

EFFECTIVENESS OF NUTRITIONAL SUPPLEMENTATION ON WEIGHT AND HEMOGLOBIN LEVEL AMONG ADOLESCENT GIRLS WITH INTELLECTUAL DISABILITY AT SELECTED HOME FOR THE DISABLED SECUNDERABAD, T.S.

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Abstract

A pre-experimental study was undertaken to assess the effectiveness of Nutritional supplementation on weight and Hemoglobin levels among adolescent girls with intellectual disability at selected Home for the disabled, Secunderabad, T.S. The conceptual frame work adopted for the study was based on Weidenbach's helping art of clinical nursing theory. The design adopted for the study was pre-experimental one group pre test – post test design. A tool was developed to collect information from the records available in the home and measurement of weight by weighing machine and hemoglobin estimation was done by Sahli's Hemoglobinometer. Tool validity was done by experts in the field of Nursing, Nutrition, and Research. The reliability of the tool was found by split half method using Spearman Brown rank Correlation coefficient, r value was 0.999 and the tool was found reliable. Pilot study was conducted on 5 samples with intellectual Disability and the tool was found practicable, feasible, and appropriate. For the main study purposive sampling technique was used to select 50 adolescent girls with intellectual disability and the study was conducted in Home for the disabled Secunderabad. Nutritional supplementation was given daily for period of one month. Before and after intervention assessment of weight and Hemoglobin was done. Analysis and interpretation of data was done with the help of descriptive and inferential statistics. Effectiveness of nutritional supplementation was tested by paired 't' test. Results have shown that the obtained over all mean score of pre intervention weight was 36.16 and haemoglobin was 10.04 and post intervention score of weight was 37.44 hemoglobin level was 11.40. The obtained 't' value of weight was 6.603 and hemoglobin % was 7.746 which was greater than the table 't' value 2.02 at 49 df with 0.05 level of significance which showed that there was a significant improvement in weight and haemoglobin level after nutritional supplementation and indicates that the Nutritional supplementation was effective. Association was found between weight and age and there was no significant association between the post intervention scores and other variables.

Keywords : Nutritional Supplementation, adolescent girls, intellectual disability, aemoglobin level

"To enjoy a good health is the birth right of every child"

- Hegde,

Mental health problems affect 10-20 % of children and adolescents worldwide. Despite their relevance as a leading cause of health-related disability in this age group and their long-lasting effects throughout life, the mental health needs of children and adolescents are neglected, especially in low-income and middle-income countries.^{1,2}

Children and adolescents constitute almost one third (2.2 billion individuals) of the world's population and almost 90% live in low-income and middle-income countries (LMIC), where they form up to 50% of the population⁴. Despite the widespread recognition of the importance of mental health promotion and prevention in children and adolescents, there is an enormous gap between needs and resource availability.³

The failure to address mental health problems, including developmental and intellectual disorders, in children and adolescents in low-resource settings is a public health issue with wide-reaching consequences because such failure also impedes the achievement of basic development goals in Low income and middle income countries.⁴

Intellectual disability is characterized by significant impairment in cognitive and adaptive behavior. The term used to describe this condition has gone under constant change over years due to social and political compulsions.^{7,8} Adolescent girls are at a high risk for anemia and malnutrition. Inadequate nutrition during adolescence can have serious consequences throughout the reproductive years of life and beyond.^{9,10} Regular assessment of nutritional status of intellectually disabled population may be of value in correcting nutrient deficiencies promptly, as nutrient intake has a bearing on the growth, development and stature of an individual. Any deviation from the normal intake of nutrients leads to malnutrition. This can regard both macro and micro nutrients. While the deficiencies of macronutrients are easily observable by underweight, some deficiencies of micro nutrients stay hidden, even though they are very common like anemia.¹¹

A well balanced diet with macro and micronutrient supplementation ensures optimal health and aids in prevention of anemia and malnutrition. Nutritional supplementation of sesame groundnut jaggery bars are a rich source of iron, folates, proteins, calcium, calories and helps to improve weight and hemoglobin level .

PROBLEM STATEMENT

Effectiveness of Nutritional supplementation on Weight and Hemoglobin level among Adolescent Girls with Intellectual Disability at selected Home for the Disabled Secunderabad, T.S.

OBJECTIVES

1. Assess the weight and hemoglobin level of adolescent girls with intellectual disability.
2. Prepare and administer nutritional supplementation to adolescent girls with intellectual disability.
3. Analyze the effectiveness of nutritional supplementation on weight and hemoglobin level of adolescent girls with intellectual disability.
4. Find the association between post intervention level of weight and hemoglobin in adolescent girls with intellectual disability with selected demographic variables.

METHODOLOGY

RESEARCH APPROACH

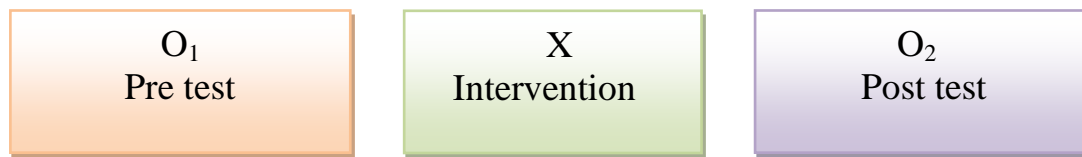
In the present study the investigator chose quantitative approach and aims to study the effectiveness of nutritional supplementation on weight and hemoglobin level among adolescent girls with

intellectual disability at selected home for the Disabled. It is a quantitative research. The research approach selected for the study was pre-experimental.

RESEARCH DESIGN

The research design adopted for the present study was pre-experimental "one group pre test - post test design". In this design the total sample will be taken as one group and weight and Hemoglobin levels are estimated. After pre test the independent variable will be introduced to the complete sample irrespective of pre-test scores. The independent variable will be supplementation of sesame groundnut jaggery bars. The effectiveness of independent variables is tested with the help of post test after 30 days.

The research design is represented diagrammatically as follows:



Where O_1 is the pre test which includes assessment of weight and hemoglobin level before supplementation of sesame groundnut jaggery bars in adolescent girls with intellectual disability. X is supplementation of sesame groundnut jaggery bars in adolescent girls with intellectual disability. O_2 is the post test which includes assessment of weight and hemoglobin level.

SETTING

The present study was conducted in home for the disabled, at Secunderabad, T.S. which is a nongovernmental organization, The home is giving shelter and care to many disabled people since past 80 years. There are 320 disabled persons (both physical and intellectual) and 60 adolescent girls in the home.

POPULATION

The population for the study consists of adolescent girls between the ages of 10-19 years with intellectual disability in selected Home for the disabled Secunderbad T.S.

SAMPLE

The sample for the present study will be adolescent girls with intellectual disability present in selected homes for the disabled in Secunderabad T.S.

SAMPLE SIZE

The size of the sample for the present study consists of 50 adolescent girls with intellectual disability.

SAMPLING TECHNIQUE

Non probability purposive sampling technique was used for choosing the sample. Purposive sampling is one of the methods of non probability sampling and it proceeds on the belief a researcher's knowledge about the population and its elements can be used to hand pick the cases to be included in the sample. Non probability sampling designs has the advantage of being convenient and economical.

FINDINGS OF THE STUDY

The findings showed that there was significant difference in pre intervention and post intervention scores. The analysis with the distribution of demographic data of adolescent girls with intellectual disability was 56.0 % belonged to age group of 16 and above, 18.0 % belonged to the age group of 10-12 years, 26.0 % belonged to 13-15 years age group. The demographic data showed that 86% were Hindus 4% were Muslims and 10% were Christians. It also showed that 60% had moderate disability, 10% had border line disability status (IQ) and 30% mild. The demographic data showed that 80% adolescent girls were able to feed self 10% were able to feed themselves with assistance, 10% needed assistance occasionally. It also demonstrates that 64% were residing at home since 1-6 years, 6% were residing at home since less than 6 months 22% between 7-12 years and 8% between 13-19 years.

The analysis which deals with the association of pre intervention and post intervention scores of weight and hemoglobin levels in adolescent girls with intellectual disability showed the following results. In respect to weight the mean in the pre intervention was 36.16 and the post intervention was 37.44, standard deviation was 9.844 in pre intervention and post intervention was 10.011 and the t value was 6.603 which was more than the table value at 0.05 level of significance.

- The analysis in respect to hemoglobin the mean pre intervention was 10.04 and post intervention was 11.40. The standard deviation in pre intervention was 1.603 and post intervention was 1.604, and the t value was 7.746 which is more than the table value.
- This indicates that the null hypothesis is rejected and the effectiveness of nutritional supplementation on weight and hemoglobin levels is significant in adolescent girls with intellectual disability.

Table :1: Cumulative scores of pre and post intervention Weight and Hemoglobin level of the sample

n=50

Characteristics	Mean	SD	SE	t		
weight Preintervention	36.16	9.844	1.392		weight	Post
intervention	37.44	10.011	1.416	6.603		
Hemoglobin Preintervention	10.04	1.603	.227			
Hemoglobin Post intervention	11.40	1.604	.227	7.746		
Scores	Frequency		Percentage			
Weight	Improvement		41		82	
	No Improvement		09		18	
Hemoglobin	Improvement		44		88	
	No Improvement		06		12	

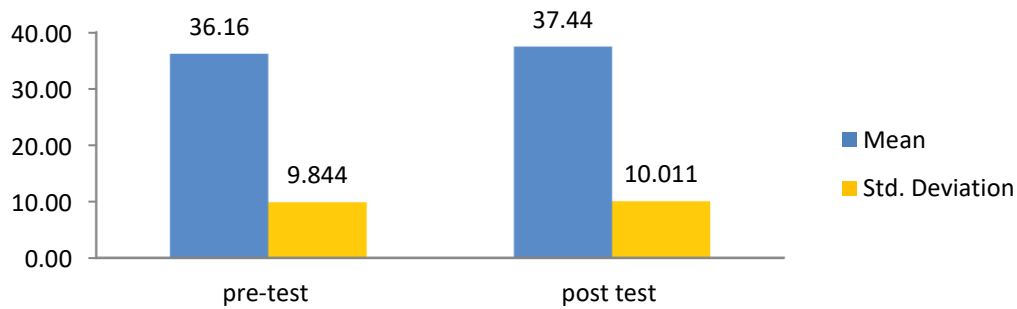


Fig 1: Cumulative pre intervention and post intervention scores of weight

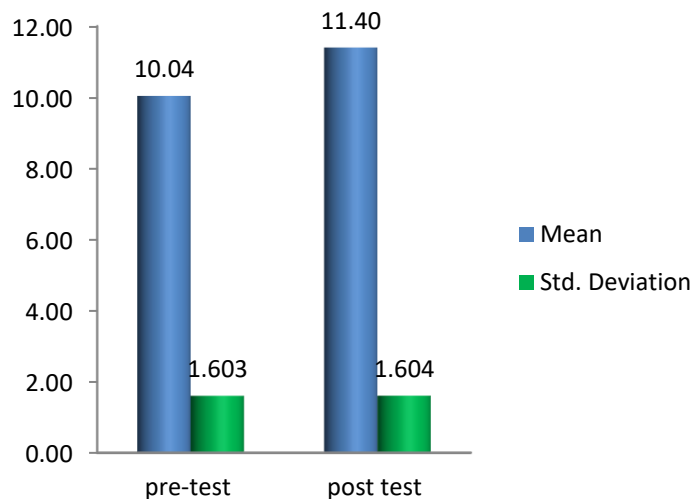


Fig 2: Cumulative pre intervention and post intervention scores of Hb%

CONCLUSION

Findings of the study showed, that there is no significant association between the selected demographic variables and the post intervention scores of weight and hemoglobin levels among adolescent girls with Intellectual disability.

In association between effectiveness of Nutritional supplementation on weight and hemoglobin and demographic variables, the obtained Chi-Square value for after interventions scores were lower than the table value at 0.05 level of significance. It showed that there was significant association between weight and age and there was no significant association between post intervention scores and other demographic variables.

Following conclusions were drawn on the basis of the findings of the study.

1. After supplementation there was significant difference in the post intervention scores of weight and hemoglobin in adolescent girls with intellectual disability.
2. The findings indicate that the adolescent girls can be further supplemented with nutritional supplements.

IMPLICATIONS

NURSING PRACTICE

Nutritional supplementation will help in improvement of weight and hemoglobin level in adolescent

girls with intellectual disability. Nutritional supplementation will improve immunity levels.

Among the various nutritious supplementations sesame groundnut jaggery bars are supposed to be more appealing to adolescent girls due to its sweetened taste. So nurses working in the community, in the clinics and counseling centre's can practice supplementation of sesame groundnut jaggery bars for adolescent girls with intellectual disability to improve their weight and hemoglobin levels.

NURSING EDUCATION

Complementary therapies are practiced in the recent years. Workshops or in-service education program can be planned for the nursing staff on non pharmacological management of anemia in adolescent girls with intellectual disability. Health education can be given to the care takers regarding special care of adolescent girls and nutritional needs, among which sesame groundnut jaggery bars can be taken into consideration.

The nursing personnel can involve the student nurses to provide health education on importance of Nutritional supplementation like sesame groundnut jaggery bars, in reducing anemia and infections in adolescent girls with intellectual disability by improving immunity levels. The clients can be educated by the nurses or doctors. The nurse can educate the family members regarding the nutritional supplementation.

NURSING ADMINISTRATION

The nurse administrator can emphasize the nursing personnel on nutritional interventions. The nurse administrator should take responsibilities to organize workshops and continuing education programmer on nutritional supplementations.

They should provide the training and educational material to their nursing staff. The nurse administrator can plan the workshops and orientation programs regarding various nutritional supplementations to improve weight and hemoglobin levels among adolescent girls with intellectual disability. The nurse administrator can make arrangement to provide the pamphlets on nutritional supplementations to care takers of adolescent girls with intellectual disability.

NURSING RESEARCH

Research may be done continuously in order to identify prevalence of anemia among adolescent girls with intellectual disability and the role of nutrition in preventing them. As only a few studies exist on effect of sesame groundnut jaggery bars on weight and hemoglobin levels, there is need to conduct more studies in this field.

Research will provide nurses the credibility to influence decision making and to provide nutritional support to adolescent girls with intellectual disability.

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