Research Paper   **Medical Science**

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Iron Deficiency Anemia and Its Prevention Among Early Adolescent Girls in Selected Schools of Bhavnagar District

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ABSTRACT

Anemia is a major public health problem throughout the world particularly for women of reproductive age in developing countries in India anemia is a common cause of maternal morbidity and mortality. where There are three basic mechanisms for developing anemia, mainly (i) blood loss (hemorrhage); (ii) decreased production of red cells; and (iii) increased destruction of red cells. Anemia is a reduction in Red Blood Cells which in turn decrease the oxygen carrying capacity of the blood. Not a disease itself, anemia reflects an abnormality in RBC's number structure or function. Objective – 1.To assess the pre test knowledge of adolescent girls regarding iron deficiency anemia and it's prevention of structured teaching program.2.To evaluate the effectiveness of structured teaching program on knowledge regarding iron deficiency anemia and it's prevention among early adolescent girls.3.To associate pre test knowledge score of adolescent girls with selected socio demographic..The Method- one group pre test and post test evaluative research approach. Sample Size- 60. Sampling Technique- by using Non-probability Purposive sampling technique. Statistic Analysis-descriptive and inferential statistics. Result-The overall pre-test mean knowledge score of adolescent girls. mean score was. 10.18±2.86 and post-test mean knowledge score of was 22.71±2.35. The overall pre -test mean knowledge score of adolescent girls mean score was 13.81±3.67 and post-test mean knowledge score of was 22.71±2.35 The post test mean knowledge score is significantly greater than the pre-test mean knowledge score. So structure teaching programme was effective. The data presented in the pre test, majority of the respondents (53.3%) had Inadequate knowledge and (46.7%) had Moderate knowledge scores on prevention of Iron deficiency anemia .The data presented in the post test, majority of the respondents (75.0%) had Moderate knowledge and (25%) had Adequate knowledge scores on prevention of Iron deficiency anemia .chi-square was used to determine the association between the pr test knowledge score and selected demographic variables. In pre test, adolescent girls were having knowledge adolescent girls and mean score was 10.18±2.86and in post test, knowledge regarding adolescent girls and mean score was 18.88±2.71. T calculated value of 25.483 which is more than the tabulated value of 2.05 at 0.05 level of significance. So we accept H1 and conclude that there is significant difference between pre-test and post- test knowledge score of early adolescent girls regarding iron deficiency anaemia It is found that from the entire variable one demographic variable is significantly associated with pre test knowledge score regarding adolescent girls regarding iron deficiency anaemia so hypothesis(H2) was accepted for these variables.

KEYWORDS	structure teaching program, iron deficiency anaemia, early adolescent girls, red blood cells, hemoglobin,

Introduction

Adolescence is a period of transition between child hood & adult hood, a time of profound biologic, intellectual, psycho-social and economic changes.[1]During this time, 20% of final adult height and 50% of adult weight are attained. Because of this rapid growth, adolescents are especially vulnerable to anemia. Proper nutrition, including adequate iron intake, plays an important part of teenager's growth and development. During adolescence, teenagers will acquire the knowledge and skills that will help them to become independent and successful, but iron deficiency and iron deficiency anemia can affect their learning, growth and development. Therefore adequate information can help the teenagers to stay healthy and prevent iron deficiency.[2] Anemia is a reduction in Red Blood Cells which in turn decrease the oxygen carrying capacity of the blood. Not a disease itself, anemia reflects an abnormality in RBC's number structure or function.[3] Anemia is a condition in which the number of red blood cells or the amount of hemoglobin is low. Red blood cells contain hemoglobin protein that it enables them to carry oxygen from the lungs and deliver it to all parts of the body. When the number of red blood cells is reduced or the amount of hemoglobin in them is low, the blood cannot carry an adequate supply of oxygen. An inadequate supply of oxygen in the tissues produces the symptoms of anemia. Even there are many blood disorders; Iron deficiency anemia is most prevalent nutritional disorders in the world today. Iron is a necessary mineral for body function and good health. Every red blood cell in the body contains iron in its hemoglobin, the pigment that carries oxygen to the tissues from the lungs. But a lack of iron in the blood can lead to iron-deficiency anemia, which is a very common nutritional deficiency in children& adolescents.[4]

Methodology

Self administered structured knowledge questionnaire will be used to collect thedata from the selected schools of Bhavnagar District.Purposive sampling technique will be adopted for this study. In this study sample size will be 60 students between the age group of 13- 15years. selection of tool:This consists of 2 parts:-Part 1- Consist of demographic variables such as Age, Sex and Qualification, Religion, Type of family, family income, Educational status,Part 2-Questionnaire will be used to assess the knowledge. 30 questions will be used. Data collection method The investigator will obtain permission from School authority, consent will be taken from principal and from subject to conduct the study. Investigator will explain the aims and objectives of the study, pre test is done then structured teaching is administered, after a weak

post test is administered.

Results

In this section demographic profile of the respondents have been displayed to show the frequency distribution of the various attributes of demographic variables. With the help of SPSS version 20.0 frequency, percent and Cumulative Percent have been calculated and the outcomes are as follows:

TABLE 1: DISTRIBUTION OF SAMPLE IN RELATION WITH AGE.

Sr.No	Age	Frequency	Percent
1	13 Years	18	30.0
	14 Years	32	53.3
	15 Years	10	16.7

Table – 1 indicate that 53 percent respondents belong to the age group of 14 years , 30 percents respondents belong to the age group of 13 years and also 16.7 percent respondents belong to the age group of 15- years.

TABLE 2 DISTRIBUTION OF SAMPLE IN RELATION WITH RELIGION

Sr.No	Religion	Frequency	Percent
2	Hindu	54	90.0
	Muslim	6	10.0
	Christian	0	00

Table-2 indicates that 90% respondents were Hindu, 10% were Muslim and no one belonged to the other category

TABLE 3 DISTRIBUTION OF SAMPLE IN RELATION WITH FAMILY INCOME

Sr.No	Income Of Family	Frequency	Percent
3	Rs 3000 To 6000	28	46.7
	Rs 6001 To 9000	15	25.0
	Rs 9001 To 12000	17	28.3

Table 3 depicts the analysis related family income. 46.7 % respondent's family income is between 3000 to 6000Rs, 25 % respondent's family income between 6001 To 9000Rs and 28.3% respondent's family income is 9001 to 12000R

TABLE 4 DISTRIBUTION OF SAMPLE IN RELATION TO DIETARY PATTERN

Sr.No	DIETARY PATTERN	Frequency	Percent
4	NON VEGTARIAN	19	31.7
	VEGETARIAN	41	68.3

Table 4 depicts the percentage distribution of Sample According to dietary pattern Non vegetarian and vegetarian in which shows that about (31%) of the respondents are Non Vegetarian and (68.3 %) of respondents are Vegetarian. (Fig. 5)

TABLE 5 DISTRIBUTION OF SAMPLE IN RELATION WITH TYPE OF FAMILY

Sr.No	Type of family	Frequency	Percent
5	Joint	32	53.3
	Nuclear	28	46.7
	Total	60	100.0

Table 5 depicts the percentage distribution of Sample According to type of family in which Joint and Nuclear family shows that (53.3%) of the respondents belonged to Joint family (46.7%) of respondents belonged Nuclear family

TABLE 6 DISTRIBUTION OF SAMPLE IN RELATION WITH SOURCE OF INFORMATION

Sr.no		Frequency	Percent
6	Mass media	19	31.7
	Books	13	21.7
	Peer group	11	18.3
	Health worker	17	28.3

Table 6 depicts percentage distributions of the students that shows that (31.7%) of the respondents had obtained information from mass media. (21.7%) percentage from books, (18.3%) percentage of respondents from Peer Group and (28.3%) percentage of the respondents from Health Workers. (Fig. 7)

TABLE 7 FREQUENCY AND PERCENTAGE LEVEL OF KNOWLEDGE EARLY ADOLESCENT GIRLS IN SELECTED SCHOOLS

Level of Knowledge	Pre-test		Post test	
	Frequency	Percent	Frequency	Percent
Inadequate	32	53.3	0	0
Moderate	28	46.7	45	75.0
Adequate	0	0	15	25.0
Total	60	100	60	100.0

The data presented in table 9 depicts that in the pre test, majority of the respondents (53.3%) had inadequate knowledge and (46.7%) had Moderate knowledge scores on prevention of Iron deficiency anemia.

The data presented in table 9 depicts that in the post test, majority of the respondents (75.0%) had Moderate knowledge and (25%) had adequate knowledge scores on prevention of Iron deficiency anemia

TABLE 8 - EFFECTIVENESS OF STRUCTURE TEACHING PROGRAMME REGARDING IRON DEFICIENCY ANEMIA AND IT'S PREVENTION

Variables		Mean	Mean difference	Std. Deviation	t-value
Knowledge	Pre-test	10.1833	8.7	2.86115	25.483***
	Post-test	18.8833		2.71900	DF=59 P=3.2342

Significant at 0.001level

The data presented in table 10 shows the overall pre test mean knowledge score. It was found to be (10.18) and standard deviation (2.86) among the respondents. Post test mean knowledge score was found to be (18.88) and standard deviation (2.71) among the respondents.

Association between knowledge level in the in pre-test with demographic variables.

This section deals with the association between pre test

knowledge score and selected demographic variables. Chi-square was used to determine the association between the pre test knowledge score and selected demographic variables.

TABLE 9 ASSOCIATIONS BETWEEN PRE TEST AND DEMOGRAPHIC VARIABLE.

Demographic variables		Pre-test			Total	Significance
		Inadequate	Moderate	Adequate		
Age	13 YEARS	9	9	0	18	1.264 df=2 p= 5.99 NS
	14 YEARS	19	13	0	32	
	15 YEARS	4	6	0	10	
Total		32	28	0	60	
Religion	HINDU	29	25	0	54	.030 df=1 p= 3.84 NS
	MUSLIM	3	3	0	6	
Total		32	28	0	60	
INCOME OF FAMILY	RS 3000 TO 6000	10	18	0	28	10.190 df=2 p=5.99 Significant
	RS 6001 TO 9000	13	2	0	15	
	RS 9001 TO 12000	9	8	0	17	
Total		32	28	0	60	
DIETARY PATTERN	NON VEG	10	9	0	19	.006 df=1 p=3.84 NS
	VEGETARIAN	22	19	0	41	
Total		32	28	0	60	
TYPE OF FAMILY NUCLEAR	JOINT	15	17	0	32	1.149 df=1 p= 3.84 NS
	NUCLEAR	17	11	0	28	
Total		32	28	0	60	
SOURCE OF INFORMATION BOOKS PEER GROUP HEALTH WORKER	MASS MEDIA	7	12	0	19	3.318 df=3 p= 7.82 NS
	BOOKS	8	5	0	13	
	PEER GROUP	6	5	0	11	
	HEALTH WORKER	11	6	0	17	
Total		32	28	0	60	

Significant level 0.05

TABLE NO 9 depicts that one demographic variable (Income of family) is significantly associated with pre test knowledge score regarding iron deficiency anemia so hypothesis H2 was accepted.

Table-10 Effectiveness of structured teaching program on category

Variables		Mean	Mean difference	Std. Deviation	t-value
INTRODUCTION	Pre-test	1.6333	1.4	.86292	12.228*** Df=59 P= 3.2342
	Post-test	3.0333		.73569	
CAUSES	Pre-test	1.2333	1.1834	.67313	12.619*** Df=59 P=3.2342
	Post-test	2.4167		.59065	
CLINICAL SYMPTOMS	Pre-test	1.7833	1.6334	1.04300	12.768*** Df=59 P=3.2342
	Post-test	3.4167		.64550	
TREATMENT & PREVENTION	Pre-test	5.5333	4.4834	1.99548	19.202*** Df=59 P=3.2342
	Post-test	10.0167		1.91773	

Significant at 0.001 level

Discussion

In pre test the adolescent girls were having some knowledge adolescent and mean score was found to be 10.18 ± 2.86 and in post test, mean score was 18.88 ± 2.71. T calculated value was 25.483 which is more than the tabulated value of 2.05 at 0.05 level of significance. So we accept H_1 and conclude that there is significant difference between pre-test and post- test knowledge score of early adolescent girls regarding iron deficiency anaemia It is found that from the entire variables one demographic variable is significantly associated with pre test knowledge score regarding adolescent girls regarding iron deficiency anaemia so null hypothesis(H_2) was accepted for these variables.

Conclusions

The overall pre -test mean knowledge score of adolescent girls was 10.18 ± 2.86 and the post-test mean knowledge score of was 18.88 ± 2.71**.** The post test mean knowledge score is significantly greater than the pre-test mean knowledge score. So structure teaching programme was effective.

Chi-square was used to determine the association between the pre test knowledge score and selected demographic variables. It is found that from the entire variable one demographic variable is significantly associated with pre test knowledge score regarding knowledge regarding iron deficiency anaemia so hypothesis (H_2) was accepted for these variables.

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