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Effect of a Nutrition Diet on Health Status of Physically Challenged Students at Ade Okubanjo Institute for the Blind, Ijebu-Igbo

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ABSTRACT

Background: The role of balanced diet in the life of an individual physically challenged or not cannot be overlooked. The condition of the physically challenged children attracts little or no attention. Several factors have been identified as causes of malnutrition in physically challenged persons. A nutritional diet is one of the factors that can help to reduce this phenomenon. The study was designed to examine the effect of a nutrition diet on health status of physically challenged students at Ade Okubanjo Institute for the Blind at Ijebu-Igbo.

Method: This study used a descriptive survey research design and was conducted in 2022. 120 students were selected as the population of this study of which 100 were retuned valid. The research location was Ade Okubanjo Institute for the Blind, Ijebu-Igbo. A self-structured questionnaire was used to measure the nutrition diet of physically challenged students. To do so, 100 questionnaires were analyzed using a purposive sampling techniques method. Nutritional diet and health status questionnaire was the instrument used for this study and questions about physical performance, nutritional diet, lack of adequate nutrition and family/parental status questions were asked from the participants. Cronbach's alpha of NHSQ was 0.72. The data analysis method included the descriptive statistics were analyzed using chi-square.

Result: Findings revealed that physical activities performance will significantly influence the nutrition diet of physically challenged children (Cal. value = 125.748[a], p-value = .000.), Lack of adequate nutrition will significantly influence the nutrition diet of physically challenged children (Cal. value = 46.180[a], p-value = .000.) also mental health status significantly influence the nutrition diet of physically challenged children (Cal. value = 41.165[a], p-value = .000.), Family/parental status will significantly affect the nutritional diet intake of the physically challenged (Cal value = 41.165[a], p-value =.000.).

Conclusion: The findings concluded that Physical performance, Lack of adequate nutrition, Mental status and Family/parental status significantly affect the nutritional diet intake of the physically challenged students at Ade Okubanjo Institute for the Blind.

Keywords: Nutrition Diet, Health Status Physically Challenged, Malnutrition.

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Introduction

According to World Health Organization (2001) disability means an umbrella term for impairments, activity limitations, and participation restrictions. It is a complex phenomenon, reflecting the interaction between an individual and his/ her contextual factors (environment and personal factors)

Physically handicapped children are defined as those whose non-sensory physical limitations or health problems interfere with school attendance or learning to such an extent that special services, training equipment, materials or facilities are required. Otuneye, et al, (2017) asserted that physically challenged children are faced with those disabilities, which relate primarily to disorders of the skeleton, joints and muscles including clubfeet, poliomyelitis, amputation and fractures or burns that cause contractures.

Recently in Nigeria, many children with various health challenges such as: diseases, illness, heredity problems, and accidents plague, enroll either in public or private schools but could not participate well in the classrooms setting like their normal peers. However, all children are born equal, and have rights to education, equal opportunities and participation in society; the physically challenged children find it difficult to adjust to the demands of the society in which they live because of their physical, mental and social limitations (Ogunleye, et al, 2019).

The role of a balanced diet in the life of an individual physically challenged or not cannot be overlooked. This is because aside from the sustainability effect, adequate balance diets provide an individual with a healthy lifestyle which various parts of the body systems need to function efficiently. A healthy lifestyle can only be attained by consuming a balanced diet and keeping into considerations meeting all the essential nutrients required by the body system. A proper meal plan helps to attain ideal body weight and reduce the risk of chronic diseases such as diabetes, cardiovascular diseases, and cancer amongst others. Similarly, apart from biological effects, eating is regarded as a principal social and cultural activity that people tend to enjoy for aesthetic or communal reasons and not to talk of balance diets (Cornil & Chandon, 2016). Odiba (2010) and Audu (2014) affirmed that a lack of adequate nutrition and a balance diet causes anemia, weakness of the body, blurred vision, fainting and dwindling academic performance. Senevirathna & Liyanage (2020) reported that balance diet is a fundamental requirement for good physical, mental and social development. Furthermore, a balance diet plays a vital role not only in growth and development; it also serves in the prevention and treatment of disease as well as a major determinant for proper motor and cognitive functionality. Thus, malnutrition is the resultant effect of bad nutrition and lack of an essential balance diet required by the body system, which is common to the disabled or the physically challenged person in society.

Conceptually, malnutrition' is generally used when nutrition is deficient or imbalanced and causes adverse effects which could be detected and measured as changes in tissue/ body form, functionality and clinical condition (Younis, et al, 2015). Unhealthful diets are a key modifiable behavioral risk factor for non-communicable diseases (NCDs). They contribute to the occurrence of a cluster of disorders known as the metabolic syndrome abdominal obesity, hypertension, dyslipidemia, and disturbed metabolism of glucose or insulin which in turn accounts for a significant share of the global burden of disease. (Olatona, et al, 2018)

Senevirathna and Liyanage (2020) reported that the status of physically challenges in society and the stress from the family in providing adequate balance diet resulted in poor eating habits, low level of physical activity, and anxiety and depression among others. Audu (2014) asserted that an unbalanced meal which is deficient in some essential nutrients causes some health problems or diseases in children and makes them dull, unhappy, withdrawn, and always sick and most times absent from school and this will affect their ability to

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learn or follow up lessons in school and thus their academic performance will be poor.

Neyestani, et al, (2010) conducted a cross-sectional study to investigate the nutritional status of the Iranian children with physical disability. The researcher found out that 40% of disabled girls and boys were underweight according to the Z score of weight. Tompsett, et al (1999) studied the nutritional status of disabled children in Nigeria by applying a cross-sectional survey design. Based on these results they concluded that there is no significant difference in the nutritional status of disabled children who are not nutritionally at risk due to neurological impairments and consequent feeding difficulties when compared with non-disable children in the same area.

A search through the literature indicates a paucity of research findings on nutritional diets and health status of the physically challenged in Nigeria. Specifically, in Ogun State and more importantly to physically challenged students at Ade Okubanjo Institute for the Blind at Ijebu-Igbo. This is the gap the researcher intended to fill. Therefore, the study was design to examine the effect of nutrition diet on the health status of physically challenged students at Ade Okubanjo Institute for the Blind at Ijebu-Igbo.

Methods

The present descriptive survey research design was conducted in 2022. The study population consisted of 120 physically challenged students at Ade Okubanjo Institute for the Blind Ijebu-Igbo. The sample were selected using a purposive sampling techniques method. The questionnaire was distributed among all students of the schools to collect the highest possible number of respondents. From the number of distributed questionnaires, 100 completed questions were returned of which 20 were unusable due to a problem in entering the information and other items accordingly, 100 questionnaires were analyzed. In this study a self-structured questionnaire was used to measure the nutrition diet of physically challenged students. Since the questionnaire used in the study was self-developed, to assess the content validity of the questionnaire, the experts viewpoint about the content or items of the instrument were measured and approved by experts. Cronbach's alpha of NHSQ was 0.72.Considering that Cronbach's alpha was greater than 0.7 for the instrument, it had acceptable reliability. To conduct the study, the necessary permissions to complete the questionnaire, informed written consent was obtained for the participants. The respondents were given the necessary assurance regarding the confidentiality of the information before completing the questionnaires, the purpose of the study was explained to them. The data were analyzed by SPSS v21; using descriptive statistics of frequency count, and chi-square was used at the significance level of 0.05.

Ethical consideration

The informed consent form was signed by the participants. The informed consent form spelt out the title of the study, the purpose of the study, justification for doing the study as well as the benefit that will be derived from the study. Participation was considered voluntary and participants' status and other bio-data written on the questionnaire were not disclosed in order to keep their data confidential.

Result

Physical performance will not significantly influence the nutrition diet of physically challenged children at Ade Okubanjo Institute for the Blind, Table 1.

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Table 1. X2 Analysis on whether physical performance influence the nutrition diet of physically challenged children

Crosstab

		VAR 00002					Total				
		1	**2**	**3**	**4**	**5**		**X2 cal**	**X2tab**	**df**	**sig**
SA	Count	16	47	42	23	25	153	125.748[a]	25.618	12	.000
	Expected Count	30.6	30.6	30.6	30.6	30.6	153.0				
A	Count	59	53	48	31	26	217				
	Expected Count	43.4	43.4	43.4	43.4	43.4	217.0				
D	Count	25	0	10	33	38	106				
	Expected Count	21.2	21.2	21.2	21.2	21.2	106.0				
SD	Count	0	0	0	13	11	24				
	Expected Count	4.8	4.8	4.8	4.8	4.8	24.0				
Total	Count	100	100	100	100	100	500				
	Expected Count	100.0	100.0	100.0	100.0	100.0	500.0				

Result X2 (12) = 125.748[a], critical value = 25.618, p-value = .000.The chi-square test carried out in table 2 showed that the p-value for the test is 0.000. Which is less than 0.05; hence the null hypothesis is hereby rejected. Therefore, the researchers concluded that physical performance influences the nutrition diet of physically challenged students.

Hypothesis Two: Lack of adequate nutrition wills not significantly influences the nutrition diet of physically challenged children at Ade Okubanjo Institute for the Blind, Table 2.

Table 2. X2 Analysis on whether lack of adequate nutrition influence the nutrition diet of physically challenged children

Crosstab

			VAR 00002					Total				
			1	**2**	**3**	**4**	**5**		**X2 cal**	**X2tab**	**df**	**sig**
Good nutritional diet helps the development and growth of the physically challenged	SA	Count	14	16	16	23	10	79	46.180[a]	9.507	12	.000
		Expected Count	15.8	15.8	15.8	15.8	15.8	79.0				
	A	Count	8	23	23	31	34	119				
		Expected Count	23.8	23.8	23.8	23.8	23.8	119.0				
	D	Count	38	36	46	33	30	183				
		Expected Count	36.6	36.6	36.6	36.6	36.6	183.0				
	SD	Count	40	25	15	13	26	119				
		Expected Count	23.8	23.8	23.8	23.8	23.8	119.0				
Total		Count	100	100	100	100	100	500				
		Expected Count	100.0	100.0	100.0	100.0	100.0	500.0				

Result X2 (12 = 46.180[a], critical value = 9.507, p-value = .000.The chi-square test carried out in table 3 showed that the p-value for the test is 0.000. which is less than 0.05,hence the null hypothesis is hereby rejected. Therefore, the researchers concluded that lack of adequate nutrition influence the nutrition diet of physically challenged students.

Hypothesis Three: Mental status will not significantly influence the nutrition diet of physically challenged children at Ade Okubanjo Institute for the Blind, Table 3.

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Table 3. X2 Analysis of whether mental status influences the nutrition diet of physically challenged children

Crosstab												
			VAR 00002					Total				
			1	2	3	4	5		X2 cal	X2tab	df	sig
Undernourishment problems in disabled child will make them more and highly vulnerable within the society	SA	Count	45	43	26	39	34	187	41.165[a]	1.172	12	.000
		Expected Count	37.4	37.4	37.4	37.4	37.4	187.0				
	A	Count	19	19	40	22	25	125				
		Expected Count	25.0	25.0	25.0	25.0	25.0	125.0				
	D	Count	13	29	26	28	19	115				
		Expected Count	23.0	23.0	23.0	23.0	23.0	115.0				
	SD	Count	23	9	8	11	22	73				
		Expected Count	14.6	14.6	14.6	14.6	14.6	73.0				
Total		Count	100	100	100	100	100	500				
		Expected Count	100.0	100.0	100.0	100.0	100.0	500.0				

Result X2 (12) = 41.165[a,], critical value = 1.172, p-value = .000.The chi-square test carried out in table 4 showed that the p-value for the test is 0.000. Which is less than 0.05; hence the null hypothesis is hereby rejected. Therefore, the researchers concluded that mental status influence the nutrition diet of physically challenged students.

Hypothesis Four: Family/parental status will not significantly affect the nutritional diet intake of the physically challenged students at Ade Okubanjo Institute for the Blind, Table 4.

Table 4. X2 Analysis on showing whether Family/parental status influences the nutritional diet intake of the physically challenged students.

Crosstab												
			VAR 00002						Total				
			1	2	3	4	5	6		X2 cal	X2tab	df	sig
Family background has a significant effect on the nutritional treatment given to the physically challenged	SA	Count	6	16	47	42	23	25	159	169.508[a]	1.125	15	.000
		Expected Count	26.5	26.5	26.5	26.5	26.5	26.5	159.0				
	A	Count	41	59	53	48	31	26	258				
		Expected Count	43.0	43.0	43.0	43.0	43.0	43.0	258.0				
	D	Count	30	25	0	10	33	38	136				
		Expected Count	22.7	22.7	22.7	22.7	22.7	22.7	136.0				
	SD	Count	23	0	0	0	13	11	47				
		Expected Count	7.8	7.8	7.8	7.8	7.8	7.8	47.0				
Total		Count	100	100	100	100	100	100	600				
		Expected Count	100.0	100.0	100.0	100.0	100.0	100.0	600.0				

Result X2 (15) = 169.508[a,], critical value = 1.125, p-value = .000.The chi-square test carried out in table 4 showed that the p-value for the test is 0.000. Which is less than 0.05; hence the null hypothesis is hereby rejected. Therefore, the researchers concluded that family/parental status influences the nutrition diet of physically challenged students.

Discussion

The results revealed that there was a significant influence on the nutrition diet of physically challenged children at Ade Okubanjo Institute for the Blind. This shows that our study was able to cover the affected students and exposed how the physically challenged are being fed with inadequate diet and the interaction with the

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physically challenged students help the outcome of the study due to the way they were able to express their feelings and opinion on what they are facing. The study was unable to cover all the population which other researchers can also research on similar topics .The findings of the study are in line with the findings of Senevirathna and Liyanage (2020) who reported that proper nutrition is not only crucial for everyone, but also plays a crucial role in childhood as nutrition is directly linked with all aspects of their growth and development. The findings are also in line with the findings of Neyestani et al, (2010) who reported that certain malnutrition conditions including low weight and stunting show higher rate among Iranian children with disabilities and also this situation is more prevalent in girls than in boys. The researcher went further that the major contributing factor to this situation is poor food composition than total low-calorie intake and recommended further studies. The findings are also in line with the findings of Otuneye, et al (2017) who reported that skipped meals showed significant stunting, The result shows that those who took fruits and vegetables occasionally had significant wasting. In essence, they concluded that adequate nutrition will improve the health status of the physically challenged person. The researchers further stated that poor dietary habits affect physical performance and health status. The findings are also in line with the findings of Tompsett, et al (1999) who reported that nutritional diet will significantly influence the physical performance of physically challenged children.

The teachers need to be calm, helpful, and encouraging towards students who are psychologically unbalanced due to poor nutrition to raise their self-confidence and self-esteem. Students tend to learn faster when encouraged by their teachers to learn and collaborate with peers as they engage in helpful learning thoughts. Lastly, Snowman & Biehler (2011) posited that teachers should approach their students with love, acceptance, and respect and empathize with their fears, expectations, and disappointments as this boosts a positive self-confidence.

Conclusion

A balance diet plays a vital role not only in growth and development; it also serves in the prevention and treatment of disease as well as a major determinant for proper motor and cognitive functionality. The effect of a nutrition diet on health status is a major contributing factor that effect of physically challenged students generally and most especially students at Ade Okubanjo Institute for the Blind Ijebu-Igbo. Hence, the study examines the effect of nutrition diet on the health status of the physically challenged such as: Physical performance, Lack of adequate nutrition, mental status and Family/parental status of students at Ade Okubanjo Institute for the Blind at Ijebu-Igbo. The findings concluded that Physical performance, Lack of adequate nutrition, Mental status and Family/parental status significantly affect the nutritional diet intake of the physically challenged students at Ade Okubanjo Institute for the Blind. Government should educate the society through relevant agencies on the role of physically challenged children in the society. Partnership and collaboration efforts should be made by the government and relevant agencies in contributing to the nutritional diet of physically challenged. It is better workshops, conferences and seminars organized for teachers teaching physically challenged children. Incentives should be given to teachers who teach children with disabilities

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Conflict of interest

The authors hereby declared that there is no competing interests'.

Authors' contribution

Conceptualization, M. T. M. and A. O. A; Methodology, A. O. A., K. O. P and M. T. M.; Formal Analysis, A. R. A. and A. O. A

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