findings was the focus.

Research Question One: What is the level of awareness among women of childbearing age regarding the cause of malnutrition in children under?

Table 1: Responses on the level of awareness among women of childbearing age regarding the cause of malnutrition in children under

S/N	Items	SA (%)	A (%)	D (%)	SD (%)	Mean
1	Inadequate feeding practices are a major cause of malnutrition in children under five.	82 (27.3)	76 (25.3)	68 (22.7)	74 (24.7)	2.55
2	I know that poverty and food insecurity can lead to malnutrition in young children.	62 (20.7)	80 (26.7)	84 (28.0)	74 (24.7)	2.43
3	I am aware that repeated childhood illnesses contribute to malnutrition.	66 (22.0)	64 (21.3)	90 (30.0)	80 (26.7)	2.42
4	I understand that poor maternal nutrition during pregnancy can increase the risk of malnutrition in children.	68 (22.7)	64 (21.3)	88 (29.3)	80 (26.7)	2.42
5	I believe that lack of exclusive breastfeeding during the first six months can cause malnutrition in infants.	78 (26.0)	66 (22.0)	62 (20.7)	94 (31.3)	2.47

Grand Mean = 2.51 Mean cut-off mark = 2.5

Table 1 presents the responses on the level of awareness among women of childbearing age regarding the causes of malnutrition in children under five. The findings reveal that the mean scores for all items ranged between 2.42 and 2.55, indicating a moderate level of knowledge. A significant proportion of respondents strongly agreed or agreed that inadequate feeding practices and lack of exclusive breastfeeding are major contributors to childhood malnutrition. However, relatively lower mean scores for items related to poverty, repeated childhood illnesses, and poor maternal nutrition during pregnancy suggest that awareness of these important causes is not evenly distributed among the women surveyed.

Research Question Two: What do women of childbearing age know about the signs of malnutrition on child development?

Table 2: Response to what do women of childbearing age know about the signs of malnutrition on child development

S/N	Items	SA (%)	A (%)	D (%)	SD (%)	Mean
1	I can identify visible signs of malnutrition such as stunted growth in children.	78 (26.0)	72 (24.0)	80 (26.7)	70 (23.3)	2.53
2	I know that frequent sickness in children may be a sign of malnutrition.	76 (25.3)	82 (27.3)	62 (20.7)	80 (26.7)	2.52
3	I am aware that poor weight gain in a child can indicate malnutrition.	74 (24.7)	78 (26.0)	76 (25.3)	72 (24.0)	2.54
4	I understand that a child's lack of energy or weakness may result from malnutrition.	80 (26.7)	74 (24.7)	68 (22.7)	78 (26.0)	2.56
5	I know that slow learning or delayed development in children can be linked to malnutrition.	78 (26.0)	72 (24.0)	70 (23.3)	80 (26.7)	2.53

Grand Mean = 2.53 Mean cut-off mark = 2.5

Table 2 presents the responses on women's awareness about the signs of malnutrition and its effects on child development. The results show that the mean values ranged from 2.52 to 2.56, which are above the cut-off mark of 2.5. This indicates that respondents generally demonstrated a moderate level of awareness of common signs of malnutrition. Many of

the women strongly agreed or agreed that stunted growth, frequent sickness, poor weight gain, lack of energy, and delayed development are indicators of malnutrition in children. Although the results suggest that many respondents can recognise these signs, the moderate mean range shows that some level of limited awareness still exists.

Research Question Three: What are the barriers that prevent women of childbearing age from accessing or applying proper nutritional knowledge?

Table 3: Barriers Preventing Women from Accessing or Applying Proper Nutritional Knowledge

S/N	Items	Agree (%)	Disagree (%)	Undecided (%)
1	Financial constraints prevent many mothers from providing proper nutrition for their children.	190 (63.3%)	80 (26.7%)	30 (10.0%)
2	Cultural beliefs in my community sometimes limit the adoption of proper nutritional practices.	160 (53.3%)	100 (33.3%)	40 (13.4%)
3	Lack of access to health education programmes is a barrier to improving maternal knowledge of nutrition.	200 (66.7%)	70 (23.3%)	30 (10.0%)
4	I find it difficult to get accurate nutritional information because of poor access to health professionals.	170 (56.7%)	90 (30.0%)	40 (13.3%)
5	Household responsibilities and time constraints prevent me from applying nutritional knowledge effectively.	180 (60.0%)	90 (30.0%)	30 (10.0%)

Table 4.1 shows that the majority of the respondents (63.3%) agreed that financial constraints hinder women from providing adequate nutrition to their children. Similarly, 66.7% agreed that lack of access to health education programmes is a major barrier to improving maternal nutritional knowledge. About 60.0% indicated that household responsibilities and time constraints make it difficult to apply proper nutrition practices, while 56.7% agreed that poor access to health professionals contributes to this problem. More than half of the respondents (53.3%) also pointed out that cultural beliefs sometimes limit the adoption of healthy nutritional habits.

These findings suggest that economic, educational, and cultural factors jointly influence women's ability to access and use nutritional information effectively. The dominance of financial and educational barriers implies that policy interventions should prioritise poverty reduction and community-level nutrition education. The results also reveal that even when women possess nutritional knowledge, limited time, household workload, and sociocultural restrictions may still hinder practical application.

Research Question Four: What are the factors that can contribute to the knowledge of malnutrition?

This section presents the analysis of responses regarding the major factors that enhance or influence women's knowledge of malnutrition.

Table 4: Factors Contributing to Women's Knowledge of Malnutrition

S/N	Items	Agree (%)	Disagree (%)	Undecided (%)
1	Attending health education programmes helps improve my knowledge of malnutrition.	220 (73.3%)	60 (20.0%)	20 (6.7%)
2	Access to health professionals (nurses, doctors) increases my understanding of proper child nutrition.	230 (76.7%)	50 (16.7%)	20 (6.6%)
3	Information from media sources such as radio, television, or social media improves my knowledge of malnutrition.	180 (60.0%)	90 (30.0%)	30 (10.0%)
4	Formal education level influences a mother's ability to understand nutritional information.	190 (63.3%)	70 (23.3%)	40 (13.4%)
5	Community-based campaigns and seminars are effective in teaching mothers about malnutrition.	200 (66.7%)	70 (23.3%)	30 (10.0%)

The result in Table 4.2 indicates that 76.7% of the respondents agreed that access to health professionals enhances their understanding of proper child nutrition, while 73.3% agreed that attending health education programmes improves their knowledge of

malnutrition. A significant 66.7% acknowledged the effectiveness of community-based campaigns and seminars, and 63.3% agreed that formal education levels influence a mother's ability to interpret nutritional information. Likewise, 60.0% indicated that media sources such as radio, television, and social media platforms serve as important means of acquiring knowledge about malnutrition.

Discussion of Findings

The findings of this study showed that women of childbearing age demonstrated a moderate level of knowledge regarding the causes, signs, barriers, and factors influencing malnutrition in children under five years. Across all four research questions, the grand means ranged from 2.51 to 2.53, which are slightly above the cut-off mark of 2.5. This indicates that although the women possess some understanding of childhood malnutrition, important gaps still exist in their knowledge and application.

For the first research question, the results revealed that most respondents were aware that inadequate feeding practices and lack of exclusive breastfeeding contribute significantly to malnutrition in children under five years. This agrees with previous findings by Aguayo and Menon (2016) and Victora et al. (2016), who observed that poor complementary feeding practices and suboptimal breastfeeding remain major determinants of child malnutrition in developing countries. However, lower mean scores

were recorded for items relating to poverty, repeated childhood illnesses, and poor maternal nutrition during pregnancy. This suggests that awareness of socio-economic and maternal factors as underlying causes of malnutrition remains low among many women. This finding is consistent with the work of Akombi et al. (2017), who noted that maternal health, food insecurity, and frequent infections are often under-recognised contributors to childhood malnutrition in sub-Saharan Africa.

The findings for the second research question showed that most women could identify common signs of malnutrition such as stunted growth, frequent illness, poor weight gain, lack of energy, and delayed development in children. This is consistent with the observation of Amugsi, Dimbuene, and Mberu (2017), who reported that caregivers are generally able to recognise visible physical symptoms of malnutrition more easily than hidden or developmental ones. However, the moderate mean scores suggest that while awareness exists, it is not comprehensive. Some women may fail to detect early cognitive or behavioural indicators of malnutrition, which aligns with the study by Akseer et al. (2020), who found that caregivers often overlook the less visible developmental effects of nutritional deficiencies.

The findings relating to the third research question showed that several barriers limit women from applying proper nutritional knowledge in daily practice. Among the

most common obstacles identified were cultural beliefs, financial constraints, inadequate access to health education programmes, and poor contact with health professionals. These findings agree with the study by Tette, Sifah, and Nartey (2016), which highlighted those socio-cultural practices, limited financial capacity, and lack of professional guidance strongly hinder mothers from adopting proper nutrition for their children. Similarly, UNICEF (2019) reported that structural barriers such as poverty, limited community support, and weak nutrition education systems continue to restrict women's ability to implement recommended feeding practices. The implication is that even when mothers are aware of correct practices, they may be unable to apply them due to contextual and economic limitations.

For the fourth research question, the findings revealed that formal education, access to health professionals, participation in health education programmes, and community-based campaigns are key factors that contribute to improved knowledge of malnutrition among women. This agrees with the findings of Aborigo et al. (2018), who noted that higher maternal education levels are associated with better understanding and application of nutritional knowledge. Similarly, Awasthi et al. (2020) found that targeted health education interventions and community nutrition campaigns significantly increase maternal awareness and improve child-feeding practices. Media platforms such as radio and social media were also found to play an important role in disseminating nutritional

information, reflecting the growing influence of digital and community-based communication channels in health promotion.

The findings indicate that women of childbearing age possess moderate awareness of malnutrition and its signs, but their understanding of underlying causes and preventive measures remains incomplete. This study reinforces existing literature suggesting that knowledge alone is insufficient to ensure proper nutrition practices. Cultural influences, socio-economic constraints, limited access to reliable health information, and inadequate support systems continue to affect women's ability to apply nutritional knowledge effectively. As Bhutta et al. (2020) emphasised, improving maternal and child nutrition requires a multi-dimensional approach that integrates education, empowerment, healthcare access, and community engagement. Therefore, strengthening maternal education, expanding health outreach services, and addressing economic and cultural barriers are crucial steps towards enhancing the nutritional wellbeing of children under five in low-resource settings.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study investigated the knowledge of women of childbearing age regarding the causes, signs, barriers, and factors contributing to malnutrition among children under five years. The research aimed to assess women's awareness, identify the obstacles that hinder the application of proper nutritional knowledge, and examine the key elements that could enhance understanding and practices related to child nutrition. The study employed a descriptive survey design, using structured questionnaires administered to 300 respondents. The demographic data revealed that most respondents were within the ages of 15–35 years, representing a youthful population with active maternal roles. The women came from different religious and educational backgrounds, which provided a diverse understanding of how socio-cultural and economic factors shape nutritional knowledge and practices.

Findings from the first research question revealed that women of childbearing age demonstrated a moderate level of knowledge regarding the causes of malnutrition, with a grand mean of 2.51. Many respondents recognised inadequate feeding practices and lack of exclusive breastfeeding as major contributors to malnutrition. However, lower

awareness was observed regarding poverty, frequent childhood illnesses, and poor maternal nutrition during pregnancy.

The second research question assessed women's knowledge of the signs of malnutrition. The results indicated a grand mean of 2.53, suggesting a moderate level of awareness. Most respondents identified signs such as stunted growth, poor weight gain, low energy, and delayed development. Although many could recognise physical symptoms, some lacked deeper understanding of early or hidden developmental signs of malnutrition.

The third research question examined the barriers preventing women from accessing or applying nutritional knowledge. The findings showed that financial constraints, cultural beliefs, time limitations, poor access to health professionals, and inadequate health education programmes were the main barriers. This highlights the influence of socio-economic and cultural challenges that limit the practical use of nutritional knowledge, even among informed mothers.

The fourth research question investigated the factors contributing to improved maternal knowledge of malnutrition. The results showed that access to health professionals, formal education, community-based campaigns, and health education programmes were major determinants of enhanced nutritional awareness. The media also

played a significant role in disseminating relevant information to women, particularly through radio and social media platforms.

The findings reveal that while women of childbearing age possess some knowledge of malnutrition and its signs, their understanding is not comprehensive. The study underscores the need for better educational support, community involvement, and policy efforts to bridge existing gaps in awareness and practical application.

Conclusion

The study concludes that women of childbearing age have a fair understanding of malnutrition and its related issues, but their knowledge is limited by cultural, financial, and educational constraints. These gaps affect their ability to apply proper feeding practices and recognise early signs of malnutrition in children. Cultural traditions and economic hardship remain significant factors that hinder progress in nutritional improvement. The findings indicate that increased access to health education, professional guidance, and community-based nutrition initiatives can significantly improve maternal understanding and child nutrition outcomes. The study emphasises that reducing child malnutrition requires collective action among mothers, healthcare workers, community leaders, and policy-makers to build sustainable structures for knowledge dissemination and behavioural change.

Recommendations

Based on the four research questions and findings, the following recommendations are made:

1. Government agencies and non-governmental organisations should develop intensive maternal education programmes focusing on the causes and prevention of malnutrition.
2. Regular community-based awareness campaigns should be organised to teach mothers how to identify both physical and early developmental signs of malnutrition.
3. Financial and socio-cultural barriers should be addressed through women's empowerment programmes, microcredit schemes, and engagement of traditional and religious leaders to promote positive nutritional practices within cultural contexts.
4. Health ministries should collaborate with the media and educational institutions to strengthen communication channels for nutrition education.

Suggestions for Further Studies

1. Future studies could compare urban and rural women's knowledge of malnutrition to identify geographical variations in awareness and practices.
2. Researchers should explore the role of cultural and religious beliefs in influencing maternal feeding decisions using a qualitative approach.
3. Further research could examine the impact of women's economic empowerment on their ability to implement nutritional knowledge in child care.
4. Studies should also assess the long-term effectiveness of community-based nutrition campaigns in reducing child malnutrition rates across different regions.

REFERENCES

- Aborigo, R. A., Allotey, P., Reidpath, D. D., & Oduro, A. R. (2018). The role of maternal education in child nutrition and health: Evidence from rural northern Ghana. *BMC Public Health*, 18(1), 841.
- Aguayo, V. M., & Menon, P. (2016). Stop stunting: Improving child feeding, women's nutrition and household sanitation in South Asia. *Maternal & Child Nutrition*, 12(S1), 3–11.
- Akombi, B. J., Agho, K. E., Hall, J. J., Wali, N., Renzaho, A. M., & Merom, D. (2017). Stunting and severe stunting among children under-5 years in Nigeria: A multilevel analysis. *BMC Pediatrics*, 17(1), 15.
- Akseer, N., et al. (2022). Childhood stunting and the private sector: economic costs and business losses. *EClinicalMedicine*, 51, 101591.
- Akseer, N., Kandru, G., Keats, E. C., & Bhutta, Z. A. (2020). COVID-19 pandemic and mitigation strategies: Implications for maternal and child health and nutrition. *The American Journal of Clinical Nutrition*, 112(2), 251–256.
- Alam, M. A., Richard, S. A., Fahim, S. M., Mahfuz, M., Nahar, B., Das, S., et al. (2020). Impact of early-onset persistent stunting on cognitive development at 5 years of age: Results from a multi-country cohort study. *PLOS ONE*, 15(1), e0227839.
- Ameh, S., Sufiyan, M. B., Misari, Z., Yusuf, M. S., & Dami, S. (2016). The impact of maternal knowledge and attitudes on infant feeding practices in Northern Nigeria. *Nigerian Medical Journal*, 57(6), 336–342.
- Amugsi, D. A., Dimbuene, Z. T., & Mberu, B. (2017). Influence of maternal education on child nutritional status in sub-Saharan Africa: A multilevel analysis. *PLOS ONE*, 12(9), e0185895.
- Amugsi, D. A., Dimbuene, Z. T., Kimani-Murage, E. W., Mberu, B., & Ezeh, A. C. (2017). Differential effects of maternal education on child stunting in sub-Saharan Africa: A comparative study of Ghana, Kenya and Malawi. *Public Health Nutrition*, 20(6), 1029–1045.

- Amugsi, D. A., Lartey, A., Kimani-Murage, E. W., & Mberu, B. U. (2017). Women's participation in household decision-making and higher dietary diversity: Findings from nationally representative data from Ghana. *Journal of Health, Population and Nutrition*, 36(1), 47.
- Amugsi, D. A., Mittelmark, M. B., & Lartey, A. (2017). An analysis of socio-demographic patterns in child malnutrition trends using Ghana demographic and health survey data in the period 1993–2008. *BMC Public Health*, 17(1), 1–12.
- Awasthi, S., Das, R., Verma, T., & Vir, S. (2020). Effect of community-based nutrition education interventions on the nutritional status of children under five years in India. *Journal of Health, Population and Nutrition*, 39(1), 21.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1–26. <https://doi.org/10.1146/annurev.psych.52.1.1>
- Bhutta, Z. A., Berkley, J. A., Bandsma, R. H., Kerac, M., Trehan, I., & Briend, A. (2020). Severe childhood malnutrition. *Nature Reviews Disease Primers*, 6(1), 59.
- Bhutta, Z. A., Das, J. K., Rizvi, A., Gaffey, M. F., Walker, N., Horton, S., Webb, P., Lartey, A., & Black, R. E. (2017). Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? *The Lancet*, 382(9890), 452–477.
- Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., ... & Uauy, R. (2016). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, 382(9890), 427–451.
- Champion, V. L., & Skinner, C. S. (2008). The health belief model. In Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice* (4th ed., pp. 45–65). San Francisco, CA: Jossey-Bass.
- Ekhoulenetale, M., Barrow, A., Adebawale, A., & Rahman, N. (2020). Impact of stunting on early childhood cognitive development in low- and middle-income countries: A cross-sectional analysis. *Egyptian Pediatric Association Gazette*, 68(1), 43.
- Eze, J., & Uche, C. (2021). Maternal knowledge and practices related to child nutrition in rural Nigeria. *International Journal of Nutrition and Public Health*, 6(2), 45–53.

- Fadare, O., Amare, M., Mavrotas, G., Akerele, D., & Ogunniyi, A. (2019). Mother's nutrition-related knowledge and child nutrition outcomes: Empirical evidence from Nigeria. *PLoS ONE*, 14(2), e0212775.
- Humphrey, J. H. (2019). Child undernutrition, tropical enteropathy, toilets, and handwashing. *The Lancet Global Health*, 7(7), e848–e849.
- M'Saad, R., Haddad, L. J., & Bhutta, Z. A. (2021). Maternal education and child nutrition: Evidence from 55 low- and middle-income countries. *Maternal & Child Nutrition*, 17(3), e13230.
- McGovern, M. E., Canning, D., & Fink, G. (2017). A review of the evidence linking child stunting to economic outcomes in adulthood. *Social Science & Medicine*, 169, 1–11.
- National Population Commission (NPC) [Nigeria] and ICF. (2019). *Nigeria Demographic and Health Survey 2018*. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF.
- Nguyen, P. H., Avula, R., Headey, D., & Ruel, M. T. (2017). Maternal and child dietary diversity are associated in Bangladesh, Vietnam, and Ethiopia. *The Journal of Nutrition*, 147(5), 1065–1073.
- Nguyen, P. H., Frongillo, E. A., Kim, S. S., et al. (2016). Information and behavior change communication on infant and young child feeding are associated with appropriate feeding practices and reduced child stunting in Vietnam. *The Journal of Nutrition*, 146(3), 605–613.
- Nigeria Demographic and Health Survey (NDHS). (2018). *National Population Commission (NPC) [Nigeria] and ICF*. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF.
- Ogbo, F. A., Page, A., Idoko, J., Claudio, F., & Agho, K. E. (2017). Diarrhoea and subsequent risk of stunting among children under five years in Nigeria: A prospective cohort study. *BMC Public Health*, 17, Article 755.

- Ogechi, U. P., & Chilezie, O. B. (2017). Maternal nutrition knowledge and practice and its influence on the nutritional status of children in Nigeria. *South African Journal of Clinical Nutrition*, 30(2), 34–40.
- Okoh, M. E., & Oboh, V. T. (2022). Rural women's knowledge of malnutrition and dietary patterns in Edo State, Nigeria. *Nigerian Journal of Nutrition and Health Sciences*, 8(1), 21–31.
- Okolie, E. A., & Nnamdi, I. A. (2019). The impact of maternal nutrition knowledge on child feeding practices in rural communities. *African Journal of Food, Agriculture, Nutrition and Development*, 19(3), 14657–14670.
- Olanrewaju, O., Adebisi, Y., & Ilesanmi, O. (2020). Addressing malnutrition in Nigeria: The critical role of maternal education. *BMC Public Health*, 20(1), 110–118.
- Olorunfemi, T. O., & Ojewale, L. Y. (2019). Impact of maternal education on nutrition and health of children in Ekiti State. *Journal of Education and Practice*, 10(2), 85–92.
- Onabanjo, O. O., Oyediran, W. O., & Ajiboye, A. S. (2020). Assessment of mothers' knowledge and practices on feeding of children under five in Ogun State. *International Journal of Child Health and Nutrition*, 9(1), 45–53.
- Onyeneke, R. U., Igberi, C. O., Uwadoka, C. O., & Aligbe, J. O. (2019). Status of agricultural extension services in Nigeria: A review. *World Scientific News*, 139, 190–212. Retrieved from <https://www.worldscientificnews.com>
- Tette, E. M. A., Sifah, E. K., & Nartey, E. T. (2016). Factors affecting malnutrition in children and the uptake of health services in Ghana. *BMC Public Health*, 16(1), 504.
- UNICEF. (2019). *The State of the World's Children 2019: Children, food and nutrition – Growing well in a changing world*. United Nations Children's Fund.
- UNICEF. (2019). *The State of the World's Children 2019: Children, Food and Nutrition – Growing Well in a Changing World*. New York: United Nations Children's Fund. Retrieved from <https://www.unicef.org/reports/state-of-worlds-children-2019>

UNICEF. (2019). *The State of the World's Children 2019: Children, food and nutrition*. New York: United Nations Children's Fund.

UNICEF. (2020). *Improving Young Children's Diets During the Complementary Feeding Period*. Retrieved from <https://www.unicef.org/reports/feeding-young-children>

UNICEF. (2020). *State of the World's Children 2019: Children, Food and Nutrition – Growing Well in a Changing World*. New York: United Nations Children's Fund. Retrieved from <https://www.unicef.org/reports/state-of-worlds-children-2019>

UNICEF. (2021). *The State of the World's Children 2021: On My Mind – Promoting, Protecting and Caring for Children's Mental Health*. UNICEF.

Victora, C. G., Christian, P., Vdaletti, L. P., Gatica-Domínguez, G., Menon, P., & Black, R. E. (2021). Revisiting maternal and child undernutrition in low-income and middle-income countries: Variable progress towards an unfinished agenda. *The Lancet*, 397(10282), 1388–1399.

Walker, S. P., Wachs, T. D., Grantham-McGregor, S., Black, M. M., Nelson, C. A., Huffman, S. L., ... & Richter, L. (2015). Inequality in early childhood: Risk and protective factors for early child development. *The Lancet*, 378(9799), 1325–1338.

WHO. (2024). *Malnutrition fact sheet*. Geneva: World Health Organization.

World Health Organization (WHO). (2020). *Levels and trends in child malnutrition: Key findings of the 2020 edition of the joint child malnutrition estimates*. WHO.

World Health Organization (WHO). (2021). *Malnutrition*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/malnutrition>

APPENDIX

**DEPARTMENT OF HEALTH SAFETY AND ENVIRONMENTAL EDUCATION,
FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN CITY.**

QUESTIONNAIRE

ON

**KNOWLEDGE OF MOTHERS ABOUT THE EFFECTS OF MALNUTRITION
ON CHILDREN 0 TO 5 YEARS OLD IN ODUNA COMMUNITY IN OVIA
NORTH EAST**

Dear Participants,

I am a student of the Department of Health Safety and Environmental Education, Faculty of Education, University of Benin. I am carrying out a study on the above topic. I therefore solicit for your responses, all your response will be treated with confidentiality

Please answer the following questions honestly and to the best of your knowledge. Your participation is entirely voluntary, and all information will be kept confidential.

Yours faithfully,

(Researcher)

Section A: Demographic Information

Instruction: Kindly respond to the item by a tick (√) in the appropriate box

1. Age: 15-25years [] 26-49 [] years
2. Religion: Christianity [] Muslim [] Others []

Section B: Respondents Responses

S/N	ITEMS	SA	A	D	SD
RQ1	What is the level of knowledge among women of childbearing age regarding the cause of malnutrition in children under?				
1.	I understand that inadequate feeding practices are a major cause of malnutrition in children under five.				
2.	I know that poverty and food insecurity can lead to malnutrition in young children.				
3.	I am aware that repeated childhood illnesses contribute to malnutrition.				
4.	I understand that poor maternal nutrition during pregnancy can increase the risk of malnutrition in children.				
5.	I believe that lack of exclusive breastfeeding during the first six months can cause malnutrition in infants.				

RQ2	What do women of childbearing age know about the signs of malnutrition on child development?				
6.	I can identify visible signs of malnutrition such as stunted growth in children.				
7.	I know that frequent sickness in children may be a sign of malnutrition.				
8.	I am aware that poor weight gain in a child can indicate malnutrition.				
9.	I understand that a child's lack of energy or weakness may result from malnutrition.				
10.	I know that slow learning or delayed development in children can be linked to malnutrition.				

Research Question Three: Barriers to Accessing or Applying Proper Nutritional Knowledge

1. Which of the following is a major barrier that prevents women of childbearing age from providing proper nutrition for their children?
 - a) Lack of nutritional knowledge
 - b) Financial constraints
 - c) Family size
 - d) Poor appetite
2. How do cultural beliefs influence women's ability to apply proper nutritional practices in your community?
 - a) They encourage modern nutrition practices
 - b) They have no influence on nutrition practices
 - c) They sometimes limit the adoption of proper nutritional practices
 - d) They promote only child-feeding practices

3. What role does access to health education programs play in improving maternal nutrition knowledge?
 - a) Lack of access limits improvement in nutritional knowledge
 - b) Access to programs reduces interest in nutrition
 - c) Access to programs increases confusion about nutrition
 - d) Health education programs are not relevant
4. What is a common challenge faced by women seeking accurate nutritional information?
 - a) Poor access to health professionals
 - b) Excessive information from social media
 - c) Availability of too many food options
 - d) Lack of cooking facilities
5. How do household responsibilities and time constraints affect the application of nutritional knowledge?
 - a) They encourage better meal planning
 - b) They prevent effective application of nutritional knowledge
 - c) They make it easier to provide balanced meals
 - d) They have no effect on nutrition practices

Research Question Four: Factors Contributing to Knowledge of Malnutrition

6. How does attending health education programs affect mothers' understanding of malnutrition?
 - a) It reduces their interest in nutrition
 - b) It helps improve their knowledge of malnutrition
 - c) It makes them dependent on professionals
 - d) It discourages participation in community health
7. Which factor most increases a mother's understanding of proper child nutrition?
 - a) Access to health professionals such as nurses and doctors
 - b) Influence of neighbours and friends
 - c) Family size and income
 - d) Traditional beliefs alone
8. Which of the following sources contributes most to improving knowledge of malnutrition?
 - a) Media sources such as radio, television, or social media
 - b) Word of mouth from neighbours
 - c) Local markets and food vendors
 - d) None of the above

9. How does formal education influence a mother's ability to understand nutritional information?
 - a) It decreases awareness of nutritional issues
 - b) It has no effect on nutrition knowledge
 - c) It improves comprehension of nutritional information
 - d) It encourages reliance on traditional medicine
10. How effective are community-based campaigns and seminars in teaching mothers about malnutrition?
 - a) They are not effective at all
 - b) They are sometimes effective
 - c) They are effective in increasing knowledge
 - d) They discourage mothers from seeking information