Volume and Issues Obtainable at Center for Sustainability Research and Consultancy

Review of Economics and Development Studies
ISSN:2519-9692 ISSN (E): 2519-9706
Volume 5: No. 4, 2019
Journal homepage: www.publishing.globalcsrc.org/reads

Effects of Malnutrition on the Academic Performance: A Case Study of Grade 6-8 Learners in Punjab, Pakistan

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ARTICLE DETAILS

History
Revised format: 30 Nov 2019
Available Online: 31 Dec 2019

Keywords
Malnutrition, Academic Performance, Rural Area, Low Quality Food, Physical Activities

JEL Classification:
P27, P29, P25, L19

ABSTRACT

The present research is design to assess the "effects of malnutrition on the academic performance of grade 6-8 learners in rural areas of Tehsil Hafizabad". Quantitative research approach was used to achieve the objectives of the study. Quantitative data was gathered by using Scheduled Interview from the sample of 150 learners of the three selected schools. Data was analyzed through statistical package for social sciences (SPSS). The outcomes of the study revealed that the malnutrition, particularly the use of low quality foods significantly lowers the academic performance in terms of lowering the understanding level of the learners and attainments; it reduces the attendance rate ultimately. It was observed that the less participation in physical activities, low income of the household and crowded demographic conditions reduced the learning capacity of the students. Some useful suggestions were also made, strictly ban on low quality food, awareness programs should be launched for public, and more studies must be conducted to highlight and overcome the issue.

Corresponding author's email address:
Recommended citation: Shabbir, M., Zaman, Q. and Atif, M. (2019). Effects of Malnutrition on the Academic Performance: A Case Study of Grade 6-8 Learners in Punjab, Pakistan. Review of Economics and Development Studies, 5 (4) 713-720
DOI: 10.26710/reads.v5i4.882

1. Introduction

Malnutrition remains a serious public health issue around the underdeveloped countries, especially in South Asian and African countries. . Mostly malnourished children are present in developing and poor countries. Ergin (2007) explained that 70% malnourished belong to Asia, 26% to Africa and 4% to Latin America. Grover (2009) explained that a study done in 53 countries explored that over 50% of deaths of the children are relate to under-nutrition. Malnutrition can be delineated in multiple ways. Child malnutrition is a pathological condition caused by insufficient nutrition; malnutrition contains three broad concepts which can be described as under-nutrition, over-nutrition and micronutrient deficiency. Grover (2009) described that malnutrition is a physical condition of inadequacy or superfluity of protein, energy and different other nutrients. Malnutrition is the outcome of insufficient food supply which is caused by social, economic, political and sometimes environmental factors like natural disaster, as explained by Shah (2003) that the major threats for stunting are female education ignorance, poor economy of the household and overcrowding.

Malnutrition and health are closely interlinked with each other. Malnutrition directly affects the health. Malnutrition put the burden on the children in the form of different diseases. Diseases and poor health status almost affects all the areas of developmental process as well as creates problems throughout the life. Physical and mental health of early life gives basis for adult life. Because the process of development mostly occurs in the early years of life so we discuss the three major areas of the lives of the children which are might be affected by malnutrition namely school performance, socialization process and economy. There are many other factors like poverty, low parental education, social and gender discrimination, racism, political and environmental conditions and less availability of resources that hinder the school performance, damaging the economy and reducing the social activities; but despite that these three aspects might be affected by malnutrition because better nutrition is considered the basic to proper human development and better health conditions. Today the health condition of millions of people in all over the world is entirely discouraging, specifically in the underdeveloped countries. Ergin (2007) depicted that malnourished children had lowered resistance to infectious diseases and died early. He was of the view that the children who survive face the problems of growth retardation, illness and poor nutritional level which keeps the malnourished children into dreadful recurring cycle of sickness and this hindered the learning ability of the children.

According to the world health organization (WHO) Malnutrition means the cellular imbalance among the nutritive ingredients, energy and the need of these ingredients to assure the body's growth, care, feeding, and other particular functions, (Grover, 2009). The progress of the population of any state is closely interconnected to the academic achievement of the population of that state. The development of any society depends extremely on the quality of academics. It has been found that malnutrition and impaired health in early life possibly affect the cognitive skills. Malnutrition reduced the academic performance and causing delay in attending school (Ghosh, 2013).

The provision of education and food is generally approved as a fundamental human right. It is committed by all member countries of the United Nations in 2000 to accomplishing universal primary education and abolishing hunger, (UNICEF, 2004). Malnutrition is a significant public health issue in Pakistan. Due to the high prevalence of malnutrition 740,000 children deaths happen every year in Pakistan (UNICEF, 1996). The problem of malnutrition is not only found in children of age group under five, but also malnutrition is a major issue in older children. Studies conducted in 1980's show the high prevalence of malnutrition in the male school children in rural areas of Pakistan ranging from 47-70%. Malnutrition was highly spread among elderly children and those who belong to poorer and larger households, (Mian, 2002). According to the findings of National Nutrition Survey of 2011 the percentage of underweight and wasting children in Pakistan is 31% and 17% respectively. The stunting rate in Pakistan is 44%. A huge figure of 58% of the households is facing the problem of food insecurity (NNS 2011).

The development of any nation depends upon the nutritional level and educational level of the people. Many studies have given sufficient data about the importance of the proper food and nutrition for the development of the cognitive skills and better academic performance. But until now, it could not been clearly described that how nutrition obstructs or enhances academic performance. The results of the study will reflect the true picture of present situation of nutritional level of the children and its impact on the academic performance in rural areas. Pakistan is a country in which people have poor nutritional level and also the low educational level particularly in rural areas so this study will help the policy makers, government organizations as well as private sector organizations and institutions to develop the futuristic policies for the betterment of the rural areas. This study is also beneficial for the parents and teachers to plan that how they can improve and enhance the present nutritional level and academic performance of the learners.

Chinyoka (2014) found that malnutrition affects the academic performance. The results of the study demonstrate that the undernourished and hungry children are less capable to attend the school and if attend then facing the problems in concentrating and learning, also having no interest to take part in

physical activitieslike sports event.

Freijer (2013) explained that disease related malnutrition has serious consequences for the physical health and also creates psychosocial problems. He studied the additional costs related to diseases related malnutrition, and argued that the additional costs to manage the patient of diseases related malnutrition were considerably higher than other patients. Ogunsile (2012) explored that all the dietary patterns healthy dietary patterns (e.g. intake of breakfast, fruits, three square meals, milk, vegetables) and unhealthy dietary patterns (e.g. the use of sweets, chewing gum, and soft drinks) and body mass index had significantly effects the academic performance of the students.

Florence (2008) demonstrated that the students who eat overall low quality diet found to be poor performers on the tests and assessments. Girls who belonged to socioeconomically wealthy families have higher performance than boys. Fu (2007) described that the children with high level of unhealthy consumption pattern means high intake of foods like sweets and fried foods (low quality foods) and the inadequate use of dairy products as well as inadequate intake of foods like vegetables, meat, fish, fruits and eggs, which are considered as highly nutrient packed foods had more chances to show poor academic performance. Crookston (2011) stated that the Children who belonged to wealthy and smaller size family get higher scores in assessment.

Trudeau (2008) explored that the participation in physical activity enhanced the academic performance of the learners, and positively associated and influenced the behavior of the learners in the classroom, enhanced memory and concentration of the learners. Martorell (1999) explored that malnutrition affects the physical growth, cognitive development and weakens the immune system. He argued that the children who bear malnutrition in early life can suffer many functional complications as adults, including lowering intellectual performance, lowering the productivity level and have low capacity for work. The better nutrition and food most probably will produce more healthy and productive adults, which in turn increased the human capital and economy.

2. Objectives of the study

- To study the dietary patterns of the grade 6-8 learners in middle schools of district Hafizabad.
- To investigate the participation of grade 6-8 learners in physical activities.
- To explore the socio-economic status of the grade 6-8 learner's families.
- To suggest suitable remedies to overcome the malnourishment of the grade 6-8 learners at dustiest Hafizabad.

3. Hypotheses of the study

Hypothesis 1

- The higher the use of low quality food, the lowers the academic performance of the learners.

Hypothesis 2

- The less the participation in physical activities, the lowers the academic performance of the learners.

4. Research methodology

The researcher used the quantitative research approach in this research. The universe of the study was the Tehsil Hafizabad, Punjab, Pakistan, whereas the people of Tehsil Hafizabad were considered as the population of the study. Multistage sampling technique was used to draw the sample. In step I the researcher drew two union councils (Sagar Kalan and MangatNeecha) out of 46 union councils of Tehsil Hafizabad by using convenient sampling. In step II the researcher drew three schools from the two selected union councils through convenient sampling. In step III proportionate sampling was applied to draw the sample from the selected schools. In step IV 150 respondents were selected through simple

random sampling technique. Structured interview schedule was used as a tool for data collection from the students. Quantitative data was analyzed through Statistical Package for Social Sciences (SPSS). Bivariate and multivariate analysis techniques were used to analyze the data. Chi-square and Gamma tests were applied for bivariate analysis in the end multiple linear regression analysis was also employed to analyze the combined effects of independent variables on the dependent variable.

5. Analysis and Discussions (Bivariate Analysis)

Research Hypothesis 1: higher the use of low quality food, the lower the academic performance of the learners.

Table 1: Association between the use of low quality food and the academic performance of the learners

The use of low quality foods	Academic Performance			Total
	Never	Sometimes	Often	
Never	0	2	0	2
Sometimes	20	49	7	76
Often	2	22	48	72
Total	22	73	55	150

$\chi^2 = 58.133^a$ D.F= 4 $\gamma = 0.851$ P-Value = 0.000

Table 1 depicts that there is highly significant connection among the two variables. Results match with Fu (2007) &Florence (2008) explained that the students who take overall low quality diet, fried foods and sweets found poor performers in the tests and had overall lower performance in the school. It means that the quality of food had greater importance for quality education; so parents, teachers and government should focus on food quality.

Research Hypothesis 2: The less the participation in physical activities, the lowers the academic performance of the learners would be**.**

Table 2: Association between participation in the physical activities and academic performance of the learners.

Participation in physical activities	Academic Performance			Total
	Never	Sometimes	Often	
Often	0	13	16	29
Sometimes	4	37	35	76
Seldom	4	10	1	15
Never	14	13	3	30
Total	22	73	55	150

$\chi^2 = 46.550^a$ D.F= 6 $\gamma = -0.637$ P-Value = 0.000

Table 2 reveals that less participation in physical activities lowers the academic performance. Results acknowledged Trudeau's work (2008) and explored that the participation in physical activity enhanced the academic performance, memory and concentration level of the learners. So, we can say that physical activities are much important for a healthy body and to maintain the healthy life because a healthy body contains a healthy mind. Hence teachers and parents should promote the physical activities and sports events in schools while motivating and supporting the children to participate in.

Multivarite Analysis

Table 3: Influence of various independent variables on dependent variable: A multiple linear regression analysis

Independent variable	**Un-standardized coefficients**		**Standardized Coefficients**	**T**	**Significance (P-Value)**
	b_i	**Std. Error**	β_i		
Constant	7.636	3.462	———	2.205	0.029
Malnutrition	0.334	0.071	0.320	4.714	0.000
Participation in physical activities	-0.380	0.111	-0.235	-3.418	0.001
Low Income	-0.827	0.263	-0.215	-3.141	0.002
Crowded Demographic Conditions	0.306	0.108	0.200	2.825	0.005

R^2 =0.356, F=21.560, P-Value=0.000

The overall model is significant with 35.6 % effect on dependent variable. Detailed description is as under:

The regression coefficient bi=0.334 for the independent variable "malnutrition" showed a highly significant connection with academic performance having P-value=0.000. Findings of the study acknowledged Chinyoka (2014) and explored that malnutrition lessens the capability of the learners in concentrating, learning and attending the school. This implies that better nutrition is considered the basis of healthy life so parents should provide better nutrition to their children, which in turn enhances their academic capability.

The regression coefficient bi=-0.380 for the independent variable "participation in physical activities" showed that less participation in physical activities decreases the academic performance. Results matching with Trudeau (2008) found that one who took part in physical activities gave better performance in academics. Chinyoka (2014) explained that malnourished children take little interest in physical activities and sports event.

The regression coefficient bi=-0.827 for the independent variable "income level" showed that lower income level of the household hindered the academic achievements of the students. Results of the study acknowledged Crookston (2011), stated that the children who belonged to wealthy family get higher scores in assessment. Florence (2008) demonstrated that girls who belonged to socioeconomically wealthy families have higher performance than boys. It means that economy lessens the food security issues and improves the living standard of the people; and this high socioeconomic status gives them better educational environment. So government should take solid steps to alleviate poverty from the society.

The regression coefficient bi=0.306 for the independent variable "crowded demographic conditions" showed that the children who belonged to overcrowded family have poor academic performance. Outcomes acknowledged Crookston (2011), stated that the children who belonged to smaller size family get higher scores in assessment. Mian (2002) explained that larger household size was a major threat to

malnutrition and malnutrition lowers the academic performance as described by Chinyoka (2014).It means that small size of the family makes it easy for the parents to provide proper nutrition and better academic environment to their children because small size reduces the expenditures of the family; so government should make the laws about the size of family.

6. Conclusion

The results of the study show that the unhealthy dietary patterns, particularly the excessive use of low quality food and junk food which increases the diseases among learners. This situation of illness of learners decreases the academic performance in terms of reducing attendance rate as well as reduce the attainment level of the learners as explained by Chinyoka (2014) also that malnutrition minimize the attendance rate and concentration level. These results lies very close to the findings of Fu (2007), Florence (2008) & Ogunsile (2012) that the students who eat low quality diet and follow unhealthy dietary patterns found to be poor performers in the routine school tests and had overall lower performance in the school. The students suffering from malnutrition cannot participate actively in games and extra–curricular activities due to their weakness and laziness. Results show that the students' who participate less in physical activities show poor performance in the academics and these results are found in the line of the results explored by Trudeau (2008) that the participation in physical activity enhanced the memory and concentration level of the learners and ultimately the performance in schools. The results of the study also reveal that the low income of the household and crowded demographic situation also lowers the academic performance of the students, these results are found similar to the results of the research by Crookston (2011) which stated that the Children who belonged to wealthy and smaller size family get higher scores in assessment.

7. Recommendations

The following suggestions and recommendations come out directly from the outcomes of the study described above.

- Government should launch awareness programs for public about the adverse effects of malnutrition.
- Parents should manage lunch boxes for the children and discourage the eating of low quality and junk foods and strict ban should be imposed on the sale of low quality foods, junk foods, energy drinks and other cold drinks at the canteens of schools.
- The quality of food items for the children should be improved by making and implementing strict laws and rules.

References

Crookston, B.T., Dearden, K.A., Alder, S.C., Porucznik, C.A., Stanford, J. (2011). Impact of early and concurrent stunting on cognition. Maternal & Child Nutrition, 7(4), 397–409.

Chinyoka K., (2014). Impact of Poor Nutrition on the Academic Performance of Grade Seven learners: A Case of Zimbabwe. International Journal of Learning & Development, 4(3), ISSN 2164-4063.

Florence, M. D., Asbridge, M., &Veugelers, P. J. (2008).Diet quality and academic performance. Journal of school health, 78(4), 209-215.

Fu, M.L., Cheng, L., Tu, S.H., Pan, W.H. (2007). Association between Unhealthful Eating Patterns and Unfavorable Overall School Performance in Children. Journal of the American Dietetic Association, 107(11), 1935-1943.

Freijer K., Tan S.S., Koopmanschap M.A., Mejjers J.M.M., Halfens R.J.G., Nuijten M.J.C. (2013). The economic costs of disease related malnutrition. Clinical Nutrition. 32(1), 136-141.

Grover Z., Ee L.C. (2009).Protein Energy Malnutrition, Pediatric Clinics of North America, 56 (5), 1055-1068.

Ghosh S., Saha H. (2013). The Role of Adequate Nutrition on Academic Performance of College Students in North Tripura. International Journal of Health Sciences and Research, 3(8), 56-63.

Mian R.M.A., Ali M., Ferroni P. A., Underwood P. (2002).The Nutritional Status of School-Aged Children in an Urban Squatter Settlement in Pakistan. Pakistan Journal of Nutrition, 1(3), 121-123.

National Nutrition Survey (2011). Research and Development Solutions. Key Findings, Policy Briefs Series No. 41, December 2013.

Ogunsile S.E., (2012). The Effect of Dietary Pattern and Body Mass Index on the Academic Performance of In-school Adolescents. International Education Studies, 5(6), ISSN 1913-9020 E-ISSN 1913-9039 Published by Canadian Center of Science and Education.

Trudeau F., Shephard R.J. (2008). Physical education, school physical activity, school sports and academic performance. International Journal of Behavioral Nutrition and Physical Activity.5:10. https://doi.org/10.1186/1479-5868-5-10

UNICEF (2004). State of the world's children. Oxford and New York: Oxford University Press.