ISSN Print: 2581-8546 ISSN Online: 2582-2934

Original Article

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding importance of well-balanced nutrition Among middle school students In Selected school, dausa Rajasthan

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Abstract

Introduction : "A nation's future lies in the hands of their children; children are the backbone of a nation", stresses the importance of our future generation. Children are the vulnerable asset of the nation; it walks on the tiny feet of the children. They contribute to the vital human potential and impart strength to the national economic development. Today's fast paced world both the parents are in work force or with a single parent in the work force the children may leave the home without having adequate diet which leads to certain nutritional deficiency problems.1

Methodology : A Pre-experimental research design was used to conduct the study. The study was undertaken mahatma Gandhi govt School dausa khurd Dausa, Rajasthan. A total of 80 middle school students on Knowledge Regarding importance of well-balanced nutrition were selected by using convenient sampling technique. Data was collected using structured knowledge questionnaire.

Results : The present study findings show a highly significant difference between mean pre-test (X1=17.73) and post-test (X2=30.304) knowledge scores. There was also a significant difference between the mean scores of pre and post-test in all the areas.

It is evident from the finding that the administration of Structured Teaching Programme improves knowledge in all the areas regarding importance of well-balanced nutrition.

The present study findings shows that importance of well-balanced nutrition with demographic variables.

Conclusions : On the whole carrying out the present study was an enriching experience to the investigator. The study result was showed that The overall findings of the study revealed that there is a highly significant difference between mean pre-test (X1=17.73) and post-test (X2=30.304) knowledge scores.

Keywords : Effectiveness, Structured Teaching Programme, well-balanced nutrition

How to cite this article : Sharma R. A study to assess the effectiveness of structured teaching programme on knowledge regarding importance of well-balanced nutrition among middle school students in selected school, dausa Rajasthan. Glob. Nurs. J. India 2024; 7: I: 615-622.

Submitted : 14/03/2024, Accepted : 24/04/2024, Published : 05/05/2024

Introduction

Children are the vulnerable asset of the nation; it walks on the tiny feet of the children. They contribute to the vital human potential and impart strength to the national economic development. In our country school children forms a large percentage of the population (25 percentages). Since it is more in size, they deserve effective health education as they will respond in a better way to health education and develop favorable positive attitudes, thus they include and formulate desirable healthy practices.[2]

Nutrition has become an integral part of school health education program, as children are the most vulnerable group and are prone for nutritional deficiency disorders or malnutrition during childhood.[3]

No child can grow in vacuum, they need all the vital elements in their environment to grow, to develop, and to become complete asset, hence teachers must lay down broad and 3 flexible plans for nutrition education and make it more meaningful and experience oriented. Childhood has been called the latent time of growth as the rate of growth slows down & body changes occur gradually. Brain areas continue to develop during childhood for example; myelination of frontal lobes begins at approximately 6months of age & continues throughout childhood, adolescences and adulthood. Therefore, poor nutrition or nutritional interventions may have effects on the developing functions of the frontal lobes throughout childhood. The intake of macro & micronutrients may have individual & interactive effects on the brain & cognitive development.[4]

Nutrition is an endogenous factor that affects learning ability and skills before and after the child is in school. However, both within the nutritional and educational literature, nutrition has received little attention as a determinant of school progress. Nutritional status of an individual is inter-dependent on the different stages of the life cycle. School age is an important transition period of this life cycle, during which major physiological, biochemical, cognitive, emotional and social changes take place and their nutrition status is vital for optimal attainment of all these changes. In addition, an optimal current nutrition status of present school age children will assure a healthy and productive future generation. Nutritional status during school age is a major determinant of nutritional and health status in adult life.[5]

Nutrition education among school age children will enable them make qualitative improvement in their health as well as in their younger sisters, brothers, neighbors and peers groups health status by applying facts learnt in school to daily life. Research has 4 indicated that the experiences gained at school are the factors in deterring their health behaviors during adolescents and beyond.[6]

In developing countries, a large number of diet and nutrition survey have been carried out by the different workers, on the nutritional status of school children. The result has shown that the majority of the school children consume inadequate diet and they were malnourished. The main contributing causes were inadequate food production, poverty, and lack of nutrition education.[7]

United nation international children emergency fund has recognized the need of nutrition education to improve the health and well-being of the children and it has made it possible for Food and agricultural organization and world health organization to expand programs of nutrition education and related activities in a worldwide on large scale.[8]

Ignorance is perhaps the most important single factor underlying poverty and malnutrition in our country. A large proportion of malnutrition could be avoided if people knew how to make better use of the foods available to them. In order to impart such knowledge nutrition education is the only effective tool. The primary school offers numerous possibilities of conveying nutrition information to children. Nutrition can be incorporated in teaching subjects such as arithmetic, general science, history, geography, social studies, music and physical education for providing nutrition education to children and through them to the community. Use of AV aids such as films, charts, posters, and flash cards are helps to make nutrition teaching effective.[9]

Methodology

Research approach : quantitative evaluative approach was considered as an appropriate research approach for the present study.

Research design : Pre-experimental - one group pre-test post-test design was used to conduct the study.

Sampling techniques : by using convenient sampling technique.

Population : The target population in the present study includes middle school students.

Sample size : A total of 80 middle school students on Knowledge Regarding importance of well-balanced nutrition.

Setting of the study : The study was undertaken at mahatma Gandhi govt School dausa khurd dausa, Rajasthan.

Data Collection : Data was collected using structured knowledge questionnaire.

DOI:10.46376/GNJI/7.I.2024.615-622

ISSN Print: 2581-8546 ISSN Online: 2582-2934

Results

The collected data was entered in a master sheet for tabulation and statistical processing. The data is analyzed and interpreted using descriptive and inferential statistics based on the objectives and hypothesis formulated for the present study.

The analyzed data has been organized and presented in the following sections:

Section I : Description of demographic characteristics of importance of well-balanced nutrition among middle school students in mahatma Gandhi govt school Dausa Rajasthan.

Section II : Findings related to knowledge scores of regarding well balanced nutrition in selected condition regarding importance of well-balanced nutrition among middle school student.

Section III : findings related to effectiveness of importance of well-balanced nutrition among middle school students' knowledge by comparing the pre-test and post-test assessment.

Section IV : Findings related to Association between knowledge of importance of well-balanced nutrition among middle school students with socio-demographic variables

SECTION-I Description of Demographic Characteristics of Importance of Well-Balanced Nutrition Among Middle School Students in Mahatma Gandhi Govt School, Dausa Rajasthan

This section deals with distribution of participants according to demographic characteristics. Socio-demographic data selected for analysis in this study: Age, Gender, Education, Religion wise, Type of family, Mother's educational level, Father's educational level, Parent's monthly income (in rupees), Type of diet. Data was analyzed using descriptive statistics and summarized in terms of Frequency and Percentage.

Table 1: Distribution of students according to socio demographic variables

S. No.	Socio demographic variables & categories	Frequency	Percentage
1	**Age**		
	11-12 years	29	36.3
	12-13 years	25	31.3
	13-14 years	26	32.4
	Total	80	100.0
2	**Gender**		
	Male	47	58.7
	Female	33	41.3
	Total	80	100.0
3	**Educational status**		
	6th standard	30	37.5
	7th standard	28	35.0
	8th standard	22	27.5
	Total	80	100.0
4	**Religion**		
	Hindu	56	70.0
	Muslim	13	16.3
	Christian	5	6.3
	Others	6	7.4
	Total	80	100.0
5	**Type of family**		
	Joint	18	22.5
	Nuclear	17	21.3
	Extended	24	30.0
	Single parents	21	26.2
	Total	80	100.0
6	**Mother's educational level**		
	No formal education	29	36.2
	Primary education	28	35.0
	Secondary education	10	12.5
	Sr. Secondary education	11	13.8
	graduate & above	2	2.5
	Total	80	100.0
7	**Father's educational level**		
	No formal education	23	28.8
	Primary education	19	23.8
	Secondary education	22	27.5
	Sr. Secondary education	15	18.8
	graduate & above	1	1.2
	Total	80	100.0

DOI:10.46376/GNJI/7.1.2024.615-622

ISSN Print: 2581-8546 ISSN Online: 2582-2934

8	**Parent's monthly income (in rupees)**		
	Below Rs. 10,000	25	28.7
	Rs. 10,001-15,000	27	23.8
	Rs. 15,001-20,000	18	27.5
	Rs. 20,001 and above	10	18.8
	Total	80	100.0
9	**Type of diet**		
	Vegetarian	29	36.2
	Non vegetarian	32	40.0
	Mixed	19	23.8
	Total	80	100.0
10	**Have you received any information regarding well balanced Nutrition?**		
	Yes	66	82.5
	No	14	17.5
	Total	80	100.0

Table-2 : Distribution of middle school students according to their age

S. No.	Age middle school students	Frequencies	Percentage
1	11-12 years	29	36.3
2	12-13 years	25	31.3
3	13-14 years	26	32.4
	Total	80	100.0

Table-3 : Distribution of middle school students according to Gender

S.No.	Gender	Frequencies	Percentage
1	Male	47	58.7
2	Female	33	41.3
	Total	80	100.0

Table-4 : Distribution of middle school students according to their education status

S.No.	Educational status	Frequencies	Percentage
1	6th standard	30	37.5
2	7th standard	28	35.0
3	8th standard	22	27.5
	Total	80	100.0

Table-5 : Distribution of middle school students according to their Religion wise.

S.No.	Religion	Frequencies	Percentage
1	Hindu	56	70.0
2	Muslim	13	16.3
3	Christian	5	6.3
4	Others	6	7.4
	Total	80	100.0

Table-6 : Distribution of middle school students by their Type of family.

S.No.	Type of family	Frequencies	Percentage
1	Joint	18	22.5
2	Nuclear	17	21.3
3	Extended	24	30.0
4	Single parents	21	26.2
	Total	80	100.0

Table-7 : Distribution of middle school students according to mothers' educational level

S. No.	Mother's educational level	Frequencies	Percentage
1	No formal education	29	36.2
2	Primary education	28	35.0
3	Secondary education	10	12.5
4	Sr. Secondary education	11	13.8
5	Graduate & above	2	2.5
	Total	80	100.0

Table-8 : Distribution of middle school students according to father's educational level

S. No.	Father's educational level	Frequencies	Percentage
1	No formal education	23	28.8
2	Primary education	19	23.8
3	Secondary education	22	27.4
4	Sr. Secondary education	15	18.8
5	Graduate & above	1	1.2
	Total	80	100.0

DOI:10.46376/GNJI/7.1.2024.615-622

ISSN Print: 2581-8546 ISSN Online: 2582-2934

Table-9 : Distribution of middle school students according to their Parent's monthly income (in rupees)

S. No.	Parent's monthly income (in rupees)	Frequencies	Percentage
1	Below Rs. 10,000	25	28.7
2	Rs. 10,001-15,000	27	23.8
3	Rs. 15,001-20,000	18	27.4
4	Rs. 20,001 and above	10	18.8
	Total	80	100.0

Table-10 : Distribution of middle school students according to their type of diet.

S. No.	Type of diet	Frequencies	Percentage
1	Vegetarian	29	36.2
2	Non vegetarian	32	40.0
3	Mixed	19	23.8
	Total	80	100.0

Table-11 : Distribution of middle school students according to have you received any information regarding importance well balanced nutrition.

S. No.	Have you received any information regarding well balanced nutrition?	Frequencies	Percentage
1	Yes	66	82.5
2	No	14	17.5
	Total	80	100.0

SECTION-II : Knowledge Score of regarding Importance of well-balanced Nutrition among Middle School Students

This section deals with the knowledge score of regarding Importance of well-balanced nutrition among middle school students. It is also been analyzed in term of frequency and percentage.

Table-12 : Distribution of Pre level knowledge score regarding importance of well-balanced nutrition.

N=80

Knowledge Score	Frequency	Percentage
Poor ≤ 50%	39	48.8
Average 51-75%	26	32.4
Good 76-100%	15	18.8
Total	80	100.0

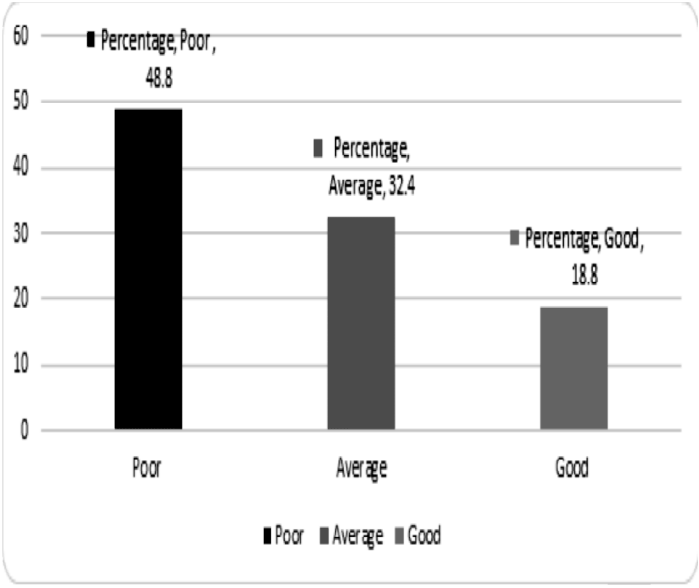

Fig-1 Bar diagram representing the pre level of knowledge regarding of Importance of well-balanced nutrition among middle school students

Table-13 : Distribution of Post knowledge level score regarding importance of well-balanced nutrition.

N=80

Knowledge Score	Frequency	Percentage
Poor ≤ 50%	20	25.0
Average 51-75%	27	33.8
Good 76-100%	33	41.2
Total	80	100.0

DOI:10.46376/GNJI/7.1.2024.615-622

ISSN Print: 2581-8546 ISSN Online: 2582-2934

SECTION III : Effectiveness of Importance of well-balanced nutrition among middle school students' knowledge by comparing the pre-test and post-test assessment

Table-14 : Effectiveness by comparing the the pre-test and post-test assessment

S.No.	Contents		Pre test			Post test			Effectiveness (Post-Pre)		
	Knowledge questionnaire	Mark	Mean	S.D.	Mean %	Mean	S.D.	Mean %	Mean	S.D.	Mean %
1	Introduction of well- balanced nutrition	5	2.85	1.020	57	4.43	1.016	86.6	1.58	0.004	29.60
2	Nutrients	23	12.20	2.914	53.04	18.99	4.442	82.56	6.79	1.528	29.52
3	Nutritional deficiencies well-balanced nutrition	7	2.28	1.331	32.57	5.83	1.339	83.28	3.55	0.008	50.71
4	Total	35	17.73	3.604	50.65	30.34	3.245	86.68	12.61	0.359	36.03

Table-15: Mean, standard Deviation and 't' distribution of pre and post-test knowledge scores of well-balanced nutrition

well-balanced nutrition		Mean	S.D.	S.E.M.	M.D.	Paired Test	Results
	Pre	17.73	3.604	0403	12.613	27.381	Sig.
	Post	30.34	3.245	0363			

Table-16: Mean, standard Deviation and 't' distribution of pre and post-test knowledge scores of well-balanced nutrition of dimensions.

	Group	Mean	Std. Deviation	Std. Error Mean	M.D.	Paired t-test	Result
Introduction of well-balanced nutrition	Pre	2.85	1.020	.114	1.575	10.104	Sig
	Post	4.43	1.016	.114			
Nutrients	Pre	12.20	2.914	.326	6.788	12.467	Sig
	Post	18.99	4.442	.497			
Nutritional deficiencies	Pre	2.28	1.331	.149	3.550	17.646	Sig
	Post	5.83	1.339	.150			

SECTION-IV : Association between Knowledge of Importance of well-balanced Nutrition among Middle School Students with Socio-demographic Variables.

This section deals with data analysis and interpretation of the association between knowledge of Importance of well-balanced nutrition among middle school students with socio-demographic variables using chi square value.

DOI:10.46376/GNJI/7.I.2024.615-622

ISSN Print: 2581-8546 ISSN Online: 2582-2934

Table-17 : Association between Pre knowledge scores of Importance of well-balanced nutrition among middle school students with socio-demographic variables.

S. No.	Socio-Demographic Variables	freq	Poor	Average	Good	Chi.sq	d.f.	Sig/table value	Result
1	**Age**								
	11-12 years	29	15	12	2	15.623	4	.004	Sig
	12-13 years	25	9	5	11			9.488	
	13-14 years	26	15	9	2				
		80	39	26	15				
2	**Gender**								
	Male	47	27	13	7	3.493a	2	.174	NS
	Female	33	12	13	8			5.591	
		80	39	26	15				
3	**Educational status**								
	6th standard	30	18	10	2	12.875a	4	.012	Sig
	7th standard	28	16	8	4			9.488	
	8th standard	22	5	8	9				
		80	39	26	15				
		80	39	26	15				
4	**Religion**								
	Hindu	56	26	19	11	3.007a	6	.808	NS
	Muslim	13	6	5	2			12.591	
	Christian	5	4	0	1				
	Others	6	3	2	1				
		80	39	26	15				
5	**Type of family**								
	Joint	18	9	8	1	38.845	6	.000	Sig
	Nuclear	17	12	4	1			12.591	
	Extended	24	12	12	0				
	Single parents	21	6	2	13				
		80	39	26	15				
6	**Mother's educational level**								
	No formal education	29	17	11	1	29.243	8	.000	Sig
	Primary education	28	13	4	11			15.571	
	Secondary education	10	8	2	0				
	Sr. Secondary education	11	1	8	2				
	graduate & above	2	0	1	1				
		80	39	26	15				
7	**Father's educational level**								
	No formal education	23	13	7	3	16.842	8		Sig
	Primary education	19	9	8	2			15.571	
	Secondary education	22	8	5	9				
	Sr. Secondary education	15	9	6	0				
	graduate & above	1	0	0	1				

DOI:10.46376/GNJI/7.1.2024.615-622

8	**Parent's monthly income (in rupees)**								
	Below Rs.10,000	25	14	10	1	34.189	6	.000	Sig
	Rs.10,001-15,000	27	18	9	0			12.591	
	Rs.15,001-20,000	18	2	5	11				
	Rs.20,001 and above	10	5	2	3				
		80	39	26	15				
9	**Type of diet**								
	Vegetarian	29	12	12	5	3.281	4	.512	NS
	Non vegetarian	32	19	8	5			9.488	
	Mixed	19	8	6	5				
		80	39	26	15				
10.	**Have you received any information regarding well balanced nutrition?**								
	Yes	66	32	21	13	0.240a	2	.887	NS
	No	14	7	5	2			5.591	
		80	39	26	15				

Conclusions

The post-test mean score was significantly higher than the pre-test mean score. The post-test mean was 30.304 SD was 3.245 and mean percentage was 86.68 that was significantly higher than the pre-test mean 17.73 and SD 3.604 And mean percentage 50.65 and the paired t-test score was 27.381 which represents the significant gain in knowledge through the Structured Teaching Programme Hence hypothesis H1- Mean post-test knowledge score of middle school students who received structured teaching program regarding importance of well-balanced nutrition will be significantly higher than the mean pre-test knowledge score is accepted.

Financial support and sponsorship : No

Conflict of Interest : There are no conflicts of interest

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