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Research Article

Assess the effectiveness of planned teaching programme on iron deficiency anaemia in adolescent girls studying in Ahilyabai Holkar School, Loni (bk)

Bharti Weljale

Pravara Institute of Medical Sciences University, College of nursing, Loni, Maharashtra, India.

Abstract

Aim: To assess the effectiveness of planned teaching programme on iron deficiency anaemia in adolescent girls studying in Ahilyabai Holkar School, Loni (bk). **Objectives:** 1. To assess the knowledge on iron deficiency in adolescent girls. 2. To evaluate the effectiveness of planned teaching programme on iron deficiency anaemia 3. To find association of the post-test knowledge scores with selected demographic variables. Materials **and methods**: A standardized tool was used for data collection which was validated by the experts. Final study was carried out on 30 adolescents girls studying in Ahilyabai Holkar school Loni (bk) .The collected data was analysed with descriptive statistics using frequency, percentage, mean and inferential analysis using "chi square" test. **Results**: The demographic data showed that 20% were in the age group of 10-12 years and 66.6% participants were in the age group of 13-15 years, and 16.6% participants were in the age group of 16-18 years and 100% were female participants were students. Maximum student's education was from 8th STD i.e. 36.6%, religion was Hindu i.e. 83.3 %. Most of the students were from nuclear family i.e. 63.4%. The diet that they consumed was mixed i.e. 70%. Previous source of knowledge was maximum i.e. 90% was from teachers, 33.3% both co-morbid illness hypertension and congenital diseases. Based on the findings the pre test knowledge score was increase by 70% in post test after providing planned teaching programme. **Conclusion**: The planned teaching programme on iron deficiency anaemia in adolescent girls was effective.

Keyword: Planned teaching programme, iron deficiency anaemia, adolescent girls

***Corresponding author: Mrs. Bharti Weljale,** Pravara Institute of Medical Sciences University, College of nursing, Loni, Maharashtra, India. Email: bhartiweljale@gmail.com

1. Introduction

Anaemia is major public problem in India. According World Health Organisation (WHO) there are 2 billion people with anaemia in the world and half of anaemia is due to iron deficiency. Anaemia is a late indicator of iron deficiency, so it is estimated that the prevalence of iron deficiency anaemia is 2.5 times that of other anaemia. As per WHO 42 % in women age group 15 to 59 years, 30% in men age group 15 to 59 years. Iron deficiency anaemia has substantial physical productivity losses in adults. [1]

Adolescence is the time when much development takes place both physical and mental. In this period more nutritious and healthy diet is needed. During adolescence, increased iron is needed for the body for the expansion of blood volume and increases muscle mass. Adolescence gain 20% of adult weight and 30% of adult height in the adolescence period. Iron deficiency anaemia is the most common type of anaemia in all age group and is the most common type of anaemia in the whole world. [2]

The adolescent may suffer from impaired physical work, poor intelligent quotient (IQ), decreased motor and cognitive function due to iron deficiency. So all adolescent girls should know about the importance of iron rich food, Iron intake and functions of iron in human body it can be done by providing health and nutritional education, weekly supplementation of iron tablets provision of deforming tablets. [3]

Iron deficiency anaemia in India is a major public health problem. Respectively. In USA, the incidence rate of iron deficiency anaemia was 1 in 24 cases or 4.12% or 11.2 million people. [4]

A cross sectional study was carried out in Dhaka among 65 adolescent college girls who were chosen randomly to investigate the dietary pattern. The result showed that there was a deficit of 437kcal/day in energy and prevalence of anaemia was 23% among the participants. 73.8% of the participants were not aware of the sources

of iron rich foods. The data revealed anaemia adversely affect physical work capacity and cognition among young adult girls. [5]

Niba Johnson, Noufeena D. Y. Parvati, Priya Joseph, Priya Reshma Aranha, Asha P Shetty Nursing students Yenepoya Nursing college Mengaluru, India Assistant Professor department of Child Health Nursing 7thsept 2016. A descriptive survey approach was used in the study, non-probability purposive sampling technique was used to select 100 adolescent girls and to find the association between knowledge scores and selected demographic variables. The study result showed that the majority (84%) of the study sample had moderately adequate knowledge, 11% had inadequate knowledge and 5% had adequate knowledge on prevention of iron deficiency anaemia there is no significant association found between knowledge score and the selected demographic variables of adolescent girls($p>0.05$). this study concluded that majority (84%) of the study sample had moderately adequate knowledge on prevention on iron deficiency anaemia so it is advisable to provide educational programs for the adolescent girls regarding iron deficiency anaemia[6].

Maj Sivapriya S, Lt Col Laxmipriya Ptarida, clinical instructor college of nursing, CH (CC), Lukhnow. Associate professor (maternity health nursing) college of nursing AFMC, Pune. Descriptive study was conducted on randomly selected 200 adolescent girls of selected territory level hospital of Pune. Knowledge and practise were analysed by structured interview scheduled each included questionnaire on knowledge and self reported rating scale on practise. 69% has good knowledge on anaemia. 59.5% adolescent were following good practises to prevent anaemia. There is significant positive correlation between knowledge and practise. The current emphasis on health for all demands that every individual should be self sufficient and self reliant. Assessments of knowledge and practise and health education are essential step towards prevention of anaemia [7]

From the above finding, it is seen that the adolescent girls have less knowledge regarding management of iron deficiency anaemia. Hence the researcher felt that there is need to conduct a study which can significantly increase the knowledge of adolescent girls about iron deficiency anaemia and its management.

Statement of problem

Assess the Effectiveness of Planned Teaching Programme On Iron Deficiency Anaemia in Adolescent Girls of Age Group (10-19) In Ahilyabai Holkar School Loni Bk.

Objectives

- To assess the knowledge on iron deficiency in adolescent girls.
- To evaluate the effectiveness planned teaching programme on iron deficiency anaemia
- To find association of the post test knowledge scores with selected demographic variables.

2. Research methodology

Research design:
Quasi-experimental one group pre-test post test research design was adopted.

Research approach:
Evaluatory approach was adopted for the study.

Setting of the study:
The study was conducted in Ahilyabai Holkar School, Loni (bk), Tal- Rahata and Dist- A'nagar.

Sample:
In present study the participants were school going adolescent girls of Ahilyabai Holkar School Loni bk.

Sample size:
30 school going adolescent girls were selected for the study according to inclusion criteria.

Sampling technique:
Random sampling technique was adopted for the present study.

Sampling criteria:
Following sampling criteria were set for the selection of sample.

- **Inclusion criteria:**

1. Adolescent girls(10-19 years)
2. Adolescent girls who know Marathi and English
3. Adolescent girls who are available at time of data collection only girls.
4. Participants who were willing to participate.

Data collection tools:
Tools consist of two sections-

Section A: It consist of socio-demographic data which consists of age (in years), education, religion, type of family, diet, source of previous knowledge, co-morbid illness.

Section B: It consists of questionnaires on adolescent girl's anaemia. The questionnaires had 20 items.

Scoring procedure:

Each item had 4 options. The response to item should be from 4 representing strongest arguments to 1 representing strongest disagreement with each item. The negatively worded item should be reserved scored.

Table no 1: Scoring procedure

Sr. No	Options	Score
1.	Average	1-7
2.	Good	8-15
3.	Better	16-20

Validity of tools:

For the study validation of tool was established in consultation with experts. Validity of tools done by Psychiatric Department, Paediatric Department, Community Health Nursing Department and Obstetric Department.

Procedure for data collection:

- **Permission for consent authority:**

- Permission obtained from principal of the Pravara Institute Of Medical Sciences(DU)
- Permission obtained from principal of Ahilyabai Holkar school of Loni(bk) village.

- **Informed written consent:-**

Before data collection informed written consent was obtained from adolescent girls participants.

- **Period of data collection:**

For the present study the data was collected on 25 Feb 2017 for pre-test by the method of structural questioning technique within the time span of 2 hours data was collected, where 12 to 15 mins given to each participant. The teaching was provides for 2 hours with the help audio-visual aids, black board, charts and power-point presentations.
And on 4 march 2017 after 7 consequent days for post-test by the method of structural questioning technique within the time span of 2 hours data was collected, where 12 to 15 mins given to each participant.

Major findings of the study-

Section-1 Description of socio-demographic variables:

Section I includes demographic data of adolescent school going girls that is age, education, religion, type of family, diet, source of previous knowledge and co morbid illness. Frequency and percentage are used to describe the demographic characteristics of adolescent school going girls.

Table no 2: Description of socio-demographic variables:

n=30

	Age	Frequency	%
Age	10-12	05	16.7
	13-15	20	66.6
	16-18	05	16.7
Education	7^{th}std	05	16.7
	8^{th}std	11	36.6
	9^{th}std	09	30
	10^{th}std	05	16.7
Religion	Hindu	25	83.3
	Muslim	03	10
	Christian	02	6.7
Type of family	Nuclear	19	63.4
	Joint	11	36.6
Diet	Vegetarian	06	20
	Non vegetarian	09	30
	Mixed	15	50
Source of previous knowledge	Television	01	3.4
	Teacher	27	90
	Parents	02	6.6
Co-morbid illness of the family members	DM	09	30
	HTN	10	33.3
	Renal Disease	01	3.4
	Congenital Disease	10	33.3

Table 2 Shows that 20(66.6%) participants were in the age group of 13-15 of age. 11(36.6%) adolescent girls educated up to 8^{th}std followed by 09(30%) educated up to 9^{th} std.25(83.3%) adolescent girls belongs to Hindu religion followed by 03(10%) girls from Muslim religion. 19(63.4%) adolescent belongs to nuclear family followed by 11(36.6%) educated girls in joint family. 15(50%) adolescent girls consume daily mixed diet. 27(90%) adolescent girls have source of knowledge regarding iron deficiency anaemia from teacher.10 (33.3%) adolescent girls family member having hypertension disease.

Table no 3: Assess the knowledge on iron deficiency anaemia in adolescent girls.

n=30

Knowledge on anaemia	Score range	Frequency	%
Average	1-7	18	60
Good	8-15	12	40
Better	16-20	00	00
Total		30	100

Table 3 Shows that 18(60%) girls having average knowledge on iron deficiency anaemia followed by 12(40%) having good knowledge in terms of pre- test score.

Table no 4: Evaluate the effectiveness of planned teaching programme on iron deficiency anaemia.

Post-test

Knowledge on anaemia	Score range	Frequency	%
Average	1-7	00	00
Good	8-15	09	30
Better	16-20	21	70
Total		30	100

Table 4 Shows that 21(70%) girls having better knowledge on iron deficiency anaemia followed by 09(30%) having good knowledge in term of post test score.

Table no 5: Comparison between pre-test and post test score

Knowledge on anaemia	Score range	Pre-test		Post test	
		Frequency	%	Frequency	%
Average	1-7	18	60	00	00
Good	8-15	12	40	09	30
Better	16-20	00	00	21	70
Total		30	100	30	100

Table 5 shows that effectiveness of STP on iron deficiency anaemia among adolescent girls. In pre test 18(60%) having average knowledge followed by 12(40%) adolescent girls having good knowledge. Whereas after implementation of STP 21(70%) having better knowledge and 09(30%) having good knowledge on iron deficiency anaemia. It shows that STP on iron deficiency anaemia among adolescent girls was effective.

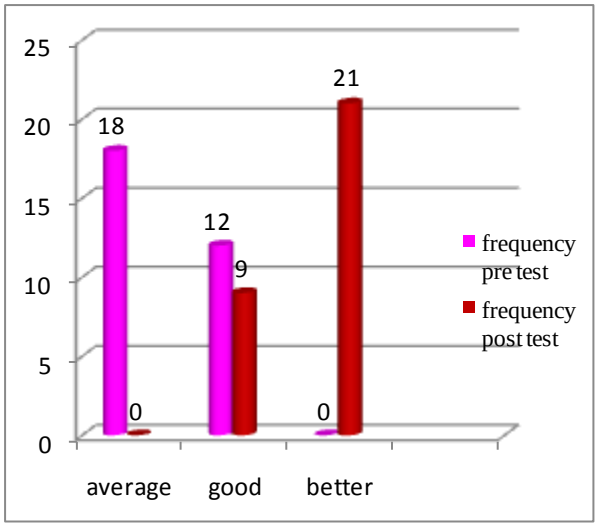

Figure no 2: Comparison between pre-test and post test score

Table no 6: Comparison between pre-test mean with standard deviation and post test mean with standard deviation score.

Particulars	Statement	Maximum	Mean	Standard deviation	Mean %
Pre test score	2	20	7.03	± 1.64	35.15
Post test score	20	20	16.83	± 2.10	84.15

Table 6 shows that effectiveness of STP on iron deficiency anaemia among adolescent girls in pre test the mean score was 7.03 with standard deviation ± 1.64(35.15%). Whereas the post test mean score was 16.83 followed by standard deviation ± 2.10(84.15%). It shows that STP on iron deficiency anaemia among adolescent girls was effective.

Table no 7: Find association of the pre test knowledge score with the selected demographic variables.

Sr. no	Demographic data	Calculated value	Table value
1.	Age	0	4.99
2.	Education	1.41	4.99
3.	Type of family	2.78	4.99
4.	Religion	0	4.99
5.	Diet	2.49	4.99
6.	Source of previous knowledge	0.1203	4.99
7.	Co morbid illness	0.095	4.99

Note:-

*significant relationship.
Significant at 5%.

Table 7 shows that- Above table shows that calculated value is less than table value for all the socio demographic variables at 5% significant and 2 degree of freedom. Implies that there is no significant association between socio demographic variables and pre test knowledge score on iron deficiency anaemia in adolescent girls.

Table no 8: Find association of the post test knowledge score with the selected demographic variables.

Sr. no	Demographic data	Calculated value	Table value
1.	Age	2.11	4.99
2.	Education	0.35	4.99
3.	Type of family	0.141	4.99
4.	Religion	0.027	4.99
5.	Diet	0.8	4.99
6.	Source of previous knowledge	0.58	4.99
7.	Co morbid illness	0.68	4.99

Note:-

➡ *significant relationship.
➡ Significant at 5%.

Table 8 shows that above table shows that calculated value is less than table value for all the socio demographic variables at 5% significant and 2 degree of freedom. Implies that there is no significant association between socio demographic variables and post test knowledge score on iron deficiency anaemia in adolescent girls.

4. Discussion

The study was conducted on the school going children at Ahilyabai Holkar School Loni bk. Sample size was 30. The analysis shows the 16.6% selected sample was in the age group of 10-12 years and 36.6 %were of age group 13-15 years and 46% were of the age group 16-18. The occupation of fathers was found maximum to be farmer 70% and minimum from the other field 30%. Occupations of the mothers was found to be maximum was a housewife 67% and lowest was daily wages workers 3%, religion was seen at the highest that is Hindu 83.3%, Muslim 10% and Christian 3.6% and monthly family income was found in the category of minimum percentage of Rs. 1500-3500(49%) and maximum percentage of Rs. 3500-9000(02%).The study revealed that 30% have good knowledge on anaemia and 70% of the student have better knowledge on anaemia. There was significant association with the age, education, religion, type of family, diet, source of previous knowledge and co morbid illness.

The similar study was conducted with the aims of assessing the effect of structured teaching programme on knowledge and attitude regarding anaemia among adolescent girls at selected higher secondary school Thrissur. It was a pre experimental one group pre test post test design, based on Nola. J. Pender Health Promotion Model. [8].

The tools were structured knowledge questionnaires' and semi structured five point Likert scale on attitude followed by structured teaching programme on anaemia among adolescent girls. The result revealed that the mean pre test score on knowledge and attitude was 7.167 & 16.37, after rendering STP mean score has been increase 228.93 & 48.17 respectively, calculated t value for knowledge and attitude was to be 32.29 & 38.22($p>0.001$) which is highly significant at 0.01 level respectively. The study showed that there was no co-relation between the levels of knowledge with attitude of adolescent girls and there was a significant association found between the levels of knowledge of adolescent girls with selected demographic variables. [9]

Conclusion

The following conclusion can be drawn from the studies which are supported by the knowledge and other form of literature.

The level of knowledge has been increase by 70% in adolescent school going of age 10-19 years. The finding of the study shows that the effectiveness of teaching increase 70% in post tests which was about 40% in the pre test which increase by 30% after providing Structured Teaching Programme (STP).

Implications:

The implications of the study have significant implication in nursing practice, nursing education, administration and nursing research.

Implications for nursing practice:

Nurses in the community setting work with families in the home and serve as a liaison between health and education professionals daily involves directly in the child's therapy programme. The nurse may facilitate the communication between the family and the school about the ways relieve the anaemia causing factor among adolescent girls.

Implications for nursing education:

Nursing students are future educators and practitioners; hence they need to know about all aspects of anaemia in adolescent girls. The study highlights all the areas of anaemia in adolescent girls which will help the nursing students to gain knowledge about the factors responsible for causing anaemia in adolescent generation.

Implications for nursing administration:

The findings of the study revealed that the need to conduct some education training programme at school level, which will help them to gain knowledge regarding causes of anaemia which causes anaemia in adolescent generation. It will help in building healthy and productive future generation.

Implications for nursing research:

The results of the study contribute to the body of knowledge of nursing. Future investigators use the methodology as a reference material.

Recommendation for future study:

On the basis of the finding of the study, it is recommended that,

1. A similar study may be conducted with a large sample.
2. A similar study may be conducted in community area for adolescent girls residing in the community area.
3. A comparative study may be undertaken on the adolescent girls studying in English medium School.
4. A comparative study may be undertaken among the students studying in Government and Private School.

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