



Micro View Perspectives of Labour Productivity in Ado-Ekiti Community: Implications for Childhood Malnutrition

BY

¹Ilori, Isaac A. (Ph.D) & ²Oluwaleye, Janet M. (Ph.D)

¹Department of Economics, Ekiti State University, Ado Ekiti, Ekiti State, Nigeria

²Department of Political Sciences, Ekiti State University, Ado Ekiti, Ekiti State, Nigeria



Article History

Received: 05/03/2024

Accepted: 25/03/2024

Published: 26/03/2024

Vol – 3 Issue – 3

PP: -68-77

Abstract

Recent studies affirmed that the inability of children in low-and-middle-income countries (rural areas mostly concerned) to develop to their full cognitive potential is having adverse effects on their physical and mental development, thereby leading to poor labour productivity in rural communities as a result of malnourished syndrome. This paper investigates the effect of childhood malnutrition on labour productivity as evidenced in Ado-Ekiti community, Ekiti State, Nigeria using microdata analysis. The data was sourced from respondents across Ado Ekiti, from Ekiti Central Senatorial District which also doubled as the State Capital of Ekiti State. The study was descriptive. Simple random and purposive sampling techniques are used to select fifty (50) respondents out of 152 selected samples. The research instrument adopted a well-structured questionnaire for the study. The data gathered was analyzed using of simple percentage. Results from the study showed that undernutrition (wasting, stunting, and underweight), inadequate vitamins or minerals, overweight, obesity, and mental health conditions are the prevalence of childhood malnutrition affecting the labour productivity output of rural areas in Ado Ekiti. Findings from the study indicate that under-nutrition in early childhood makes an individual more prone to non-communicable diseases later in life, including but not limited to diabetes and heart diseases that exhibit a negative influence on labour productivity output in the community-Ado Ekiti; education gap and consequent lower skill-level of workforce substantially derail the development of countries affected by malnutrition; mortality and morbidity rates associated with malnutrition represented a direct loss in human capital and productivity of the economy as well as poor cognitive function and reduced school attainment that originate in early childhood under-nutrition. Based on the findings of the study, it is therefore recommended that breastfeeding mothers should be well educated on the significance of proper child breastfeeding. This will go a long way to boost the immune system of the children and reduce illness, thus leading to labour productivity improvement of Ado Ekiti community's growth and development and by extension to the country's economy

(A) INTRODUCTION

Adequate nutrition is a key factor to live, an active and healthy life as well as economic growth of a country. Despite its importance as a determinant of the health and development of human beings, malnutrition is still a neglected ailment and little has been done to address its causes and perhaps the serious social and economic implications (Gebre, Reddy, Mulugeta, Sedik & Kahssay, 2019). However, recently there has been growing interest in nutrition with stronger political involvement at the national and international level leading to significant financial pledges and policy commitment. It is now

crucial to turn this momentum into results by ensuring the delivery of pledges and accelerating progress on addressing the challenges of undernutrition. One can trace the menace of malnutrition as not having enough energy or nutrients to live a physically active life that allows for optimal health. It encompasses both over-nutrition and under-nutrition and thereby has direct negative consequences in terms of disease and disability, as well as on brain development, educational attainment, and income potential for individuals and community dwellers.

The World Health Organization (WHO, 2018) considers that poor nutrition is the single most important threat to the



world's health. The immediate causes of malnutrition are due to inadequate food intake (in terms of quantity or quality) and diseases. However, malnutrition is influenced by a host of underlying factors related to poverty, including food insecurity, poor water, sanitation, and health services, which find their roots in factors that can vary from conflict to climate change; from scarce natural resources to high and volatile food prices; from poor governance to demographic growth.

The worst damages of malnutrition happen during pregnancy and early childhood from conception to two years. That is the first 1000 days. Undernourished children have weaker immune systems and are thus more susceptible to infections and illnesses. Long-term insufficient nutrient intake and frequent infections can cause stunting, whose effects in terms of delayed motor and cognitive development are largely irreversible. Extreme food shortages, common childhood diseases such as diarrhea and pneumonia, or both can lead to acute malnutrition or wasting, which can quickly lead to death if left untreated. The nutritional status of newborns and infants is directly linked with the health and nutritional status of the mother before, during, and after pregnancy.

In general, malnourished women and girls of reproductive age have higher chances of giving birth to smaller babies (weight and height), continuing the cycle of malnutrition into future generations. The consequences of stunting on education are also dramatic. Various studies showed that child stunting is likely to impact brain development and impair motor skills. According to UNICEF, stunting in early life is linked to 0.7-grade loss in schooling, a 7-month delay in starting school, and between 22 and 45 percent reduction in lifetime earnings (UNICEF, 2018). Stunted children become less educated adults, thus making malnutrition a long-term and intergenerational problem. Effective interventions to combat undernutrition are well known. Still, they need to be scaled up and integrated into both development and humanitarian policies if they are to have a significant impact on the nutritional status of individuals and communities in developing countries.

Improving nutrition is therefore essential to eradicate poverty and accelerate the economic growth of low and middle-income countries. There is much evidence that improved nutrition not only drives stronger economic growth but is a tremendous value for money. Indeed, it is estimated that each dollar spent on nutrition delivers between USD 8 and USD 138 of benefits (approximately EUR 6 for EUR 100 of benefits). Another recent study showed that preventing one child from being born with a low birth weight is worth USD 580.23 (about EUR 426). According to the Copenhagen Consensus, ensuring good nutrition is the single most important, cost-effective means of advancing human well-being and advancing the Millennium Development Goals. Malnutrition includes both nutrient deficiencies and excesses and is defined by the World Food Programme as "a state in which the physical function of an individual is impaired to the point where he or she can no longer maintain adequate bodily

performance processes such as growth, pregnancy, lactation, physical work, and resistance to and recovering from disease" (2005). It results in disability, morbidity, and mortality, especially among infants and young children (Pelletier, 1994). Malnutrition often begins at conception, and child malnutrition is linked to poverty, low levels of education, and poor access to health services, including reproductive health and family planning (IFPRI, 2014). Undernutrition is mostly associated with developing countries like Nigeria (DHS, 2013). Two main types of malnutrition have been identified in Nigerian children: (1) protein-energy malnutrition and (2) micronutrient malnutrition. Protein-energy malnutrition among preschool children is a major public health problem across the country. "Stunting" is typically defined as low height-for-age, but, more specifically, it is a deficit of linear growth and failure to reach genetic potential that reflects long-term and cumulative effects of inadequate dietary intake and poor health conditions (ACC/SCN 2000). Low weight-for-age is called "underweight" while "wasting" is severely underweight or substantial weight loss that is usually a consequence of acute food shortage or disease. (The NCHS/CDC/WHO International Growth Reference reports data on these levels in a set of published indices, which served as a reference for this study).

Child malnourishment remains a leading public health concern in developing countries. Evidence of short-term and long-term consequences of malnourishment include increased risk of morbidity and mortality from infectious diseases (Agee, 2010), impaired cognitive or behavioral development (McGregor, Cheung, Cueto, Glewwe, Richter, & Strupp, 2007) and reduced educational and productive capacity in adulthood (Glewwe, Jacoby, & King, 2001; Victora, Adair, Fall, Hallal, Martorell, & Richter, 2008). Since malnourishment is tightly linked to health, well-being, and educational opportunities in the community, and since human capital accumulation plays a key role in labour productivity and economic development (Behrman & Rosenzweig, 2004), malnourishment is both the cause and effect of limited opportunities for socioeconomic development. Public investments aimed at improving nutrition in developing countries have been recognized recently as a key to alleviating poverty (World Bank, 2006). Where child malnutrition is linked to poverty with low family income, and constrained access to safe food, water, and health care, interventions targeted at improving households' own or community-level resources have long been deemed a critical element of an effective nutrition enhancement strategy (Strauss & Thomas, 1995).

Yet, increased resource availability alone is not sufficient to solve the malnutrition problem (Alderman, Hoogeveen, & Rossi, 2006). Other affordable and feasible approaches have shown significant promise in improving children's nutrition, including community and family education.

Despite achieving some levels of progress arising from sustainable development goals (SDGs), otherwise known as 'Global Goals' launched in 2015, specifically in goal number 2 of the SDGs in Africa, still, there is still a lot of stunted

growth of children occasioned by malnourished rising steadily most especially in the last few years (UNICEF, 2018; WHO, 2020). The objectives of the goals are not limited to end hunger, ensuring that all people enjoy peace and prosperity, and also prevent all forms of malnutrition in all regions of the World but the reverse is the case. Further, Africa is ranked second only to Asia as the continent with the most malnourished children in the world, bearing the greatest share of all forms of malnutrition as evidenced in the majority of the communities in Nigeria. Recent data on malnourished children under five years of age in the continent showed that 39%, 27%, and 25% are stunted, wasted, and overweight respectively (UNICEF, 2018). To narrow it down to developing countries within Africa, the majority of the rural communities in Nigeria (Ado Ekiti study area inclusive) face a huge burden of under-nutrition having the largest population of malnourished children and thus, occupies the second position in the World with only war-torn Yemen having more malnourished children (WHO, 2017; UNICEF, 2018).

Again, the further empirical study indicates that almost fourteen million children are considered stunted in Nigeria (UNICEF, 2019). This implies that one out of every three Nigerian children is malnourished including their bodies and brains are deprived of key nutrients. Succinctly say that 44 percent of children in both rural and urban communities in Nigeria are stunted, 32 percent are underweight as well as 11 percent are wasted (UNICEF, World Health Organization & World Bank, 2018). However, these children may fail to develop their full cognitive potential having adverse effects on their physical and mental development. Therefore, poor nutrition if not properly checked and corrected impairs children's labour productivity and afterward impedes the growth of the nation's economy.

Several studies have been conducted in developing countries most especially in Nigeria on the issue of children's nutritional status and development (e.g. Amuta & Houmsou, (2009); Ndukwu, Egbuonu, Ulas, & Ebenebe (2013); Kpurkpur, Abubakar, Ucheh, Achadu & Madugu, 2017) without linking it to the possible output of children's labour of rural area. Therefore, it is on this note that some research questions are generated which include, what is the prevalence of childhood malnutrition and labour productivity in the Ado Ekiti community? What is the nature of nutritional status among the children in Ado-Ekiti and; what is the effect of childhood malnutrition on labour productivity in Ado-Ekiti? The answer to these questions brings about the broad objective of the study given thus, to investigate the effect of childhood malnutrition on labour productivity in Ado-Ekiti community. Hence, the identified lacuna represents the major void this study intends to fill. The rest of the study is organized following the introductory aspect. Section two presents a literature review including theoretical underpinning and empirical evidence. In section three, the methodology and descriptive of microdata conducted in the study are reported. Section four deals with discussions of results while section five presents concluding remarks and policy recommendations

(B) LITERATURE REVIEW

Conceptual Clarifications

Malnutrition is defined as not having enough energy or nutrients to live a physically active life that allows for optimal health. It encompasses both over-nutrition and under-nutrition and has direct negative consequences in terms of disease and disability, brain development, educational attainment, and income potential for individuals and communities. The World Health Organization considers that poor nutrition is the single most important threat to the world's health. The immediate causes of malnutrition are due to inadequate food intake (in terms of quantity or quality) and diseases. However, malnutrition is influenced by a host of underlying factors related to poverty, including food insecurity, poor water, sanitation, and health services, which find their roots in factors that can vary from conflict to climate change; from scarce natural resources to high and volatile food prices; from poor governance to demographic growth.

Overall undernutrition represents the single largest killer of under-five children, being responsible for 3.1 million child deaths each year (45% of total under 5 years deaths) (UNICEF, 2018). In 2013, 52 million children under age 5 (10% of the global population) were wasted, meaning that, due to acute malnourishment, they had low weight for their height. Another 165 million children in the world, a quarter of the world's under-5 population, are too short for their age, or stunted, which can impact the child's physical and mental development (World Bank, 2006).

While undernutrition is a major problem in sub-Saharan Africa, the excess intake of calories or over-nutrition (obesity) seriously affects many individuals in the Caribbean and Pacific regions. Chronic non-communicable diseases, many related to poor nutrition, now account for 57% of deaths in the Caribbean (WHO, 2020). A worrying trend shows that overall, many ACP countries suffer from the double burden of malnutrition in which under-nutrition and obesity are found within the same community or even the same household. Failing to address malnutrition will continue to produce a significant loss of both human and economic potential for ACP countries. As its causes and consequences are multi-sectoral, the fight against malnutrition requires an integrated response to scale up nutrition-specific interventions and develop nutrition-sensitive policies that are proven to be effective in addressing the social and economic burden of malnutrition.

Economic Consequences of Malnutrition

Malnutrition also slows economic growth and perpetuates poverty. Mortality and morbidity associated with malnutrition represent a direct loss in human capital and productivity for the economy. At a microeconomic level, it is calculated that 1 percent loss in adult height as a result of childhood stunting equals to a 1.4 percent loss in productivity of an individual. Other indirect losses for the country's economy are caused by poor cognitive function and reduced school attainment that originate in early childhood undernutrition. The education gap and consequent lower skill levels of the workforce

substantially delay the development of countries affected by malnutrition. Undernutrition in early childhood also makes an individual more prone to non-communicable diseases later in life, including diabetes and heart disease, significantly increasing health costs in resource-constrained health systems.

In total, the economic cost of malnutrition is estimated to range from 2 to 3 percent of the Gross Domestic Product, to as much as 16 percent in most affected countries (UN, 2013). The effects of malnutrition are long-term and trap generations of individuals and communities in the vicious circle of poverty. Improving nutrition is therefore essential to eradicate poverty and accelerate the economic growth of low- and middle-income countries. There is much evidence that improved nutrition not only drives stronger economic growth but is a tremendous value for money. Indeed, it is estimated that each dollar spent on nutrition delivers between USD 8 and USD 138 of benefits (approximately EUR 6 for EUR 100 of benefit (UNICEF, 2018). Another recent study showed that preventing one child from being born with a low birth weight is worth USD 580.23 (about EUR 426) (Umoru & Yaqub, 2013). According to the Copenhagen Consensus, ensuring good nutrition is the single most important, cost-effective means of advancing human well-being and advancing on the Millennium Development Goals.

Productivity measures the relationship between the quantity and quality of goods and services produced and the number of resources needed to produce them (that is, factor inputs such as labour, capital, and technology) (Simbeye, 1992; Okojie 1995; Roberts and Tybout, 1997). Mali (1978) defines it thus; "The measure of how resources are being brought together in organizations and utilized for accomplishing a set of results. It is reaching the highest level of performance with the least expenditure of resources". Productivity is viewed as the instrument for continuous progress, and of constant improvement of activities. It is often seen as output per unit of input. Hence, higher productivity connotes achieving the same volume of output with fewer factor inputs or more volume of output with the same amount of factor inputs. Thus, increased productivity could result from the reduction in the use of resources, reduction in cost, use of better methods, or improvement in factor capabilities, particularly labour. Two variants of productivity measurements have been cited in the literature: total factor productivity (TFP), otherwise known as multifactor productivity, and partial productivity. Roberts and Tybout (1997) and Tybout (1992), assuming a neo-classical production function at the sectoral or industry level, define total factor output to be a concave function of the vector of inputs and time (a proxy for shift in technological innovation). To them, the elasticity of output concerning time is the total factor of productivity. In a more general sense,

$$TFP = \frac{\text{Total Output}}{\text{Weighted Average of all inputs}}$$

Weighted Average of all inputs

Critical among these factor inputs are labour, capital, raw materials and purchase of spare parts, and other miscellaneous goods and services that serve as inputs in the production process. In a more practical sense, these factor inputs are

reduced to the weighted average of labour and capital (Okojie, 1995; Roberts and Tybout, 1997).

The second variant, partial productivity (PP), is defined as:

$$PP = \frac{\text{Total Output}}{\text{Partial Input}}$$

The partial input could either be labour or capital. This can be measured at the national level, sectoral level, industry, or factory level. Existing studies on productivity measurement show a predilection for productivity per labour input.

Several reasons have been put forward for the choice of labour as against other factors of production. First, Ilyin and Motyler (1986) see labour as the "means and end of production". Labour is the only factor that creates value, influences its prices and those of other factors, and sets the general level of productivity. Second, it is the most easily quantified factor of production (Okpechi, 1991). Finally, given the low technological base of developing countries' economies, the quest for improved managerial capability and effectiveness should give the human factor appropriate recognition and attention.

While labour productivity seems to be the most convenient to use, it is however important to note that this approach has an important limitation. It treats labour as being homogenous instead of differentiating it according to age, sex, education, application of skills, and aptitude, among others. Nevertheless, this study applies productivity per worker as opposed to per capital or total factor productivity.

Labour Productivity

According to Etekpe (2012), productivity is the production of goods and services in abundance, or applying the factors of production to create favorable output/result. To Igbokwe-Ibeto (2012), productivity is the total output/total input; that is the relationship between the unit of labour input and the unit of output. It is the output resulting from a given resource at a given time. It is the ratio of output to input. But output can be compared with various kinds of inputs: hours worked the total of labour and capital inputs, or something in between (Igbokwe-Ibeto, 2012). In economic terms, it means the efficient and effective creation of goods and services to produce wealth or value.

Productivity is usually associated with efficiency, which is defined by Adebayo (2001) as "a ratio between input and output, effort and result, expenditure and income, cost and the resulting pleasure". Whereas efficiency seems to be synonymous with effectiveness, it (effectiveness) is generally referred to as the achievement of high output/result based on the policy goal at minimal cost. Adebayo (2001), went further to explain that efficiency and effectiveness (EE) are an "input-output relationship where maximum work is achieved for minimum input of energy or resources." In other words, the efficiency-effectiveness equation suggests optimization whereby maximum satisfaction is obtained from the investment of given resources.

The importance of labour productivity in a nation or an organization cannot be over-emphasized. As an economic

standard, productivity is an important factor in determining prices and wages. Economists are far from a full understanding of the relations among the variables, but there is substantial agreement on the large increases in real wages that have come about over the long term in many countries are closely associated with a large increase in labour productivity in these countries; in the absence of an increase in labour productivity, a stable price level is inconsistent with persistent increases in money wages; industries in which sales of products are comparatively insensitive to price changes, increases in labour productivity will tend to reduce employment and possibly also reduce wages; and an increase in labour productivity or the productivity of other factors usually brings with it a cost reduction and hence tends to result in price reductions, wage increase, or both (Agbodike, Igbokwe-Ibeto & Umeifekem, 2015).

Theoretical Underpinning

This study is anchored on two theories, which include the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). The theory of Reasoned Action was formulated by Martin Fishbein and Icek Ajzen towards the end of the 1960s. On the other hand, Icek Ajzen proposed the Theory of Planned Behavior in 1985; which was an extension of the TRA. The Theory of Reasoned Action and the Theory of Behavior Planned combine two sets of belief variables, which are 'behavioral attitudes and 'subjective norms. The behavioral attitudes are defined as the multiplicative sum of the individual's relevant likelihood and evaluation related to behavioral beliefs. On the other hand, subjective norms are referent beliefs about what behavior others expect and the degree to which the individual wants to comply with others' expectations.

The summary of the two theories suggests that a person's health behavior is determined by their intention to perform a behavior (behavioral intention) it also is predicated by a person's attitude toward the behavior, and the subjective norms regarding the behavior. The Theory of Reasoned Action has been criticized because it is said to ignore the social nature of human action (Obada *et al.*, 2021).

These behavioral and normative beliefs are derived from individuals' perceptions of the social world they inhabit and are likely to reflect how economic or other external factors shape behavioral choices or decisions. In addition, there is a compelling logical case to the effect that the model is inherently biased towards individualistic, rationalistic, interpretations of human behavior. Its focus on subjective perception does not essentially permit it to take meaningful account of social realities. However, individuals' beliefs about such issues are unlikely to reflect the accurate potential and observable social facts.

As such, the Theory of Planned Behavior updated the Theory of Reasoned Action to include a component of perceived behavioral control, which brings about one's perceived ability to enact the target behavior. Perceived behavioral control was added to the model to extend its applicability beyond purely volitional behaviors. Previous to this addition, the model was

relatively unsuccessful at predicting behaviors that were not mainly under volitional control. Therefore, the Theory of Planned Behaviour proposes that the primary determinants of behavior are an individual's behavioral intention and perceived behavioral control.

Constructive use of the TRA and TPB in research and public health intervention programmes might well contribute valuably to understanding issues related to health inequalities and the roles that other environmental factors have in determining health behaviors and outcomes. Despite the criticism, the general theoretical framework of the TRA and TPB has been widely used in the retrospective analysis of health behaviors and to a lesser extent in predictive investigations and the design of health interventions (Hardeman, *et al.*, 2002). This is why there is a connection between the study and the theory; since it is health-related within theoretical postulations.

Empirical Evidence

Agbodike, Igbokwe-Ibeto, and Chenna (2015) examined youth unemployment labour productivity in Nigeria using both qualitative and quantitative research methods. Multiple secondary sources of data were used to minimize errors. The results revealed that there is a positive relationship between youth unemployment and labour productivity in Nigeria. The study concludes that youth unemployment, agriculture, and services contribute to real GDP. The study recommended that it is important for the government to ensure the growth and development of rural and small-scale urban sectors.

Kelani, Odunayo, Ozegbe, and Nwani (2019) examined the health status, labour productivity, and economic growth in Nigeria using annual time series data from 1981 to 2017. The study carried out an ADF unit root test to ascertain the stationarity of the series. The result revealed that labour productivity fails to significantly impact growth episodes in Nigeria. The study, therefore, recommends a policy framework towards improvement in the quality of labour through adequate funding of education and re-tooling the educational system to enhance labour productivity for the more robust growth of the economy.

Iseghohi (2021) examined the health and labour productivity in Nigeria: A macroeconomic approach. For the period of 2000Q1 to 2018 Q4. The vector auto-regression and the Granger causality were used for the analysis. Results showed that output per man has a self-cumulative effect. The study therefore recommended that appropriate policies should be formulated to combat the menace of malaria in the country.

Kalu and Etim (2018) assess the factors associated with malnutrition among under-five children in developing countries: a review. The study was carried out by reviewing empirical studies on malnutrition conducted in Africa and Asia with particular reference to factors associated with malnutrition. It was found that an estimated 60 million under-five children in developing countries were found to be stunted out of which 11 million were Nigerian children. Other major factors observed were poverty, absence of exclusive breastfeeding, and maternal factors such as poor nutrition

during pregnancy. The study recommended that governments of developing countries and the global community should work together to remove these factors militating against them.

Umoru and Yaqub (2013) examined the labour productivity and health capital in Nigeria: The empirical evidence. The GMM methodology was adopted in the estimation having tested for unit root and possible co-integration. Findings revealed that there exists statistical significance and interaction between education-labour and health capital-labour in the country. The study recommended that the Nigerian government should build capacity through investment in education to enhance the productivity of the labour force.

Gebre, Reddy, Mulugeta, Sedik, and Kahssay (2019) examined the prevalence of malnutrition and associated factors among under-five children in pastoral communities of afar regional state, Northeast Ethiopia: A Community-Based Cross-Sectional Study. A multistage cluster sampling method was used to select the study participants. A structured questionnaire was used and anthropometric measurements were taken to collect data, EPI Data 3.1 and SPSS version 20.0 were used for data entry and analysis, respectively. The study indicated that child malnutrition was high among under-five children. The study recommended that due emphasis should be given to strengthening the health extension program to improve and provide participatory nutrition education to create awareness and to develop behavior change communication for better child feeding and caring practices in the pastoral community.

Obada, Msughter, Namadi, and Nongubee (2021) examined the hyperprevalence of malnutrition in the Nigerian context. The study adopts content analysis as its method of analysis, whereby the existing literature was considered for the analysis. The study discovered that the causes of malnutrition and food insecurity in Nigeria are multidimensional and include very poor infant and young child breastfeeding or feeding practices, which contribute to high rates of illness and poor nutrition among children under 2 years. Based on the findings, the study recommends that the National Health and Nutrition Survey (HANS), and the Federal Ministry of Health Should liaise to produce foods that are rich in nutritive contents.

Molly, David, Trey, Peter, Kathryn, Shannon, and Paul (2020) investigated an empirical study of factors associated with child malnutrition as evidenced by climate and conflict shocks. Based on a structured search of existing literature, researchers identified 90 studies that used statistical analyses to assess relationships between potential factors and major indicators of child malnutrition: stunting, wasting, and underweight. Findings revealed that among the consistent predictors of child malnutrition are shocks due to variations in climate conditions and violent conflict. The study concludes that an improved understanding of the variables associated with child malnutrition will aid advances in predictive modeling of the risks and severity of malnutrition crises and

enhance the effectiveness of responses by the development and humanitarian communities.

Martorell (1999) examined the nature of child malnutrition and its long-term implications. The study used existing literature out of which three points are emphasized. First, nutritional problems are very common in poor countries. Second, these problems lead to short-and long-term functional consequences that limit human potential. Third, improving child nutrition is a national priority and an important strategy for long-term economic development. The study therefore concludes that public nutritionists are compelled to seek continued funding for priority programmes as well as better use of the limited resources available.

Agee (2010) examined the reduction of child malnutrition in Nigeria. The study combined effects of income growth and provision of information as regards mothers' access to health care services using a sample of 1359 Nigerian households from the 2003 Demographic and Health Surveys. The analysis indicates that family wealth and region-specific knowledge about community healthcare access positively affect child nutrition status measured by height-for-age and weight-for-age. Findings from the study suggest that interventions that enhance public knowledge about availability and access to health care could strengthen more general development-oriented child nutrition-enhancing interventions, like poverty reduction or growth in health services infrastructure.

Omotesho, Adenuga, Dogo, and Olaghere (2019) examined the assessment of malnutrition and its determinants among under-five children of rural households in Benue State Nigeria. Descriptive statistics and the logistic regression model were the main analytical tools employed to achieve the study objectives. The results of the study showed that the prevalence of malnutrition among under-five children in the study area is lower than the national average. It is recommended that an effective nutrition education strategy especially targeted at women in rural households should be established.

(C) METHODOLOGY

This study used the methodological of qualitative research method. Hence, the study employed the use of research questionnaires to gather responses from respondents in the Ado Local Government Area of Ekiti State, Nigeria.

Microdata was sourced through the use of a questionnaire and unstructured oral interview. Further relevant information was obtained from newspaper articles, prior journal articles, unpublished research studies, conference papers, media reports, and among others.

Sampling Technique

The study was descriptive. Simple random and purposive sampling techniques are used to select fifty (50) respondents out of 152 selected samples.

Research Instruments

The research instrument adopted a well-structured questionnaire for the study. The data gathered was analyzed

using of simple percentage. The questionnaire is a 4 Likert scale type. The questionnaire issued contains certain questions that are in accordance with the research work and the research hypotheses and are framed in a way that it would not be misunderstood by the respondent. The questionnaires were administered to them primarily to elicit their response to the questions that were structured to reflect the purpose of the work. The questionnaire used in this research work is divided into two major parts. The sections A and B in section A, the respondents are expected to give their personal information, the data in this section was analyzed to get personal information about respondents, such as sex, age, and highest qualification among others. While section B of the questionnaire is designed toward the topic of the study it has multiple questions. The respondents were dully asked to mark options that best apply to them. This scale has 13 items measured on a 4-point Likert scale (from Strongly Agree to Strongly Disagree). Respondents were then instructed to respond to their degree of agreement with the statement contained in the instrument.

Validity of the Instrument

A validity test implies ascertaining whether the researcher tests what it intends to test. The research instrument was subjected to thorough examination by the researcher.

Reliability of the Instrument

Reliability of the research instrument is ensured when it is ascertained that the instrument used in conducting the test of research work is used in another place having the same variable as the former test conducted. To make the researcher's instrument reliable collection of data was made from textbooks written by reputable scholars.

Model Specification

The original models for this microdata analysis are specified thus:

$$PCM = f(UNTI, INV / M, OWT, OBE).....(i)$$

Where: PCM = Prevalence of child malnutrition

UNTI = Under-nutrition indicators

INV/M = Inadequate vitamins /minerals

OWT = Overweight

OBE = Obesity

MHC = Mental health conditions

$$CNS = f(UAC, MIFI, MCP, BGC).....(ii)$$

Where: CNS = Children's nutritional status

UAC = Under-nutrition average children

MIFI = Malnutrition caused by inadequate food intake

MCP = Malnutrition caused by poverty

BGC = Beggars' children

$$CHM - LABP = f(UN - NCD, EDUGAP - MAL, MMM - HCP, SA - CHU).....(iii)$$

Where: CHM-LABP = Childhood malnutrition and labour productivity

UN-NCD = Under-nutrition and non-communicable diseases

EDUGAP-MAL = Educational gap and malnutrition

MMM-HCP = Mortality, morbidity, malnutrition and; human capital and productivity

SA-CHU = School attainment and childhood under-nutrition

(D) RESULTS AND DISCUSSION

Micro Research Question I: What is the prevalence of childhood malnutrition and labour productivity in Ado Ekiti community?

Table 4.1: Prevalence of Child Malnutrition

S/ N	ITEMS		SA	A	D	SD	TOTAL
I	Undernutrition (wasting, stunting, underweight)	f	27	17	2	4	50
		%	54%	34%	4%	8%	100%
ii	Inadequate vitamins or minerals	f	19	23	7	1	50
		%	38%	46%	14%	2%	100%
iii	Overweight	f	11	27	10	2	50
		%	22%	54%	20%	4%	100%
iv	Obesity	f	17	19	11	3	50
		%	34%	38%	22%	6%	100%
V	Mental health conditions	f	13	13	19	5	50
		%	26%	26%	38%	10%	100%

The response to item 1 indicates that 27 representing 54% of the respondents strongly agreed with the statement, 17 representing 34% agreed, 2 representing 4% disagreed while 4 representing 8% strongly disagreed with the statement. Response to item 2 shows that 19 representing 38% strongly agreed, 23 representing 46% agreed, 7 representing 14% disagreed and 1 representing 2% strongly disagreed with the statement.

Response to item 3 shows that 11 representing 22% strongly agreed, 27 representing 54% agreed, 10 representing 20% disagreed, and 2 representing 4% strongly disagreed. The response to item 4 depicts that 17 representing 34% of the respondents strongly agreed with the statement, 19 representing 38% Agreed, 11 representing 22% disagreed and 3 representing 6% strongly disagreed.

The response to item 5 shows that 13 representing 26% of the respondents strongly agreed with the statement, 13 representing 26% of the respondents agreed, 19 representing 38% disagreed while 5 representing 10% of the total respondents strongly disagreed.

Overall results of items 1 to 5 indicate that undernutrition (wasting, stunting, and underweight), inadequate vitamins or minerals, overweight, obesity, and mental health conditions are the prevalence of childhood malnutrition.



Micro Research Question II: What is the nature of nutritional status among the children in the Ado-Ekiti community?

Table 4.2: Nutritional status among the children in Ado-Ekiti

S/N	ITEMS		SA	A	D	SD	TOTAL
I	Undernutrition average child	f	13	23	10	4	50
		%	26%	46%	20%	8%	100%
ii	Malnutrition is caused by inadequate food intake (in terms of quantity or quality) and diseases	f	13	28	8	1	50
		%	26%	56%	16%	2%	100%
iii	Malnutrition caused by	f	8	16	23	3	50
		%	16%	32%	46%	6%	100%

	poverty						
Iv	Beggars children	f	13	27	7	3	50
		%	26%	54%	14%	6%	100%

Item 6 shows that 13 representing 26% of the respondents strongly agreed with the statement, 23 representing 46% of the respondents agreed, 10 representing 20% disagreed while 4 representing 8% strongly disagreed with the statement.

The response to item 7 shows that 13 representing 26% of the respondents strongly agreed with the statement, 28 representing 56% agreed, 8 representing 16% disagreed and 1 representing 2% strongly disagreed with the statement.

Response to item 8 shows that 8 representing 16% strongly agreed, 16 representing 32% Agreed, 23 representing 46% disagreed and 3 representing 6% strongly disagreed with the statement. Response to item 9 shows that 13 representing 26% strongly agreed, 27 representing 54% agreed, 7 representing 14% disagreed and 3 representing 6% strongly disagreed with the statement.

Summary of items 6 to 9 indicates that the average child in Nigeria is undernutrition, and the immediate causes of malnutrition are due to inadequate food intake (in terms of quantity) and diseases, malnutrition is influenced by poverty, and many children in the Ado Ekiti community as beggars.

Micro Research Question III: How do childhood malnutrition affect labour output in Ado-Ekiti community?

Table 4.3: What is the effect of childhood malnutrition affects labour productivity

S/N	ITEMS		SA	A	D	SD	TOTAL
I	Undernutrition in early childhood makes an individual more prone to non-communicable diseases later in life, including diabetes and heart disease which in turn have a negative influence on labour productivity	f	15	20	11	4	50
		%	30%	40%	22%	8%	100%
ii	Educational gap and lower skill of the workforce substantially delay the development of countries affected by malnutrition	f	7	28	11	4	50
		%	14%	56%	22%	8%	100%
iii	Mortality and morbidity associated with malnutrition represent a direct loss in human capital and productivity for the economy	f	24	19	6	1	50
		%	48%	38%	12%	2%	100%
Iv	Other indirect losses for the country's economy are caused by poor cognitive function and reduced school attainment that originate in early childhood	f	23	17	8	2	50
		%	46%	34%	16%	4%	100%

	undernutrition						
--	----------------	--	--	--	--	--	--

The result in item 10 depicts that 15 representing 30% of the respondents strongly agree, 20 representing 40% agree, 11 representing 22% disagree, and 4 representing 8% strongly disagree with the statement. The result in item 11 shows that 7 representing 14% of the respondents strongly agree with the statement, 28 representing 56% agree, 11 representing 22% disagree and 4 representing 8% strongly disagree with the statement. The result in item 12 shows that 24 representing 48% strongly agree, 19 representing 38% agree, 6 representing 12% disagree and 1 representing 2% strongly disagree with the statement. Results in item 13 show that 23 representing 46% strongly agree, 17 representing 34% agree, 8 representing 16% disagreed and 2 representing 4% strongly disagreed with the statement. These imply that undernutrition in early childhood makes an individual more prone to non-communicable diseases later in life, including diabetes and heart disease which in turn have a negative influence on labour productivity. The education gap and consequent lower skill levels of the workforce substantially delay the development of countries affected by malnutrition. Also, mortality and morbidity associated with malnutrition represent a direct loss in human capital and productivity for the economy among others.

Discussion of Findings

The result from table 4.1 revealed that undernutrition (wasting, stunting, and underweight), inadequate vitamins or minerals, overweight, obesity, and mental health conditions are the prevalence of childhood malnutrition. This was in accordance with the work of Kalu and Etim (2018) who opined that the immediate causes of malnutrition are due to inadequate food intake (in terms of quantity or quality) and diseases. However, childhood malnutrition is influenced by a host of underlying factors related to poverty, including food insecurity, poor water, sanitation, and health services, which find their roots in factors that can vary from conflict to climate change; from scarce natural resources to high and volatile food prices; from poor governance to demographic growth.

Further, the result from the study also revealed the nutritional status among the children that exhibit malnutrition which indicates an average child in Ado Ekiti community is undernutrition as a result of inadequate food intake (in terms of quantity), and diseases. Malnutrition among children in Ado Ekiti is influenced by poverty thereby turning many children in the community into beggars. The result coincides with the work of Martorell (1999) that nutritional problems are very common in poor countries as evidenced in rural communities.

Overall findings indicate that under-nutrition in early childhood makes an individual more prone to non-communicable diseases later in life, including diabetes and heart disease which in turn have a negative influence on labour productivity; the education gap, and consequent lower skill level of the workforce; substantially delays the development of countries affected by malnutrition; mortality

and morbidity associated with malnutrition represent a direct loss in human capital and productivity for the economy and also other indirect losses for the country's economy are caused by poor cognitive function and reduced school attainment that originate in early childhood undernutrition.

(E) Concluding Remarks and Policy Recommendations

The study concludes that the immediate causes of malnutrition are due to inadequate food intake (in terms of quantity or quality) and diseases. However, childhood malnutrition is influenced by a host of underlying factors related to poverty, including food insecurity, poor water, sanitation, and health services, which find their roots in factors that can vary from conflict to climate change, from scarce natural resources to high and volatile food prices, and from poor governance to demographic growth.

Further, findings from the study indicate that under-nutrition in early childhood makes an individual more prone to non-communicable diseases later in life, including but not limited to diabetes and heart diseases that inflict a negative influence on labour productivity output in the community of Ado Ekiti; education gap and consequent lower skill-level of workforce substantially derail the development of countries affected by malnutrition; mortality and morbidity rates associated with malnutrition represented a direct loss in human capital and productivity of the economy as well as poor cognitive function and reduced school attainment that originate in early childhood undernutrition.

Based on the findings of the study, it is therefore recommended that breastfeeding mothers should be well educated on the significance of proper child breastfeeding. This will go a long way to boost the immune system of the children and reduce illness, thus, leading to labour productivity improvement of the Ado Ekiti community's growth and development and by extension to the country's economy. Above all, public nutritionists should be compelled to seek continued funding for priority programmes towards better nutrition of rural and urban children in society.

REFERENCES

1. Agee, M.D. (2010). Reducing child malnutrition in Nigeria: Combined effects of income growth and provision of information about mothers' access to health care services. *Article in Social Science Medicine*, 9 (20), 1-31.
2. Alderman, H., Hoogveen, H., and Rossi, M. (2006). Reducing child malnutrition in Tanzania: combined effects of income growth and program interventions. *Economics and human biology*, 4, 1-23.
3. Amuta, E.U. & Houmsou, R.S. (2009). Assessment of nutritional status of schoolchildren in Makurdi, Benue State. *Pakistan Journal of Nutrition* 8(5):691-694. ISSN 1680-5194.

4. Behrman, J., & Rosenzweig, M. (2004). Returns to birthweight. *Review of economics and statistics*, 86, 586-601.
5. FAO, IFAD, UNICEF, WFP & WHO. (2017). *The state of food security and nutrition in the world 2017. Building resilience for peace and food security*. Rome, FAO. Available at: www.fao.org/3/a-17695e.pdf.
6. Gebre, A., Reddy, P.S., Mulugeta, A., Sedik & Kahssay, M. (2019) Prevalence of Malnutrition and associated factors among Under-Five children in Pastoral communities of Afar regional State, Northeast Ethiopia: A Community-Based Cross-Sectional Study. *Journal of Nutrition and Metabolism*. 1 (3), 1-14.
7. Glewwe, P., Jacoby, H., & King, E. (2001). Early childhood nutrition and academic achievement: A longitudinal analysis. *Journal of Public Economics*, 81, 345-368.
8. Hardeman, W, Johnston, M, Johnston, D, Bonetti, D, & Wareham, N. (2002). Application of the theory of planned behavior in behavior change interventions: a systematic review. *Psychology & Health* 17: 123-158.
9. Kpurkpur, T., Abubakar, M. S., Ucheh, B. I, Achadu, A.E & Madugu, N.H. (2017). Nutritional Status of Preschool Children in Semi-urban Area of Benue State, Nigeria. *Africa Journal Biomed. Res.* 20:145- 149
10. McGregor, S., Cheung, Y., Cueto, S., Glewwe, P., Richter, L., & Strupp, L. (2007). Developmental potential in the first 5 years for children in developing countries. *Lancet*, 369, 60-70.
11. Ndukwu C. I., Egbuonu I., Ulasi T. O., & Ebenebe J. C. (2013). Determinants of under-nutrition among primary school children residing in slum areas of a Nigerian city, *Nigerian Journal of Clinical Practice*, 16(2):178-183
12. Strauss, J., & Thomas, D. (1995). Health, nutrition, and economic development. *Journal of Economic Literature*, 36, 766-817.
13. Umoru, D. & Yaqub, J.O. (2013). Labour productivity and health capital in Nigeria: The empirical evidence. *International Journal of Humanities and Social Science*. 3(4), 1-23.
14. UNICEF, World Health Organization, and The World Bank. (2018). *Levels and trends in child malnutrition*. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates Key findings of the 2018 edition.
15. UNICEF, World Health Organization & The World Bank. (2018). *Levels and trends in child malnutrition*. UNICEF / WHO / World Bank Group Joint Child Malnutrition estimates key findings of the 2018 edition.
16. United Nations (2015). 'End hunger, achieve food security and improved nutrition, and promote sustainable agriculture'. Nutrition Targets and Indicators for the Post-2015 Sustainable Development Goals.
17. Victora, C., Adair, L., Fall, C., Hallal, P., Martorell, R., Richter, L., & Sachdev, H. (2008). Maternal and child undernutrition: Consequences for adult health and human capital. *Lancet*, 371, 340-357.
18. World Bank (2006). Repositioning nutrition as central to development: A strategy for large-scale action. *Direction in development*. Washington, DC.