

**WOMEN'S STATUS AND CHILD HEALTH IN SOUTH WEST
NIGERIA**

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT
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THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) HONS IN
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CERTIFICATION

This is to certify that **OSUNLEYE IBIDOLAPO AYOOLA** of the Department of Demography and Social Statistics, Faculty of Humanities and Social Sciences, Federal University, Oye-Ekiti, carried out this research "**Women's Status and Child Health in Southwest, Nigeria**" in partial fulfillment of the requirements for the award of Bachelor of Science (B.Sc.) in Federal University, Oye-Ekiti under my supervision.

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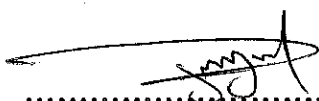
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DEDICATION

I dedicated this project work to the Almighty God, the creator of heaven and earth who guided me through my undergraduate programme and both my father and mother, Late Mr. Osunley Abayomi and Mrs. Mojirayo Akinnibi, Mr Akinnibi and my siblings for their support in all ramifications of my life.

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ABSTRACT

Women's status in Nigeria has been considered to have influence on child health over the years, hence the need for more research that will help in designing necessary intervention programme. This study examines women's status and child health in Southwest Nigeria using Nigeria Demographic Health and Survey data set and information from Indepth interviews conducted among women in Southwest, Nigeria. It was revealed that about 22% of these women have children with stunted growth. Socio-demographic characteristics of respondents (such as place of residence, household wealth status, women's educational attainment, religion and children ever born, contraceptive knowledge, antenatal care visit, number of living children) were significantly related to child health (stunting) ($P < 0.05$). Findings also revealed that education, age, residence, wealth index and contraceptives use are significant predictors of child health ($P < 0.05$). Women with 5 and more children are also more likely to have stunted child. The study concludes that women's status is a factor in child health.

KEY WORDS: Women, Child, Health, Stunting, Southwest and Nigeria

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Children health status is one of the major health issues in developing countries. Among many issues on children health status is nutrition. Malnutrition is one of the current health problems among the under five children in the world. It is currently associated with more than 41% of the deaths that occur annually in children from 6 to 24 months of age in developing countries, approximately 2.3 million (Sandoval-Priego et al 2002). According to World Health Organization (2001), it was reported that 54% of all childhood mortality was attributable directly or indirectly to malnutrition with sub-Saharan Africa having a high rate of prevalence of the different types of malnutrition, namely stunting, wasting and underweight (Lutter and Rivera, 2003).

Black and Allen, (2008) also reported that poor nutritional status of children has been a major public health problem throughout the developing world and is the underlying cause for more than 35% of child deaths and 11% of the total global disease burden. Child malnutrition remains a highly prevalent condition in low and middle income countries and a major portion of the global burden of childhood malnutrition is found in South Asia with an estimated 74 million children living with chronic malnutrition (stunted growth). This burden of malnutrition accounts for approximately 50% of under-five child deaths in developing countries. Another country in Asia with a larger percentage of children with chronic malnutrition is Bangladesh. The Bangladesh Demographic and Health Survey 2011 showed that among under-five children 36% are underweight, 41% are stunted, and 16% are wasted (BDHS, 2011).

The United Nations Children's Emergency Fund reported that out of the 209 million children that are stunted in the world, 144 million are in East/South Asia and the Pacific, 4 million in Central Asia, 12 million in Middle East and North Africa, and 9 million in the America and 40 million in sub-Sahara Africa (UNICEF, 2010).

Progress in infant and young child feeding practices in the developing world has been remarkably slow, due to several factors like poverty and poor hygienic conditions (Sobo, 2006). The 2013 NDHS shows that 37 percent of children under age 5 are stunted, and 21 percent are severely stunted with 22 percent of stunted children in Southwest, 18 percent of children in Nigeria are wasted, and 29 percent of children under age 5 are underweight (NDHS, 2013).

Childhood malnutrition remains a public health problem in Nigeria; this status did not improve substantially during the last two decades (Ene-Obong, 2010). The implications of this unrelenting situation for the well-being of children and for the development of the nation as a whole are unacceptable because under nutrition contributes to the high rates of morbidity, disability and mortality among children (Ene-Obong, 2010). In addition, under nutrition constrains people's ability to fulfill their potential, as it is also associated with impaired growth, adverse mental development and school performance, reduced adult size and reduced work capacity, which in turn impacts on economic productivity at the national level (Fadeyiye et al., 2001).

The National Demographic and Health Survey of 1990 provided information on the nutritional status of children 1-59 months old and recorded the prevalence of stunting as 43%, underweight as 36% and wasting as 9% (NDHS, 1990). Moreover, the Participatory Information Collection (PIC) study, which provided another assessment of the situation, showed that stunting or chronic under nutrition was the most prevalent form of under nutrition in Nigeria, with one out of every two children under the age of five years being stunted

(52.3%). The prevalence rate of underweight was 28.3%, while that of wasting was 10.8% (PIC, 1995).

The 2003 Nigeria Demographic and Health Survey gave the following figures: stunting 38.3%, wasting 9.2% and underweight 28.7% (NDHS, 2003). Further, nationally representative data, which emanated from the Nigeria Food Consumption and Nutrition Survey (2001-2003) showed that among under-fives, 42% were stunted, 25% underweight, and 9% wasted (FCN, 2004). In 2008, the National Demographic and Health Survey reported that 41% of children under age five are severely stunted, and the larger percentages of the stunted children are from the North West region with 53% (NDHS, 2008). From the review of the past national data, it appears that there had been little progress in child nutrition in Nigeria.

Another matter arising from the data is that consistently, all the national surveys have shown that the prevalence of child under nutrition in Nigeria is higher in the rural than in the urban areas. Hence, it appears that rural communities in Nigeria are nutritionally more vulnerable than those in the urban areas. Most rural dwellers depend directly on agriculture for their food and livelihoods, and farming households abound in these areas (Adeola, Yinyinade, and Alabi, 2016). However, studies documenting the nutritional status of young children in farming households are scarce in Nigeria. Generally, one of the most severe cases of child malnutrition is stunting and under five children constitute the most nutritionally vulnerable group in any community.

Childhood stunting is one of the most significant impediments to human development, globally affecting approximately 162 million children under the age of 5 years. Stunting, or being too short for one's age, is defined as a height that is more than two standard deviations below the World Health Organization (WHO) Child Growth Standards median 3. It is a largely irreversible outcome of inadequate nutrition and repeated bouts of infection during the first 1000 days of a child's life (WHO, 2004). Stunting has long term effects on individuals

and societies, including: diminished cognitive, poor physical development reduced productive capacity and poor health, and an increased risk of degenerative diseases such as diabetes (Black et al., 2013). If current trends continue, projections indicate that 127 million children under 5 years will be stunted in 2025 (WHO, 2006). Therefore, further investment and action are necessary if the 2025 WHO target of reducing that number to 100 million will be met (Onis, Onyango, Borghi, and Garza, 2006).

Stunting is a well-established risk marker of poor child development. Stunting before the age of 2 years predicts poorer cognitive and educational outcomes in later childhood and adolescence (Birtcher, 2005) and has significant educational and economic consequences at the individual, household and community levels. Recent longitudinal studies of children from Brazil, Guatemala, India, the Philippines and South Africa associated stunting with a reduction in schooling, where adults who were stunted at age 2 completed nearly one year less school than non-stunted individuals (Yimer, 2000).

Factors that contribute to stunted growth and development include poor maternal health and nutrition, inadequate infant and young child feeding practices, and infection. Specifically, these include: maternal nutritional and health status before, during and after pregnancy. These factors influence a child's early growth and development, beginning in the womb. For example, intrauterine growth restriction due to maternal under nutrition (estimated by rates of low birth weight) accounts for 20% of childhood stunting (UNESCO, 2013). Other maternal contributors to stunting include short stature, short birth spacing, and adolescent pregnancy, which interfere with nutrient availability to the fetus (owing to the competing demands of ongoing maternal growth).

Poor nutrition can lead to reduced immunity, increase susceptible to diseases, impaired physical and mental development, and reduced productivity (WHO, 2015).

Nigeria ranked 8th in the world in the prevalence of mortality rates of under-fives, with a staggering figure of 189/1000 in 2008, (WHO, 2007). Malnutrition is the underlying cause in more than 50% of these deaths (WHO, 2005).

1.2 STATEMENT OF THE PROBLEM

Child health is one of the basic problems in many societies today. According to World Health Organization (2015), children represent the future, and ensuring their healthy growth and development ought to be prime concern of all nations. Presently, one of the issues of interest in the world is child health. This is more pronounced in developing countries like Nigeria. Nigeria is currently struggling with child health (child nutritional status) issue. The nutritional status of the children population is an important indicator of child health and quality of life, reflecting not only the reality of this particular group, but, also the society in which the children live. Malnutrition among children is a major public health problem in Nigeria. Malnutrition is inimical to human development and contributes to the high rates of morbidity, disability and mortality among children in Nigeria.

According to World Health Organization (2002), two hundred million children are stunted; women characteristics have influence on child health status (child nutritional status).

A review of the trends of the nutritional status of Nigeria children from 1983-1998 showed that the national rural prevalence of stunting increases from 60 percent in 1983 to 64 percent in 1992. Another national survey undertaken in 1998 with the inclusion of urban areas and children in the age group 3-5 months showed a relative decline in the proportion of stunted children to 52 percent (Fadeiye et al., 2001). A few local studies (Getaneh et al., 1998; Genebo et al., 1999 and Yimer, 2000) on child nutrition have also shown similar results (a more than 40 percent prevalence in stunting) and confirmed that malnutrition, i.e., stunting,

is one of the most important public health problems. According to Adeola et al, (2016) 70% of the children were stunted while 54% were severely stunted.

In Nigeria however, the situation is said to be worse in rural areas and constitutes a major health problem in the country. Although the prevalence of underweight, stunting and wasting (2.5%, 12.4% and 9.5 respectively) reported in a recent study in Ekpoma is low compared to studies elsewhere, that of stunting is however worrisome. This is due to the fact that stunting signifies long term irreversible chronic under nutrition and is the most common form of under nutrition among under five children (Ozor et al, 2014). The World Health Organization estimates that approximately 150 million children younger than 5 years in developing countries are underweight and an additional 200 million children are stunted, (Laura 2004). Under nutrition remains a devastating problem in many developing countries affecting over 815 million people causing more than one- half of child death, (Ruel 2003).

This study, therefore, was designed to investigate maternal factors that predispose under-five children to malnutrition (stunting). This is important because nutritional assessment is essential for accurate planning and implementation of intervention programmes aimed at reducing morbidity and mortality rates associated with malnutrition.

1.3 RESEARCH QUESTIONS

1. What is the extent of stunting in Southwest, Nigeria?
2. What is the relationship between women's characteristics (age, education, residence, religion, wealth index .e.t.c) and child health status (child nutritional status) in Southwest, Nigeria?



1.4 OBJECTIVE OF THE STUDY

1.4.1 GENERAL OBJECTIVE

1. To examine the determinants of child health status (child nutritional status) in Southwest Nigeria.

1.4.2 SPECIFIC OBJECTIVES

1. To know the extent of stunting in Southwest, Nigeria.
2. To know the relationship between women's characteristics (age, education, residence, religion, wealth index .e.t.c) child health status (child nutritional status) in Southwest, Nigeria.

1.5 JUSTIFICATION

Child health can be determined or influenced by women's status either positively or negatively. Malnutrition as an essential indicator of child health is one of the health problems facing children under-five age group in developing countries. The prevalence of malnutrition imposes significant costs on the Nigerian economy as well as all societies where children exist. The high mortality due to malnutrition prompts the loss of the economic potential of the child, it affects children in many ways, predisposing them to different infectious diseases, psycho social poor development, and cognitive deficiencies.

Evidence has shown that child health is one of the most important makers of development and overall health within a nation. Nigeria has also committed itself to national food and nutrition policies through the establishment of the National Committee on Food and Nutrition and several Committees on Food and Nutrition at both state and local government levels to coordinate nutrition-related actions, which emphasize the socioeconomic and spatial rights to nutrition.

Despite numerous nutritional policies introduced in Nigeria, substantial gaps remain in our knowledge about the nutritional status of children and women. The implication of the latter is that the groups that are seriously affected by nutritional deficiencies may not be properly targeted by the various Nigerian nutrition policies.

Therefore, this study was design to assess relationship between women status and child health which may help in priority setting and designing effective nutritional programs for under five children in Southwest Nigeria. The study will provide more data on women and stunting among children most especially in southwest, Nigeria. It will deepen knowledge and understanding about the relationship between women's status and child health.

1.6 OPERATIONAL DEFINITION OF TERMS

Women: An adult female mained person, distinguished from a girl, which is capable of taking care and bearing children.

WHO: World Health Organization.

Malnutrition: This is a condition that results from eating a diet in which nutrients (calories, protein, and micro nutrients) are not enough such that diet causes health problem such as in physical and mental development.

Under nutrition: It can be defined as the outcome of poor feeding of infants and young children, insufficient food intake leading to infectious preventable diseases. Under nutrition can also include being underweight for one's age, too short for one's age (stunted), dangerously thin (wasted), and deficient in vitamins and minerals (micronutrient malnutrition).

Child: A child is a human between the stages of birth and puberty.



Child Health: Child health encompasses the physical, mental, emotional and social well-being of children from infancy through adolescence.

CHAPTER TWO

2.0 INTRODUCTION

This section reviewed related materials and studies on health, child health and children malnutrition status including the theoretical and conceptual frame work.

2.1 LITERATURE REVIEW

2.1.1 HEALTH AND CHILD HEALTH

The most commonly quoted definition of health is that which was formalized by the World Health Organization (WHO) over half a century ago. According to WHO (1948), health is a state of complete physical, mental and social well being and not merely absence of diseases or infirmity. Ottawa Charter for Health Promotion (1986), proposed that children's health is the extent to which individual children or group of children are able or enabled to develop and realize their potentials, satisfy their needs and develop capacities that allows them to interact successfully with their biological, physical and social environment. Child health refers to the period between birth and five years old when children are particularly vulnerable to disease, illness and death. From one month to five years of age, the main causes of death are pneumonia, diarrhea, malaria, measles and HIV. Children's health encompasses the physical, mental, emotional and social well-being of children from infancy through adolescence. Malnutrition is estimated to contribute to more than one third of all child deaths.

2.1.2 CHILD NUTRITION STATUS

Children are operationally defined as a baby between 0 and 5 years. They are otherwise referred to as under-5s and constitute one of the vulnerable groups in any given population. The peculiar feeding processes include breastfeeding (usually exclusive between

0-6 months), complementary feeding (6-9 months) and introduction of normal adult family diets. It should be added at this point that any default in the feeding pattern at this stage in life may jeopardize subsequent nutritional status in later life, with high risk of developing any of the non-communicable diseases including obesity and its other attendant problems.

Nutrition is a fundamental pillar of human life, health and development across the entire life span. From the earliest stages of foetus development, at birth, through infancy, childhood, adolescence, and into adulthood and old age, proper food and good nutrition are essential for survival, physical growth, mental development, performance and productivity, health and well-being (FAO/WHO, 1992 and WHO, 2000). Thus, being nutritionally vulnerable, under-5 children's nutritional status is generally accepted as an indicator of the nutritional status of any particular community (Davidson et al., 1975). This is due to their easy susceptibility to malnutrition and infection (Akinlosotu and Hussain, 1985; Uppal et al., 2005). Children in this age group require a high supply of nutrients since they are usually very active and their growth is rapid. Also during this period, under-nutrition in the form of kwashiorkor, marasmus, anaemia and xerophthalmia are not uncommon (Ene-Obong, 2001).

It has been estimated that approximately one out of every three Under-5 children is chronically malnourished and thereby subjected to a pattern of ill health and poor development in early life (UNICEF, 1998), with malnutrition being associated with more than half of all deaths of children worldwide (Sobo and Oguntona, 2006).

Early childhood starts from foetus to new birth and then through postnatal life. In intrauterine life, the nutritional status of the unborn foetus depends largely on the adequacy of the dietary intake of the mother and this determines the outcome of birth of the new born.

Postnatal life is a continuum in human development. Normal growth and development depend largely upon the nutritional status of the new born which is in turn related directly to the nutrition of the mother and inherited characteristics, and to the dietary intake of the infant. (Krauss and Mahan, 1982).

In early childhood, nutritional status is of paramount importance for a child's later physical, mental and social development. From birth to 4-6 months of life, breast milk is the sole or prime source of nutrients and optimal breastfeeding practice becomes a critical factor in child survival and development (Onyesili, 2000). Breast milk contains all nutrients, antibodies, hormones and antioxidants that an infant needs to thrive UNICEF (1998). Early initiation within half an hour of birth will ensure that the protective antibodies in the colostrums are available rapidly to the infant, because after 24 to 48 hours, the level of antibodies in breast milk diminishes.

Nutritional status during childhood is crucial for human development as it affects every phase of human life, the elevation of childhood nutrition therefore assist in the goal to reduce child mortality considering the report by WHO (2005) and (Pelletier et al., 1995) that malnutrition is an underlying cause of an estimated more than a half of all deaths of under five children. Malnutrition currently gives accounts of about half of the 10 million deaths each year among under-five children in the developing world. Malnutrition is strongly associated with poverty because levels of malnutrition are higher in poor countries than in better-off countries (World Bank, 2000).

Malnutrition arises from a complex of nutritional, social and biological deprivation and is manifested in various forms such as stunting (short stature), underweight, muscle wasting, growth retardation, diminished fat and ill health with high mortality rate (Onimawo et al., 2006). Growth is an increase in size, its progress is mainly structural, and can be measured

with some degree of reliability in terms of height, weight, age etc. (Apley, 1979). There are wide variations in the rates at which the height and weight of children are subsequently attained. This is as a result of several factors such as quality and quantity of food, family income, family size and genetic constitution which may contribute to these variations (Beaton et al., 1990). Growth assessment has been identified as the most important measure for evaluating the health and nutritional status of Under-5 children through anthropometric measurements (Apley, 1979). The reason for this is that anthropometric indicators of growth not only provide information on health and nutritional status, but is also an indirect measure of the quality of life of an entire population (Shetty and James, 1994).

Malnutrition is a pathological condition brought about by the inadequacy or over consumption of one or more of the essential nutrients necessary for survival, growth, reproduction as well as productivity at work (UNICEF and FGN, 2001). The inadequate or excessive intake of nutrients may result from disease factors that affect digestion, absorption, transport, and utilization of nutrients (UNICEF, 1990). Malabsorption of nutrients may result from genetic cum environmental conditions or illness. The most critically vulnerable groups are the developing foetus, preschool children, women before and during pregnancy, and lactating women (UNICEF, 1998).

Malnutrition affects all levels of development physically, mentally, socially, psychologically and physiologically. It thus multiplies the effect of prevailing disease or mortality in children and infants (Huffman and Marlin, 1994). In the developing nations, malnutrition usually makes its greatest impact on preschoolers. Under-5 children mortality accounts for nearly 50% of total deaths, and careful examination has shown malnutrition as the major underlying factor (Whitehead and Rowland, 2002). Studies by many researchers have shown that it is during the preschool years that under-nutrition in the form of kwashiorkor and marasmus are most prevalent. This is because these children are in the state

of life when growth is rapid, nutrient requirements are high and the diets likely to be given are inadequate. Also, at this stage of life, there is continuous stress from bacterial, viral and parasitic infections which contribute to malnutrition. The presence of malnutrition reduces the resistance of the child to infections and infectious diseases, resulting in reduced food intake and poor nutrient absorption, which in turn result in stunted growth depending on the severity of the malnutrition.

Children below 5 years of age have been specifically studied because their health status is a sensitive indicator of overall community health, particularly among the disadvantaged group in the population. The preschoolers especially those at the second year of life are 'transitional' as regards diet, immunity to infections and psychological dependency (Pyke, 1979). This period which is characterized by a high nutrient need, particularly that of protein for swiftly increasing muscle tissue, is also a period when several meals a day are required and when food should be easily masticable and digestible.

Malnutrition does not often exert equal impact on all population groups. Certain factors and circumstances dictate the target of occurrence (Keke, 1990). The causes of malnutrition are multidimensional and include both food and non food factors such as low income, uneven household food distribution, poor sanitation, infection, inadequate food production, marketing and preservation as well as poor knowledge of nutrition (Chen and Dseusa, 1981). Some of the reported effects of malnutrition and its various manifestations include stunted physical growth, retarded mental achievement, and low productivity, low resistance to diseases and infections with high morbidity and mortality rates especially in children (Nnayelugo, 1992).

Malnutrition is an umbrella term which covers under- and over-nutrition. Under nutrition can manifest itself in different forms and affect the physical and mental development of

children in different ways (Arifeen, Black, Caulfield, Antelman and Baqui, 2001). Each type of under nutrition depends on age, duration and nutrient composition of diet.

- The most basic kind is called 'protein energy under nutrition' caused by a diet lacking in energy and protein due to a deficit of all major macronutrients, such as carbohydrates, fats and proteins. Marasmus is caused by a lack of protein and energy with sufferers appearing skeletally thin. In extreme cases, it can lead to kwashiorkor.
- Other forms of under nutrition are usually the result of vitamin and mineral deficiencies (micronutrients), which can lead to anemia, scurvy, pellagra, beriberi and xerophthalmia and, ultimately, death (Arimond and Ruel, 2014).

Malnutrition is most commonly identified through measurement of growth and body composition, known as anthropometric indicators. Underweight, stunting, and wasting, are the nutritional status conditions measured in an anthropometric assessment.

- Stunting (Height for age) is a measure of linear growth. Stunting refers to shortness, and reflects linear growth achieved pre and postnatal with its deficits. It is generally assumed to indicate long-term, cumulative effects of inadequate nutrition and poor health status. Height for age (HFA) is considered a measure of past nutrition, because a child, who is short today, maybe did not have adequate nutritional intake at some point in the past.
- Underweight (Weight for age) is the most common assessment of child nutrition status. It is routinely collected in growth promotion programmes, and is a good indicator for children under 24 months because of the need to do precise measurements of weight for these age groups. Weight for age (WFA) is a simple index, but this index does not take height into account. Children who are taller would be expected to weigh

more than other children, just as children who are shorter would be expected to weigh a little less and still be healthy.

- Wasting (Weight for Height) is a measure of acute or short-term exposure to a negative environment. It is sensitive to changes in calorie intake or the effects of disease.

Wasting can be calculated without knowing the age of a child. Weight for height (WFH) is a measure of current body mass. It is the best index to use to reflect wasting malnutrition, when it is difficult to determine the exact ages of the children being measured.

A child is considered malnourished or severely undernourished if any of these indices fall below the accepted median values set by the World Health Organization international reference (De Onis, Onyango, Borghi, Garza, C. 2006).

2.1.3 OVERVIEW OF CHILD NUTRITION STATUS (MALNUTRITION) IN SUBSAHARAN AFRICA

Malnutrition prevalence; height for age of children under 5 in sub-Saharan Africa was last measured at 35.74 in 2014, according to the World Bank. Prevalence of child malnutrition is the percentage of children under age 5 whose height for age (stunting) is more than two standard deviations below the median for the international reference population ages 0-59 months. For children up to two years old height is measured by recumbent length. For older children height is measured by stature while standing. The data are based on the WHO's new child growth standards released in 2006. Many countries, including Malawi, Rwanda, Senegal and the United Republic of Tanzania, have made considerable and encouraging progress. With external support, and interventions for preventing malnutrition and improving nutrition, Niger made remarkable progress though, 44% of children suffer from stunting. The percentage of stunted children in sub-Saharan Africa fell from 48% to 38% between 1990 and 2013. Many

countries, including Lesotho, Mali and Niger, have made noticeably strong progress since 2000, but still report 39%, 28% and 44% of under-5 children suffering from stunting in Sierra Leone and Zimbabwe, where the stunting rate has worsened, (UNESCO, 2013).

In the past two decades, child and maternal malnutrition has declined almost by half, child malnutrition still imposes the greatest nutrition-related health burden at global level, 161 million children are stunted due to chronic malnutrition, 99 million children are underweight, and 45% of child deaths are caused by child and maternal malnutrition. Developing regions have the highest prevalence of stunting in children under the age of five with 34% in western Africa, 32% in central Africa, 41% in eastern Africa, and 30% in southern Africa (FAO, 2014).

2.1.4 OVERVIEW OF CHILD NUTRITION STATUS IN NIGERIA

The nutrition situation in Nigeria is the result of several adverse and interrelated factors (social, economic, and environmental) acting in synergy, Nigeria accounts for nearly one-fourth of Sub-Saharan Africa's poor nourished children, it is a region where the number of malnourished children is forecast to increase by more than 30 percent to reach 40 to 45 million by 2020 (WHO 1997 and Pinstrup Andersen et al. 1999). Moreover, more than 50 percent of all childhood deaths have under nutrition as an underlying factor in Nigeria (NPC/UNICEF, 1998). Nutritional deficiencies contribute to the high rates of morbidity, mortality, and disability in Nigeria. Like almost all other developing countries in the world, Nigeria has committed itself to providing equitable access to health and nutrition care for all socioeconomic groups of people living in different geographical locations of the country (Adeola et al., 2016).

Malnutrition among Nigeria's children is a serious problem throughout the country:

- Each year about 1 million Nigerian children die before their 5th birthday. Malnutrition contributes to nearly half of these deaths (Black et al, 2013).
- Rates of stunting in Nigeria have stagnated for more than a decade. About 2 in 5 Nigerian children are stunted, with rates of stunting varying throughout the country (NPC and NDHS, 2013).
- Almost 30 percent of Nigerian children are underweight. This is more than double the proportion of neighboring Ghanaian children who are underweight (NPC and NDHS, 2013).
- The percent of children in Nigeria, who are wasted, or too thin for their height, has steadily increased over the last decade, rising from 11 percent in 2003 to 18 percent in 2013 (NPC and NDHS, 2013).
- Up to 1 million Nigerian children under age 5 are affected by severe acute malnutrition (SAM) each year (Children's Investment Fund Foundation, 2014).
- Nearly 4 out of 5 Nigerian children do not meet the World Health Organization's recommendation for exclusive breastfeeding during the first 6 months of life (NPC and NDHS, 2013).
- About 70 percent of children ages 6 to 23 months are not receiving the minimum acceptable diet in Nigeria (NPC and NDHS, 2013).

One of the yardsticks to determine the level of development of any country is to consider the nutritional status of the under-5s. The under-5s are most at risk of malnutrition because they are more vulnerable to adverse environmental conditions and respond rapidly to dietary changes. They are also more at risk of becoming ill, which will result in weight loss. Consequently, their nutritional status is considered a good gauge for population-based assessment of level of malnutrition. During the developmental years, children are susceptible

to skeletal growth failure in ways that adults are not when there is acute or chronic malnutrition, which are good reflections of short-term and long-term malnutrition. Data from nutritional survey of under-5s are therefore used to draw conclusions about the situation of the entire population and not just that age group. According to the 2013 NDHS enumerated the nutritional status of under-5 children in Nigeria is as follow:

- 37 percent of children under five are stunted and 21 percent are severely stunted.
- Overall, 18% of the children in Nigeria are wasted, and half of them severely wasted.
- 29% of all children in Nigeria are underweight; almost 1 in 10 of these children are severely underweight.
- Percent of Children Stunted by Region, NDHS 2013 South west 22%, south east 16%, south south 18%, north east 42%, north west 55% and north central 29%.

2.1.5 FOOD INSECURITY AND CHILD MALNUTRITION

Food insecurity is a major problem worldwide and it is especially widespread in sub-Saharan Africa of which Nigeria is a major part. Food insecurity and malnutrition are two sides of the same coin and one cannot analyze one without analyzing the other. Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life and Food insecurity by contrast, exists when people do not have adequate physical, social or economic access to food as defined above (World Food Summit 1996 and FAO, 1983). Food insecurity, as measured in the United States, refers to the social and economic problem of lack of food due to resource or other constraints, not voluntary fasting or dieting, or because of illness, or for other reasons. This definition was supported by the ethnographic research conducted, (Shariff et al., 2000).

Food insecurity is measured as a household-level concept that refers to uncertain, insufficient, or unacceptable availability, access, or utilization of food and research has shown that food insecurity is associated with adverse health and developmental outcomes in children (World Food Summit 1996 and FAO 1983). The United Nations Sustainable Development Goals revealed that Poor nutrition causes nearly half (45 per cent) of deaths in children under five. 3.1 million children each year, one in four of the world's children suffer stunted growth, In developing countries the proportion can rise to one in three, 66 million primary school-age children attend classes hungry across the developing world, with 23 million in Africa alone.

2.1.6 EFFECT OF NUTRITION EDUCATION ON NUTRITION STATUS

Educating the women on the special needs of the under-five children and utilizing them for child's growth surveillance have been effective in preventing malnutrition (Gopaldas and Theos 2009). The more targeted pre-school programme in developing countries select children on the bases of second or third degree malnutrition. Other programmes use improvement in growth (weight, height) above what is observed in a control as a means of assessing impact. Nutrition information and education are needed so that people can make informed choice about the foods they grow, purchase and eat the success of food-based strategies to eliminate micro-nutrients deficiencies will rest on the willingness of individuals to change their dietary behavior.

2.1.7. WOMEN'S STATUS AND CHILD HEALTH

2.1.8 WEALTH INDEX AND CHILD HEALTH

Wealth has important inference for family and child health, the wealth index of the family's will reflect to the ability to respond to the social economic that can negatively have an impact on the child's health (Shariff et al., 2000). Income depends on the resources that will be available to the family to fulfill their food housing and health needs, income is

positively and negatively associated with child health (Shariff et al., 2000). Wealth is a comprehensive measure of access to financial resources, families with the same level of yearly income would be categorized as social economically equivalent even if there were large differences in the family's quantities of accumulated assets

2.1.9 LEVEL OF EDUCATION AND CHILD HEALTH

Maternal education has shown to have a stronger effect on child health than paternal education and paternal education also an effect. It has been considered a strong measure of social economic status (Shariff et al., 2000). It predicts better job, higher incomes and better societies and the female education participation maybe low or less important than a man's education. Increased education has shown to reap increasing financial, professional and socio economic rewards for those that pursue it and those rewards offer financial, behavioral, additional resources and strong impact on the health of their children. Thus educated mothers are likely to have access to more financial resources to invest in child health (Shariff et al., 2000). Better educated mothers are more likely to know more about how to handle child health issues, educated mothers have higher bargaining power over the household's resources. Therefore, they can positively impact their children's health (Glewwe, Paul, and E. Miguel. 2008).

2.1.10 RELIGION AND CHILD HEALTH

Religions also do affect the health of a child positively or negatively. According to Child Development Supplements (CDS), it was observed that those that are religiously biased have a higher level of overall health. Religion can have positive effects on child health by influencing the child and also the parent's behavior by regulating their social and psychological way and also religion can discourage bad behavior in one way or the other. For example, alcohol consumption in which some religion does not allow that. It can also be in the

negative level in which some religion does not allow the services of doctors and hospitals and it will affect the health of the child, they discourage vaccinations and many others (Perkins 2001).

2.1.11 OCCUPATION AND CHILD HEALTH

Mothers exert strong influence over child health and nutrition. This has been proven by a study done by (Johannsen et al 2006) which stated that child's weight was found to be closely related to mother's BMI but not fathers. Feeding practices play a vital role in determining child health and food preferences in later life. Better child nutritional status was also associated with better educational achievement among children in Malaysia (Shariff et al., 2000). A study done by (Miller and Han 2008) claimed that, mothers with irregular working shifts will have disruption in meal preparation and activity routines. The study also reported that child's BMI increased significantly if their mothers worked at irregular schedule. Thus, children of employed mothers were more likely to have poor dietary habits and spent more time engaging in sedentary activity compared to children of unemployed mothers (Hawkins et al., 2009).

2.1.12 PLACE OF RESIDENCE AND CHILD HEALTH

In the aspect of residence: the socio-economic differences between urban and rural areas have a strong impression, residents of urban areas are generally better off educationally, financially and physically. The advantage is largely due to improvements in public health and the readily available access to the information and resources necessary for preventative and curative care urban environment usually a trade centers have much wider areas of food to choose from (Sobo et al., 2006) and this gives better chances to have more balanced

nutritional sources. Automatically, children living in urban areas have better health than those living in rural ones (Sobo et al., 2006).

2.2 THEORETICAL FRAMEWORK

Using a Bio-logical theory which was propounded by Urie Bronfenbrenner in 1986, the bio-ecological model of human development can be used to both children and maturing adults. He first propounded a theory with Stephen J. Ceci in 1994 which is an extension of Bronfenbrenner's original theoretical model of human development which is called Ecological System Theory. Bronfenbrenner's also developed the bio-ecological model after noticing that the individual was overlooked in other theories of human development, which were largely focused on the content of development by the environment.

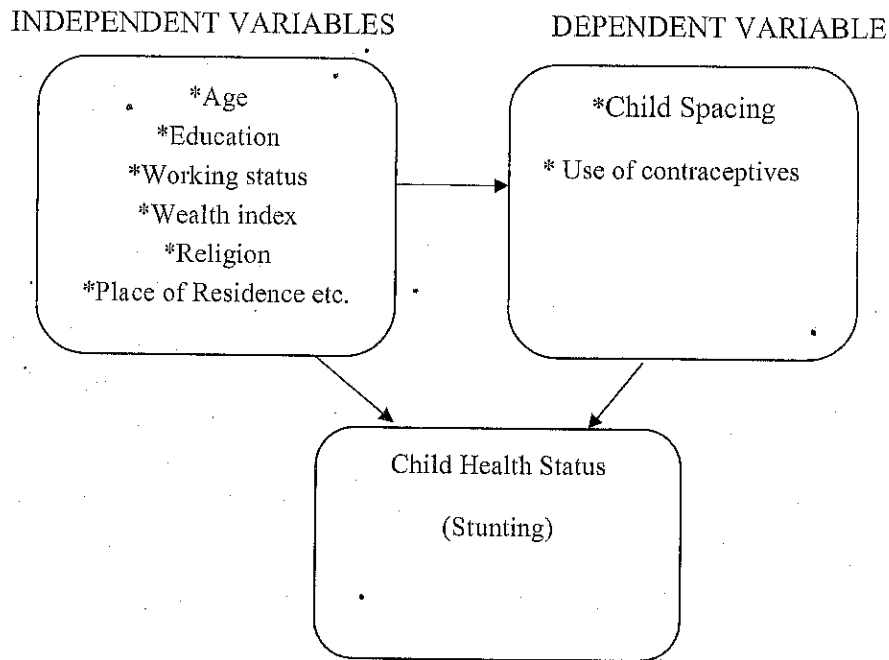
The history of bio-ecological system theory is divided into two periods which are, firstly, The Ecology of Human Development in 1979 and the second was described as a time of criticism and evaluation of the original work of Bronfenbrenner. The first period came because Bronfenbrenner did not focus on the role of context in terms of development. He argued that the environment in which children live is important because development can be shaped by the children's interactions with that environment, he also said to his colleague that they should study development in terms of ecological contexts that is the environments of children for example; schools, homes and daycares. Researchers took that advice and it flourished in the early 1980's which it focused on the context. Later on, Bronfenbrenner saw that research has focused more on the context not development, then in his theory, he emphasized on the development. This theory went through a series of transformations and elaborations until 2005 when Bronfenbrenner died.

Bio-ecological systems theory focuses on the interactions and influences of the outside environment on the child's development; this theory differs from other major theories in that it

emphasizes the influence of the outer world (community, school, and political systems). Urie Bronfenbrenner suggests that all settings need to be considered when explaining child development. This theory typically represent a ring in which there are different interactive system. The first layer of the ring suggest the most influence on the child's development and it consists of the family, school, child care providers, peers, and all experiences and influences that have a direct affect on the child's immediate environment. The second layer is the interaction that is parents are affected by child care and child care are affected by parents. The third layer in the bio-ecological system is depicts additional ecological system that affect the child development more directly.

The ecological systems are legal services, social services, neighbors, extended family, work place, and they don't actually touch the child's life, they indirectly affect the child experience. The last layer in the bio-ecological system contains law, customs, and values of a particular society or cultural system, even though these institutions don't directly affect the child and also have strong influence on the child. This theory has been viewed as culturally sensitive in that it focuses on all of the influences (socially, political and economic contexts) in which development occurs. In order words, positive child development occurs when all influence both.

2.3 CONCEPTUAL FRAMEWORK



Source: Author's Construct, 2016.

Looking at this diagram above, illustrates the independent variable, intervening variable and dependent variable which affects each other positively or negatively. Independent variable affects the intervening variable which will in turn determine the dependent variable taking the variables into consideration the (Age, education, working status, religion, place of residence, wealth index status, knowledge of contraception, number of living children, CEB) will influence Child spacing and use of contraceptive and will determine whether the child will have a better health or not. The age of the mother matters and shows if the health of the child will be positive or negative. Better or good education predicts a better job, higher incomes and also good societies. When there is an increase in education it will promote the financial, professional and socio-economic (Arifeen et al., 2001) therefore, level of education affect the health of the child. Wealth index will affect the ability or have an impact on the health of the child either positively or negatively (Arifeen et al., 2001).

2.4 STATEMENT OF HYPOTHESIS

H0: There is no significant relationship between women characteristics (age, education, residence, religion, wealth index, birth spacing, knowledge of contraceptive, use of contraceptive, employment status, and number of living children, CEB) and child health status in Southwest, Nigeria.

H1: There is significant relationship between women characteristics (age, education, residence, religion, wealth index, birth spacing, knowledge of contraceptive, use of contraceptive, employment status, and number of living children, CEB) and child health status in Southwest, Nigeria.

2.5 RESEARCH VARIABLES

- Dependent variable: child health status as measured by nutrition (stunting).
- Independent variables: age, education, residence, religion, wealth index, birth spacing, knowledge of contraceptive, use of contraceptive, working status, and number of living children, CEB.
- Intervening variables: child spacing and use of contraceptive.

CHAPTER THREE

3.0 METHODOLOGY

3.1 INTRODUCTION

This section contains explanations on methodology this include study area, sample design, sample size, data collection instruments, data processing and analysis and weighting that was used in the analysis of this study.

3.2 STUDY AREA

Nigeria is located in Western Africa, and borders the Gulf of Guinea, between Benin on the west and Cameroon on the east. It has a compact area of 923,768 square kilometers (356,376 square miles). The country's land mass extends from the Gulf of Guinea in the south to the Sahel (the shore of the Sahara Desert) in the north. Comparatively, Nigeria is slightly more than twice the size of California. Abuja, the capital city of the Federal Republic of Nigeria, replaced the former capital city, Lagos, in December 1991, because of its more central location, among other reasons. Nigeria is made up of six geopolitical zones namely; North Central States: Kogi, Niger, Benue, Kwara, Plateau, Nassarawa and the Federal Capital Territory, North-Eastern States: Taraba, Borno, Bauchi, Adamawa, Gombe and Yobe State, North-Western States: Kaduna, Kebbi, Zamfara, Sokoto, Kano, Jigawa and Katsina State, South-Eastern States: Ebonyi, Enugu, Imo, Abia and Anambra State, South-Southern States: Akwa-Ibom, Bayelsa, Edo, Cross River, Rivers and Delta State, South-Western States: Oyo, Ogun, Lagos, Ondo and Osun State.

South-west Nigeria represents one of the six geopolitical zones created by President Ibrahim Babaginda. It is majorly a Yoruba speaking area, although there are different dialects even within the same state and its comprises of six different states which are; Lagos State ,Ogun State ,Oyo State ,Osun State ,Ondo State and Ekiti State . The zone has a land mass of 76,852 square kilometers and population of 27.5million. (NPC, 2006) The zone controls 60

percent of the nation's industrial capacity, 44 percent of banking assets, 67 percent of insurance assets and is home to the nation's three deep sea ports of Apapa, Tin Can Island and Roro, the busiest International Airport of Ikeja, three terminal stations of Egbin, Papalanto and Omotosho.

3.3 SAMPLE DESIGN

The 2013 National Demographic Health Survey and in-depth interview were being used for this study. The sample design for the survey is nationally representative and covered the entire population residing in the country. The survey employed a general sampling procedure to collect information at all levels in the country. The sample for the survey was a stratified sample, selected independently in three stages. Stratification was achieved by separating each state into urban and rural areas. In the first stage, 893 localities were nationally selected in each sampling stratum.

In the second stage, the survey used list of enumeration areas (EAs) prepared for the 2006 Population Census of the Federal Republic of Nigeria, provided by the National Population Commission as sampling frame. The sample was designed in such a way to provide population and health indicator estimates at all levels of the country's administration (national, zonal, and state levels). In all the 36 states and the FCT, Abuja, the sample permitted calculation of specific indicators for each zones.

Under the sampling frame, Nigeria is administratively divided into states for the survey. Each state is then subdivided into local government areas (LGAs), and each LGA is divided into localities. Also each locality in the administrative units and geopolitical zones were subdivided into convenient areas called census enumeration areas. The primary sampling unit (PSU), referred to as a cluster in the 2013 NDHS, is defined based on EAs from the 2006 EA census frame.

One Enumeration area (EA) was randomly selected from most of the selected localities with an equal probability selection. Southwest, Nigeria had a total of 159 enumeration areas (EAs) selected. The household listing involved visiting each of the 159 selected EAs. A complete listing of households and a mapping exercise were carried out for each cluster from December 2012 to January 2013, with the resulting lists of households serving as the sampling frame for the selection of households. All regular households were listed. The NPC listing enumerators were trained to use Global Positioning System (GPS) receivers to calculate the coordinates of the 2013 NDHS sample clusters.

The third stages, a fixed sample take of 45 households were selected per cluster. All women age 15-49 who were either permanent residents of the households in the 2013 NDHS sample or visitors present in the households on the night before the survey were eligible for interview. Among the 159 clusters in Southwest, 115 were in urban areas and 44 in rural areas.

Three questionnaires were used in the 2013 NDHS: the Household Questionnaire, the Woman's Questionnaire and the Man's Questionnaire. The content of these questionnaires was based on model questionnaires developed by the MEASURE DHS programme. The Household Questionnaire was used to list all the usual members of and visitors to the selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, marital status, education, and relationship to the head of the household. Information on other characteristics of household members was collected as well, including current school attendance and survivorship of parents among those under age 18. If a child in the household had a parent who was sick for more than three consecutive months in the 12 months preceding the survey or a parent who had died, additional questions related to support for orphans and vulnerable children were asked. Furthermore, if an adult in the household was sick for more

than three consecutive months in the 12 months preceding the survey or an adult in the household had died, questions were asked relating to support for sick people or people in households where a member had died.

The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as source of water; type of toilet facilities; materials used for the floor of the house; ownership of various durable goods; ownership of agricultural land; ownership of livestock, farm animals, or poultry; and ownership and use of mosquito nets and long-lasting insecticidal nets. The Household Questionnaire was further used to record height and weight measurements for children age 0-59 months and women age 15-49. In addition, data on the age and sex of household members in the Household Questionnaire were used to identify women and men who were eligible for individual interviews.

3.4 SAMPLE SIZE

The target population of the study is women at the reproductive of age 15 – 49 years in Southwest, Nigeria of the Nigeria NDHS 2013 recode dataset. There were three thousand six hundred and eighty two (3,682) married women in Southwest with stunted children. They are women who are at the reproductive ages 15-49.

3.5 DATA COLLECTION INSTRUMENTS

Both Primary and secondary data sources was used. The data collection instrument for this study is a well structure questionnaire.

Three questionnaires were used in the 2013 NDHS: the Household Questionnaire, the Woman's

Questionnaire and the Man's Questionnaire. The content of these questionnaires was based on model questionnaires developed by the MEASURE DHS programme. The model questionnaires were modified according to the country's requirements, in consultation with a

broad spectrum of government ministries and agencies, nongovernmental organisations, and international donors, to reflect relevant issues such as family planning, domestic violence, HIV/AIDS, and maternal and child health. A stakeholders' meeting organised by NPC in Abuja on March 26, 2012, provided a platform for experts to discuss the questionnaires extensively, and the input from this was used to finalise the survey questionnaires. The questionnaires were then translated into three major Nigerian languages—Hausa, Igbo, and Yoruba—and were pretested, refined, and finalised for the survey.

The women questionnaire was analyzed for this study. The Woman's Questionnaire was used to collect information from all women age 15-49. These women were asked questions on the following main topics:

- Background characteristics (age, religion, education, literacy, media exposure, etc.)
- Reproductive history and childhood mortality
- Knowledge, source, and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Child immunisation and childhood illnesses
- Marriage and sexual activity
- Women's work and husbands' background characteristics
- Malaria prevention and treatment
- Women's decision making
- Awareness of AIDS and other sexually transmitted infections
- Maternal mortality
- Domestic violence.

To complement the secondary data, an in-depth interview was conducted among randomly selected women at the reproductive ages 15-49 that have at least one live birth, with a well structured question guide that will answer the research questions and address the study objectives.

3.6 DATA PROCESSING AND ANALYSIS

Quantitative and qualitative analysis was used for the analysis of this study. The statistical software called STATA 12.0 Was used for quantitative data analysis. Data analysis was done at three levels which are univariate, bivariate and multivariate. Univariate level i.e. frequency distribution of selected socio-demographic characteristics of women and the bivariate level i.e. cross-tabulation with the use of Chi-square test to examine relationship between two variables (stunting) and selected socio-demographic characteristics of women while at multivariate level binary logistic regression was used to know the influence of women's selected characteristics on child stunting. Also content analysis was used in analyzing the responses of selected respondents of the in-depth interview for the qualitative data analysis.

3.7 WEIGHING

This data is weighted using the NDHS sample weight variable v005, and it was applied thus: $gen\ wt=v005/1000000$. The sample weight is applied to determine the real percentages of each variable.

CHAPTER FOUR

4.0. INTRODUCTION

This chapter considers the socio-demographic characteristics of the respondents, the relationship between women's status and stunting as well as the factors predicting stunting among women.

4.1. Socio – demographic characteristics of respondents with weighted percentages

Table 1 revealed that a total of 4,293 women of age groups 15-49 were considered in this study. About (15.5 %) of the respondents were found between the age group 15 – 24, 55.7% of the women were found within the age group 25-34, (28.8%) of the women were found between the age group 35 and above. The mean age of the respondents was 30.9.

About 10% of the respondents had no formal education, 26.5% of the women had only primary school education, 47.8% had secondary education, while 14.9% of the respondents had post secondary education. Seventy-two percent of the women lived in urban areas, while about 30% of the live in rural areas. The study population was predominantly Christians (61%), and the Muslims made up 38%, followed by respondents practicing traditional religion with about 1%. Eleven percent of the study populations were unemployed at the time of the survey, while 88.2% of the respondents were currently employed or engaged in one skills or the other to make a living. Among these women, 9.8% were poor, 12.5% of them lived above average, and 77.7% of them were rich. 81.6% of the respondents had less than 5 living children, while 18.4% of the respondents had 5 and more children currently alive as at the time of the survey.

It was interesting to know that only 4.7% of the women in south west knew no method of contraceptive, this were an indication that contraceptives education were widespread in the

southwest, while 95.3% of the women knew contraceptives in the study area. The knowledge of contraceptives among women in the study area did not really translates into contraceptives use, as only 38% of the women in the study area uses any form of contraceptives and 62% uses no method at all.

About 11% of the study population visited the antenatal clinic less than 4 times as at the time of last pregnancy, while 89.5% of the women visit the antenatal clinic more than 4 times. Seventy-four percent of the women had less than five children ever born, while 25.3% have given birth to more than five children, this were an indication of low fertility behaviour of women in the study area. About 22% of these women have children with stunted growth, and 78% were with children with no stunted growth.

4.1. Table1: Socio – demographic characteristics of respondents with weighted percentages.

Variable	Frequency (N = 4,293)	Percentage (%)
Age Group		
15 – 24	668	15.5
25 – 34	2,316	55.7
35+	1,309	28.8
<i>Range</i>	<i>15 – 49</i>	
Education		
No formal Education	472	10.8
Primary	1,068	26.5
Secondary	2,079	47.8
Post-Secondary	674	14.9
Residence		
Urban	2,980	72.1
Rural	1,313	27.9
Religion		
Christianity	2,850	61.4

Islam	1,414	38.0
Traditional	19	0.6
Occupation		
Not working	513	11.8
Working	3,775	88.2
Wealth Index		
Poor	438	9.8
Average	605	12.5
Rich	3,250	77.7
Birth Spacing		
< 2 Years	707	27.2
≥ 2 Years	1,961	72.8
No. of Living Children		
< 5 Children	3,439	81.6
≥ 5 Children	854	18.4
Contraceptive Knowledge		
No	215	4.7
Yes	4,078	95.3
Contraceptives Use		
No	2,760	61.6
Yes	1,533	38.4
Antenatal Care Visit		
< 4 visits	411	10.5
≥ 4 visits	3,206	89.5
Children Ever Born		
< 5 Children	3,166	74.7
≥ 5 Children	1,127	25.3
Stunting*		
No	2,890	78.1
Yes	792	21.9

*Author's Work, 2016 (Data from NDHS, 2013) *No response excluded*

4.2. INDEPTH INTERVIEW REPORTS

Based on six in-depth interview conducted among women in reproductive ages 15-49 that had more than children in Oye Local Government Area, Oye Ekiti, Ekiti State, Nigeria. The in-depth interview was conducted to know the relationship between women's background variables (age, education, residence, religion, wealth index .e.t.c) and child health status (child nutritional status) in Southwest, Nigeria. The following were the characteristics identified with women's status and child health as indicated by child nutritional status; balance diet, countless, normal height, no stunted growth, time, socioeconomic and demographic factors, related, poor growth, small stature, poor mental ability, sickness, child mortality, poor school performance and inferiority complex.

4.2.1. Knowledge of balance diet

This section revealed the respondents knowledge of balance diet, respondents explains what they understood by balanced diet. During the in-depth interviews the followings responses were noted.

Respondent 1:

Balanced diet is Eating foods with much nutritious ingredients like vegetable, meat, fish and milk, (IDI 1, 32 years, Christian, working).

Respondent 2:

Balanced diet is the combination of foods that is called balance diet like food containing carbohydrate, protein and fruits, (IDI 2, 45 years, Islam, working).

Respondent 3:

Balanced diet is a diet consisting of proper quantities and proportions of foods needed to maintain health and growth, (IDI 3, 30 years, Christian, not working).

Respondent 4:

Balanced diet is when we eat food that are high in protein and low in carbohydrates and fat, to eat balanced diet one need to combine several types of foods like bread, rice, vegetable, fruit, milk, egg, beans and so on, (IDI 4, 24 years, Islam, working).

Respondent 5:

Balanced diet is foods that give our body the nutrients it needs to function correctly, to get proper nutrients one need balance diet, (IDI 5, 22 years, Christian, working).

Respondent 6:

Food that contains all the five classes of food like protein, carbohydrate, fat, vitamin and mineral are referred to as balanced diet, (IDI 6, 39 years, Christian, not working).

The results of the in-depth interview shows that all the women that was interviewed understood the meaning of balance diet therefore eating food with balance diet complements good growth and healthy living.

4.2.2. Factors responsible for child nutritional status

This section examined the factors responsible for child nutritional status. Each respondent identified factors responsible for their children's nutritional status. During the in-depth interviews the followings responses were noted.

Respondent 1:

Money for buying food to feed my children, time is also responsible for children nutritional status in that when there is much time I will be able to cook good food for them to eat, (IDI 1, 32 years, Christian, working).

Respondent 2:

Child nutrition is essential to the child health, the work i do, time and environmental factors are responsible for my children's nutritional status and also money is one major factor that allows me to buy better food for my children, (IDI 2, 45 years, Islam, working).

Respondent 3:

Mostly my exposure, where I live and my level of education are the factors responsible for my children's nutritional status' (IDI 3, 30 years, Christian, not working).

Respondent 4:

Environment, education level, residence and time are responsible for my children's nutritional status, (IDI 4, 24 years, Islam, working).

Respondent 5:

Education, availability of money are factors responsible for my children's nutritional status because my level of education, gives me wider exposure on how well to feed them and availability of money gives me ability to buy the good food their growth requires, (IDI 5, 22 years, Christian, working).

Respondent 6:

Level of income, environment at factors are responsible for my children's nutritional status, and the time i devoted to cook and ensure they eat is also responsible for their nutritional status, (IDI 6, 39 years, Christian, not working).

The above report indicated that all respondents saw the socioeconomic and socio-demographic factors to be responsible for child nutritional status.

4.2.3. Women's background variables and child nutritional status.

This section examined women's background variables to child nutritional status. During the in-depth interviews the following were observed:

Respondent 1:

My age, education level, where I live, and even my work does not affect the rate at which I feed my children, so all my background variables are much important to my children's nutritional status. There are great relations between all my background variables that I mentioned earlier and the health and nutritional status of my children, living in rural area like Oye here limits me from getting my children some food they require for proper growth in most cases, (IDI 1, 32 years, Christian, working).

Respondent 2:

My background variables like age education, occupation and income are important to my children's nutritional status, because all these variables determine my ability to feed them well. There are much relationship between all my background variables like I mentioned before now and my children's health and nutritional status because with

all these variables feeding my children can be determined, (IDI 2, 45 years, Islam, working).

Respondent 3:

Yes, all my background variables like education, age, residence and income are all important to my children's nutritional status. Yes, there are vital relationship between all my background variables and my children's health and nutritional status, because all these variables mentioned in the response before this greatly determine how I feed them and monitor their healthy living, (IDI 3, 30 years, Christian, not working).

Respondent 4

Variables like education level, age, religion, work and residence are so important to my children's health status and nutritional status. There is a strong relationship between the variables like age, religion, residence and other variables and my children's health and nutritional status, (IDI 4, 24 years, Islam, working).

Respondent 5:

The variables like age, education, residence, religion and work are very important to my children's nutritional status. Yes, there are much relationship between the variables i mentioned above and my children's health and nutritional status, (IDI 5, 22 years, Christian, working).

Respondent 6:

They are very important; i mean my background variables are important to my children's nutritional status. Yes, there is close relationship between my background variables and my children's health and nutritional status in that age, where i live,

education, and exposure determine how I look after my children's health and their nutritional status, (IDI 6, 39 years, Christian, not working).

The above finding clearly revealed that socio-demographic variables were important to child nutritional status

4.2.4. Consequences of malnutrition

This section examined the consequences of malnourished children. During the in-depth interviews the following were observed:

Respondent 1:

Malnutrition which is lack of good food to my understanding may cause series of problem to child well-being; for example, Sickness, poor school cooperation, physical defects and mental ability will be limited also it can cause a child to steal, (IDI 1, 32 years, Christian, working).

Respondent 2:

Consequences of malnutrition are sickness, poor cognition, poor growth and can even cause child death, (IDI 2, 45 years, Islam, working).

Respondent 3:

As a result of malnutrition child will look slim, will not be strong or even result to poor health and growth, poor sight and affects thinking ability, (IDI 3, 30 years, Christian, not working).

Respondent 4:

malnutrition can cause sickness, limit good growth and hamper strength, it can cause the skin to shrink, poor reasoning ability and poor school performance even

malnourished children are mostly found with stunted growth, (IDI 4, 24 years, Islam, working).

Respondent 5:

Malnutrition can lead to sickness, death of the child and hinders prosper growth of children and also effects academic performance, (IDI 5, 22 years, Christian, working).

Respondent 6:

Malnutrition can cause poor growth, kwashiorkor, retarded mental ability, feeling inferior among mates and it can lead to child's death, (IDI 6, 39 years, Christian, not working).

Based on the above findings the respondents identified poor growth, small stature, mental limitation, sickness, poor cognition, poor school performance, and child mortality as notable consequences of malnutrition.

4.2. Women's status and Stunting

The table 2 revealed women's status and child's nutritional status (stunting) in south west Nigeria. From the table women between the age group 25-34 have more malnourished children (52.1%), and women with secondary education have more stunted children (46.2%). Urban residents have more stunted children with more than 61%, women practicing Christianity have more stunted children with more than 63%. Women who are currently working or engaged in one skill or the other to make a living have more stunted children (88.3%). Women who are rich have more stunted children (65.5%) and those who have more than 2 years birth spacing with 76.1% stunted children. Women with less than 5 children have less stunted children (75.1%), also women with contraceptive knowledge have more stunted children 91.9%. Women who do not use any form of contraceptives have more stunted children 64.0%.

Women who have more than 4 antenatal visits have more stunted children (84.2%) and women with less than 5 living children have more stunted children (72.3%).

4.2. Table 2: Distribution of women's socio-demographic characteristics by child health (stunting)

Variables	Stunting			χ^2	Df	P value
	No	Yes	Total			
	(n = 2,890)	(n = 792)	(N =3,682)			
Age Group						
15 – 24	416 (14.4)	140(17.7)	556 (15.1)	5.325	2	0.070
25 – 34	1,584(54.8)	413(52.1)	1,997(54.2)			
35+	890 (30.8)	239(30.2)	1,129(30.7)			
Education						
No formal Education	272 (9.4)	138(17.4)	410 (11.1)	77.173	3	0.000*
Primary	684 (23.7)	222(28.0)	906 (24.6)			
Secondary	1,419(49.1)	366(46.2)	1,785(48.5)			
Post-Secondary	515 (17.8)	66 (8.4)	581 (15.8)			
Residence						
Urban	2,070(71.6)	488(61.6)	2,558(69.5)	29.371	1	0.000*
Rural	820 (28.4)	304(38.4)	1,124(30.5)			
Religion						
Christianity	1,945(67.5)	500(63.3)	2,445(66.6)	7.436	2	0.024*
Islam	924 (32.0)	289(36.6)	1,213(33.0)			
Traditional	14 (0.5)	1 (0.1)	15 (0.4)			

Occupation						
Not working	344 (11.9)	86 (10.9)	430 (11.7)	0.667	1	0.414
Working	2,544(88.1)	706(89.1)	3,250(88.3)			
Wealth Index						
Poor	241 (8.3)	136(17.2)	377 (10.2)	69.247	2	0.000*
Average	378(13.1)	137(17.3)	515 (14.0)			
Rich	2,271(78.6)	519(65.5)	2,790(75.8)			
Birth Spacing						
< 2 Years	443 (25.1)	115(23.9)	588 (24.9)	0.293	1	0.588
≥ 2 Years	1,321(74.9)	366(76.1)	1,687(74.1)			
Children Ever Born						
< 5 Children	2,171(75.1)	531(67.1)	2,702(73.4)	20.756	1	0.000*
≥ 5 Children	719 (24.9)	261(32.9)	980 (26.6)			
Contraceptives Knowledge						
No	124 (4.3)	64 (8.1)	188 (5.1)	18.430	1	0.000*
Yes	2,766(95.7)	728(91.9)	3,494(94.9)			
Contraceptives Use						
No	1,822(63.0)	507(64.0)	2,329(63.2)	0.251	1	0.616
Yes	1,068(37.0)	285(36.0)	1,353(36.7)			
ANC						
< 4 visits	243 (10.0)	106(15.8)	349 (11.2)	17.820	1	0.000*
≥ 4 visits	2,191(90.0)	565(84.2)	2,756(88.8)			
No. of living Children						

< 5 Children	2,339(80.9)	573(72.3)	2,912(79.1)	27.706	1	0.000*
≥ 5 Children	551 (19.1)	219(27.7)	770 (20.9)			

*Author's Work, 2016 (Data from NDHS, 20130) *p-value<0.05; No symbols refers*

to no significant association.

4.3. Factors predicting Stunting

The Table 3 below presents the result of the logistic regression analysis of the relationship between women's status and child's nutrition. The table indicates that women within the ages 25-34 were 29% less likely to have children with stunted growth compared to women between the ages 15-24 (R.C), and women between the ages 35 and above were 27% less likely to have children with stunted growth compared to women in ages 15-24.

Furthermore, women with primary education were 3% more likely to have children with stunted growth, compared to women with no education. Also, women with secondary and higher education were 23% and 45% less likely to have children with stunted growth respectively. Children of Muslim parents were 1% more likely to have stunted growth compared to women practicing Christianity. Respondents who are currently working were 12% more likely to have stunted children compared to those who are not working. Women who were classified as belonging to average and Rich household were also less likely to have children with stunted growth, (34% and 44% respectively) compared to Women with birth spacing above 2 years were 9% more likely to have stunted children compared to women with less than 2 birth spacing. Women with more than 5 children were also 15% more likely to have children with stunted growth in comparison to the reference category women with less than five children).

More so, women with 5 and more living children were 81% more likely to have stunted children, compared to women with less than 5 living children. Women who know at least a method of contraceptives were 1% more likely to have stunted children compared to those who know no method of contraceptive. Women who use any method of contraceptives were 26% more likely to have children with stunted growth, compared to women who use no method. Women who also visited the antenatal clinic for 4 and more times were less likely to have children with stunted growth compared to their counterparts who claimed to visit the antenatal clinic for less than 4 times.

4.3. Table 3: Binary Logistics regression showing the relationship between stunting and women status in South west Nigeria

Variable	OR	95% CI		p -value
		Lower	Upper	
Age Group				
15 – 24	1.0 (R.C)			
25 – 34	0.71	.54	.90	0.014
35+	0.73	.48	1.11	0.142
Education				
No formal Education	1.0 (R.C)			
Primary	1.03	0.67	1.58	0.869
Secondary	0.77	0.50	1.19	0.245
Post-Secondary	0.55	0.32	0.96	0.036*
Residence				
Urban	1.0 (R.C)			
Rural	0.83	0.59	1.17	0.296
Religion				
Christianity	1.0 (R.C)			
Islam	1.01	0.80	1.29	0.876
Traditionalist				
Occupation				
Not working	1.0 (R.C)			
Working	1.12	0.80	1.56	0.485
Wealth Status				
Poor	1.0 (R.C)			

Average	0.66	0.41	1.06	0.091
Rich	0.56	0.34	0.93	0.025*
Birth Spacing				
< 2 Years	1.0 (R.C)			
≥ 2 Years	1.09	0.83	1.43	0.504
Children Ever Born				
< 5 Children	1.0 (R.C)			
≥ 5 Children	1.15	0.68	1.93	0.597
No. of Living Children				
< 5 Children	1.0 (R.C)			
≥ 5 Children	1.81	0.94	3.47	0.072
Contraceptives Knowledge				
No	1.0 (R.C)			
Yes	1.01	0.57	1.79	0.959
Contraceptives Use				
No	1.0 (R.C)			
Yes	1.26	0.98	1.62	0.061
Antenatal Visits				
< 4 visits	1.0 (R.C)			
≥ 4 visits	0.78	0.52	1.17	0.237
Constant	0.69	0.29	1.63	0.408

*Author's Work, 2016 (Data from NDHS, 2013) *p-value<0.05; No symbol refers to no significant association, (RC) reference category*

CHAPTER FIVE

5.0. INTRODUCTION

This section consists of summary of all the findings, conclusions from the study and recommendations based on the findings.

5.1. SUMMARY

The overall objective of this study is to examine the relationship between women's status and child nutrition in Southwest, Nigeria. The study was based on the sample size of 3,682 women of reproductive ages. With respect to socio-demographic characteristics, About (15.5 %) of the respondents were found between the age group 15 – 24, majority of the women were found within the age group 25-34 (55,7%) and (28.8%) of the women were found between the age group 35 and above. The mean age of the respondents was 30.9. About 10% of the respondents had no formal education, 26.5% of the women had only primary school education, 47.8% have secondary education, while 14.9% of the respondents had post secondary education.

Seventy two percent of the women live in urban areas, while about 30% of the live in rural areas. The study population were predominantly Christians (61%), and the Muslims make up 38%, followed by respondents practicing traditional religion with about 1%. About eleven percent of the study populations were unemployed at the time of the survey, while 88.2% of the respondents were currently employed or engaged in one skills or the other to make a living. Among these women, 9.8% belong to poor household, 12.5% of them lived above average, and 77.7% of them were rich. Eighty-six percent of the respondents had less than 5 living children, while 18.4% of the respondents 5 and above children currently alive as at the time of the survey. It's interesting to know that only 4.7% of the women in south west

knew no method of contraceptive, this is an indication that contraceptives education is widespread in the southwest, while 95.3% of the women knew about any method of contraceptives in the study area. The knowledge about contraceptives among women in the study area did not really translate to contraceptives use, as only 38% of the women in the study area use any form of contraceptives and 62% uses no method at all. About 11% of the study population visited the antenatal clinic 4 and more times as at the time of last pregnancy, while 89.5% of the women visit the antenatal clinic more than 4 times. Seventy-four percent of the women had less than five children ever born while 25.3% had given birth to five and more children. About 22% of these women have children with stunted growth. Women between the age group 30-34 had more malnourished children (26.4%), and women with secondary education had more stunted children (46.2%). Urban residents had more stunted children with more than 61%, women who claimed to be Christians had more stunted children with more than 63%. Women who were currently working or engaged in one skill or the other to make a living had more stunted children (88.3%). Women categorized to rich household had more stunted children (65.5%) and those who have more than 2 years birth spacing with 76.1% stunted children. Women with less than 5 children had less stunted children (75.1%), also women with contraceptive knowledge had more stunted children. Women who do not use any form of contraceptives had more stunted children. Women who had 4 and more antenatal visits had more stunted children (84.2%) and children with less than 5 living children had more stunted children (72.3%).

The result of the in-depth interview clearly revealed that women's socioeconomic and socio-demographic variables (age, education, residence, religion, wealth index .e.t.c) are important to child health and child nutritional status and also that there is relationship between women's socioeconomic and socio-demographic variables and child nutritional status. Sobo,

(2006) studied women's status and child health status in Abeokuta, he found out that there is higher relationship between women's status and child health status.

5.2. CONCLUSIONS

Understanding the relative importance of the various determinants of malnutrition among Nigerian women is the key to designing evidence-based effective programs to address child's nutritional status. The proportion of stunted children vary by type of place of residence, household wealth status, women's educational attainment, religion and children ever born, contraceptive knowledge, antenatal care visit, number of living children with statistically significant chi-square values in the bivariate analysis. Age of women, employment status, birth spacing, and contraceptives use of women have no significant relationship with child malnutrition.

The magnitude of the gap described in this study gives baseline information that will help programmers, researchers and policymakers in the management of malnutrition among children in Nigeria. On the average, child malnutrition is dominant among women with low educational attainment, and poor economic status. The present study is important in that it documented women's status as an important determinant of child nutritional status, a major research question that was theoretically stated prior to these findings. In line with this the research has identified that women's educational attainment, employment status, and household economic status are the most important factors in child nutrition.

Unless the obstacles that prevent women from practicing their potential are removed including through development and empowerments, it will be difficult if not impossible to avoid malnutrition and achieve intended national development goals. Improvements in

children's nutritional status can only be seen when the needy are not exposed to the risks of poor nutrition.

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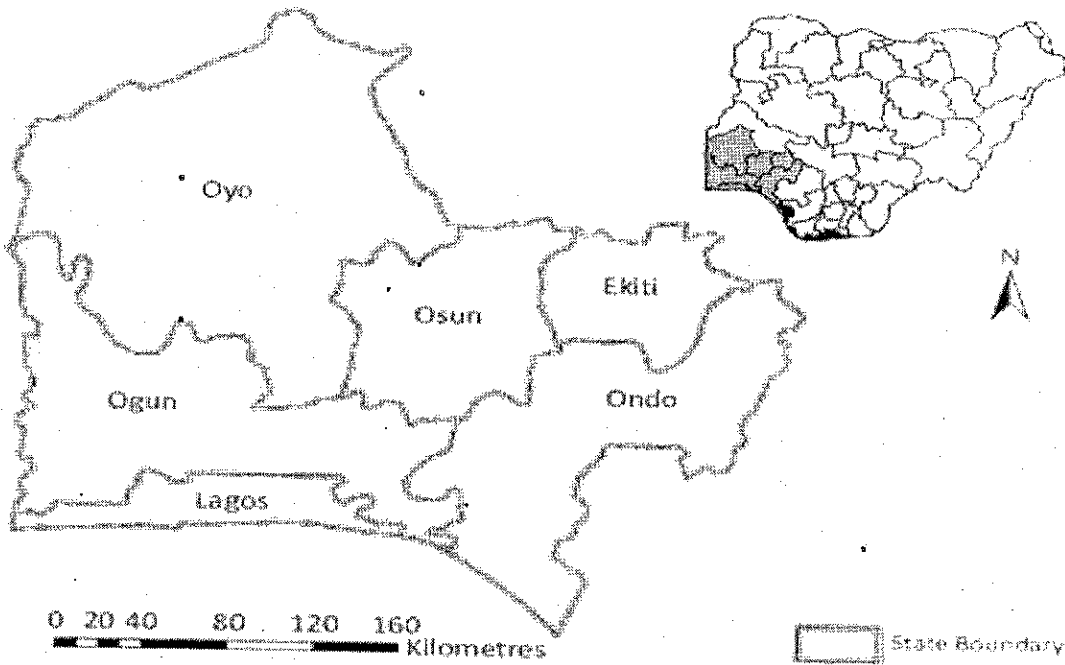
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APPENDIX

STUDY AREA



Source: Authors' own creation

FIGURE 2: Map showing the location of states within the South West Geopolitical Zone in Nigeria.

DEPARTMENT OF DEMOGRAPHY AND SOCIAL STATISTICS

FACULTY OF SOCIAL SCIENCE

FEDERAL UNIVERSITY OYE-EKITI, EKITI STATE, NIGERIA

INDEPTH INTERVIEW GUIDE

Women's Status and Child Health in southwest, Nigeria

Name of Note taker

Date.....

Place of discussion

Time discussion started.....

Time ended.....

I am Miss Osunleye Ibidolapo Ayoḡa a final year student of the Department of Demography and Social Statistics, Federal University, Oye-Ekiti, Ekiti State, Nigeria.

With Matriculation Number DSS/12/0626. I'm conducting a research on women's Status and Child Health in southwest, Nigeria. I am especially interested in knowing the relationship between women's status and child health as indicated by nutritional status. I hope that your answers to my questions reveal the relationship between women's status and child health and it help to buttress the result of my research.

I expect our discussion to last about 30-60 minutes. Thank you.

QUESTIONS

1. What are your background variable characteristics?
 - i. **AGE OF PARTICIPANTS:** 15-24years..... 25-34 years..... 35+.....
 - ii. **LEVEL OF EDUCATION:** no education..... primary..... secondary.....
higher education.....
 - iii. **NUMBER OF CHILDREN:**
 - iv. **RELIGION:**
 - v. **MONTHLY INCOME:**
 - vi. **OCCUPATION:** working..... not working.....
 - vii. **RESIDENCE:** Rural..... Urban.....
 - viii. **BIRTH SPACING:** <2:..... 2+.....
2. How many children do you have now?
3. What do you understand by balance diet?
4. How many times do you feed your children per day?
5. What kind of food do you feed your children with?
6. Looking at your children do you think their growth is in line with their ages?
 - i. If yes why?
 - ii. If no why?
7. Can I see your children (the researcher will use her rational judgment to establish stunted children)?
8. What factors are responsible for your children's nutritional status?
9. Are your background variables (e.g. age, residence, education, e.t.c.) important in your child nutritional status?

10. Are there any relationship between your background variables and your children health and nutritional status?

11. What are the consequences of malnutrition?