

ECONOMIC IMPACT OF IMPROVED NUTRITION AND HEALTH ON THE LABOUR PRODUCTIVITY OF WOMEN IN NIGERIA

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Abstract

The researcher seeks to examine the economic impact of improved nutrition and health on the labour productivity of women in Nigeria. The ordinary least square (OLS) simple linear regression analysis was carried out with the use of SPSS. The study examined the causes of low labour productivity of women and identified factors responsible for low or unimproved nutrition among them. The regression model shows that it is statistically significant and hence, a good fit. This leads to the rejection of the H_0 and acceptance of the H_1 that Improved Nutrition and Health has a statistically significant positive impact on the Labour Productivity of women in Nigeria. The researcher therefore acclaimed that, the government at all levels should use every opportunity to create awareness for women on the rich nutritional value of our local foods and the need to bring back most of them that are vanishing into our meal plans so as to discourage the consumption of food that are harmful to their health.

Key words: Nutrition, Health, Labour Productivity and Simple Linear Regression

Introduction

Nutrition plays a critical role in human resource development and labour productivity. According to UNICEF (2011), deficiencies in essential nutrients leads to malnutrition which may affect an individual's mental and physical state resulting in poor health and poor work performance. In addition, a hungry and mal-nourished child may have serious learning disabilities resulting in poor school performance. Similarly, a sick and poorly nourished adult /worker will not respond well to treatment and can lose many working hours and may continue to drain family and national resources. Thus, malnutrition may undermine investment in education, health and development sectors. Labour productivity plays an important role in improving the standard of living of a country. Food and nutrition needs are determined by individuals' age, gender and the amount of work they do.

Health is also seen as an important form of human capital, as postulated by (Shultz 2002, cited in David E. Bloom and David Canning; 2000). It can enhance workers' productivity by increasing their physical capacities, such as strength and endurance, as well as their mental capacities, such as cognitive functioning and reasoning ability. We expect to see a positive

relationship between health and productivity of both skilled and unskilled workers; evidence of this link is increasing at the microeconomic level. Health and economic prosperity go hand in hand. In micro and macro data, there is abundant evidence that a wide array of health indicators is positively associated with many different dimensions of economic prosperity. Explanations for this association have been much debated. Isolating the causal pathways linking health and economic outcomes has been a central issue. It is likely that causality runs in both directions. First, higher income individuals invest more in human capital, including health: as their income grows, they invest in better diets, improved sanitation and better healthcare. Second, if a worker is healthier, less susceptible to disease, and more alert and more energetic, then he or she will probably be more productive and command higher earnings.

Despite Nigerian endowed resources, majority of its' populace is still suffering seriously from the menace of poor nutrition and health. Nigeria is faced with many challenges as a result of its poor nutrition and health on labour productivity of women. In spite of the great energy and potentials of workers in all sectors of the

economy, a lot of factors milted against their effective performance in the work place and towards national growth and development in general. These factors range from low income of workers, malnutrition, ignorance of correct dieting, and poverty. This peril of poor nutrition and health on labour productivity reduces ability to think clearly, decreases the ability to perform job effectively and also causes high level of stress and depression thereby leading to decreased productivity.

Nigerians and the rest of Africans today still believe in the intake of luxury and bulky food components without thinking about the nutritive impact. The effects of nutrition not only on growth and physical development, but also on cognitive and social development are well documented. A mal-nourished child is not only vulnerable to disease. Cognitive development will in peril, especially during the first three years of life. Stunted physical growth such as in cretinism is closely linked to reduced mental development. A well-fed child with sound immune system will be highly creative and stands in the best position to combat or prevent infection. This point to the reason why individual, firm and government of ours depend on the handwork of foreign workers, so-called expatriates.

Review of Literature

The Concept of Nutrition

The council on food and nutrition of the American medical association (n.d in Kessel and Wardlaw, 2002:4), defined nutrition as “the science food, the nutrients and the substances therein; their action, interaction and balance in relation to health and disease and the process by which the organism ingests, absorbs, transports, utilizes, and excrete food substances”. The association also said that, nutrition is one key to developing and maintaining a state of health that is optimal for you (Kessel and Wardlaw 2002:4). Nutrition is the sum total of the processes which involve the taking in of food substances and its utilization in the body system; it involves, ingestion, digestion, absorption and assimilation. Nutrients are stored in the body in various forms and drawn upon when the food intake is not sufficient. Nutrition and health are the most important

science on earth, yet it is the most unwanted by some segment of our economic structures.

According to Eva Ricketts (1981), also defined nutrition as the study of how the body is nourished. It is really an ‘applied science’, example, physiology and chemistry. He said that, the study of nutrition is concerned with the composition of foods and how food is used to keep the cells of the body functioning. The different parts of the tissues of the body are in an orderly but continual state of change. Although changes take place in the body all the time, it is an orderly change and the body processes continue at a steady rate. The process of chemical change that goes on in the living cells which results in the growth of new tissues, breakdown of old tissues and production of energy, is called metabolism. Therefore, the right food is needed for all these changes in the cells to take place.

The World Bank (2002) was with the opinion that a good nutrition is a basic building block of human capital and, as such, contributes to economic development. In turn, sustainable and equitable growth in developing countries will convert these countries to “developed” states. There is much evidence that nutrition and economic development have a two-way relationship. Improved economic development contributes to improved nutrition (albeit at a very modest pace), but more importantly, improved nutrition drives stronger economic growth. Furthermore, as quantified in the Copenhagen Consensus, productivity losses caused by malnutrition are linked to three kinds of losses—those due to:

- Direct losses in physical productivity.
- Indirect losses from poor cognitive losses and loss in schooling.
- Losses in resources from increased health care costs.

For the purpose of this study, the economic impact of improved nutrition and health is seen as a building block for human capital or labour productivity and as such, contribute to economic development as upheld by the World Bank (2002).

2.2 The Concept of Labor Productivity

An adequate definition of labour productivity often known as human resource development is not easy to come by; this is because different scholars such as Peter (2011), Gyang (n.d.), Harbison (1971) & Abdulkareem (n.d), held different views as to the meaning of human resource development. The quality of human resource development determine the nations' growth and development. It is the available human resource that mobilized and galvanize other resources for sociological, political, economic, scientific and technological development. "The development of any society hinged on the development of its' human resources" (Abdulkareem, n.d). Any country that does not pay special attention to human resource development should not expect to grow and develop. In other words, any country that wants to develop should not ignore the quality of human resources (Okwu and Owolabi, 2010).

It is in view of the above that Dawodu (n.d), defines human resource as the manpower required by an organization, be it private or public to enable it achieve its predetermined objectives, the purpose for which it is set up. It could mean the entire human resource (skilled, semi-skilled and unskilled), available within the country. Labour productivity or human resource development or otherwise manpower development is a continuous process of impacting information, skills, attitude and ideas to employees dictated by the requirements of job change (Dawodu, n.d).

According to Myers (1964, in Hilton & Swanson 2009:427), human resource is "the process of increasing the knowledge, skills and capacities of all the people in the society" In economics term, it could be described as the accumulation of human capital and its effective investment in the development of the economy. In political terms, human resource development prepares people for participation in the political process, particularly as citizens in a democracy. From the social and cultural point of view, the development of human resources helps people live fuller and richer lives, less bound to tradition. They further went on to say that, in short, "the processes of human resource development unlocked the door to modernization" However, this definition is very

broad in perspective, as it defines human resource development in relation to culture, social and political contexts rather than individuals and organization.

Human resource development therefore, is the energies, skills, and knowledge of people which are or which potentially can or should be applied to the productions or rendering of services in an economy. Thus, human resource connotes man to the world of work and such work involves rendering of services of all kind in the social, political, cultural, religious and economic development of nations. The human resource approach to national development is people-oriented, but it is by no means presumed to encompass the full range of human aspiration or endeavors. Man may work to live, but hopefully he lives far much more than works. The human aspirations, energies and skills of people or endeavors, as members of the labour force are only one facet of human development which embraces as well the thoughts, motives, beliefs, feelings, aspirations and culture of human beings beyond and outside work (Harbison, 1971).

Therefore, it is not an overstatement to states that no nation can carry out any of its development programmes without adequate and competent human resources. That is at every stage of development, labour productivity plays an indispensable role Ogunbiyi (1992, cited in Adejuwon, Fatile, Jacob & Kehinde, 2011). They also affirm in Lawal (1992), a strong relationship between human resource development and economic development. That a country with highly developed human resources is often economically developed.

Method

Fundamentally, survey data are usually collected through the use of several collection methods. Among the various methods, questionnaire was specifically adopted for this study and it is discussed below;

The researcher adopted the simple linear regression using SPSS statistics as a tool to analyse data collected.

Simple linear regression is a statistical method that summarizes and study relationships between two continuous (quantitative)

variables: One variable, symbolized as x , is regarded as the predictor, explanatory, or independent variable. The other variable, designated as y , is regarded as the response, outcome, or dependent variable. Because the other terms are used less frequently today, we'll use the "predictor" and "response" terms to refer to the variables encountered in this research. The other terms are mentioned only for awareness in case they are encountered in other arenas. Simple linear regression gets its adjective "simple," because it concerns the study of only one predictor variable. Given as follows;

$$y_i = b_0 + b_1x_i + \epsilon_i$$

Additionally, we assume that;

$$\epsilon_i \sim N(0, \sigma^2)$$

which says that the residuals are normally distributed with a mean centered around zero

Assumptions of linear regression are based mostly on predicted values and residuals. In particular, we will consider the following assumptions.

- **Linearity** – the relationships between the predictors and the outcome variable should be linear.
- **Model Specification:**

- In an attempt to determine the economic impact of improved nutrition and health on the labour productivity of women in Nigeria, a model was developed to justify the relationship that exists amongst the variables. In this regard, a simple linear regression using SPSS was developed to determine the economic impact of improved nutrition and health on the labour productivity of women in Nigeria. The following model is specified in order to determine the impact of the independent variable (improved nutrition and health), on the dependent variable (labour productivity of women in Nigeria).
- The model formulated for this work in its functional form can be expressed in its mathematical terms as follows;
- $LP = f(IMNH) \dots \dots \dots (1)$
- Where;
- LP = Labour Productivity of women
- IMNH = Improved Nutrition and Health
- The econometric form of the model can be specified as;
- $LP = b_0 + b_1IMNH + \mu \dots \dots \dots (2)$
- Where;
- b_0 and b_1 = parameter for estimation or regression parameters.
- μ = the error term or disturbance term.

Table 18: Simple Linear Regression analysis

Model Summary						
Model	R	R Square	Adjusted R Square	R	Std. Error of the Estimate	
1	.575 ^a	0.33	0.327		3.762	
a. Predictors: (Constant), Improved nutrition and health scores (X)						
ANOVA^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1374.038	1	1374.038	97.1	.000 ^b
	Residual	2787.47	197	14.15		
	Total	4161.508	198			
a. Dependent Variable: Labour productivity score(Y)						
b. Predictors: (Constant), Improved nutrition and health scores (X)						
Coefficients^a						

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	8.814	1.534		5.75	0
	Improved nutrition and health scores (X)	0.802	0.081	0.575	9.85	0

a. Dependent Variable: Labour productivity score(Y)

Source: Authors computation with SPSS.

$$LP = b_0 + b_1IMNH + \mu$$

$$LP = 8.814 + b_1 0.802IMNH$$

$$S.E \quad 1.534 \quad 0.081$$

$$T \quad 5.75 \quad 9.85$$

$$P.V \quad 0.000 \quad 0.000$$

$$R^2 = 0.33$$

$$F \text{ statistics} = 97.1$$

Significance level 5%

Discussion of Findings

From the estimated simple linear regression model in Table 18, the result of the numerical value of estimated model of Improved Nutrition and Health, conformed with the a priori expectation indicated that Labour Productivity is positively related to Improved Nutrition and Health. The constant or intercept ($b_0 = 8.814$) also conformed with the economic a priori expectation and suggests that, Labour Productivity will be at positive level for zero value of Improved Nutrition and Health. This means the autonomous component that does not depend on the level of Improved Nutrition and Health.

The coefficient of Improved Nutrition and Health (IMNH), $b_1 = 0.802$ also conformed with the economic a priori expectation indicates the prospect of Improved Nutrition and Health to exert a positive effect on the Labour Productivity of women in Nigeria. This means that, a unit change in Improved Nutrition and Health will cause a 0.802 unit increase on the Labour Productivity of women in Nigeria.

The error term " μ " is refrained in the estimated model to accommodate any difference between Labour Productivity and the sum of Improved Nutrition and Health with its coefficient.

The R-value represents the simple correlation and is given as; $R = 0.575$, which indicates a high degree of correlation. The $R^2 = 0.33$ value indicates, how much of the total variation in the dependent variable that is Labour Productivity can be explain by the independent variable Improved Nutrition and Health. In this case, 33% can be explained, which is very small.

The F- statistics value is 97.1 which is the test for relevance of the model and with P-value of 0.000. The regression model shows that it is statistically significant and hence, a good fit. This leads to the rejection of the H_0 and acceptance of the H_1 that Improved Nutrition and Health has a statistically significant positive impact on the Labour Productivity of women in Nigeria.

Conclusion and Recommendations

The researcher made use of primary data through the instrument of a questionnaire to further find out the economic impact of improved nutrition and health on women labour productivity in Nigeria and employ the simple linear regression method of data analysis to draw up a conclusion. The null (H_0) hypothesis was rejected and the alternate (H_1) hypothesis was accepted and concluded that improved nutrition and health play a significant impact on the labour productivity of women.

In view of the findings of the study, the following policy recommendations are considered appropriate.

- The government at all levels should use every opportunity to create awareness for women on the rich nutritional value of our local foods and the need to bring back most of them that are vanishing into our meal plans. So as to discourage

the consumption of food that are harmful to their health. We grow most of them locally, such as groundnut, soya beans that serve as a source of protein. Which we tend to undermine their value, this will go a long way to improve women nutritional intake and in turn, increased their productivity.

- The government should set up adult education in rural communities especially for women and make it free, so as to encourage most of them that got married much younger and cannot afford conventional schools or feel shy to attend primary schools with their children. This will create some form of enlightenment and make them informed in the society.

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