

A Study to Assess the Knowledge on Iron deficiency and Anemia among Adolescent girls at selected Nursing College, Indore, Madhya Pradesh.

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Abstract

Anemia is a major public health problem worldwide. Adolescent girls are the most vulnerable group of population due to different reasons. Anemia is defined as a condition in which the number of red blood cells (RBCs) and their oxygen-carrying capacity is insufficient to meet the body's physiologic needs. The aim of this study is to assess the effect of self-instructed module on knowledge regarding Iron deficiency and Anemia among Adolescent girls at selected Nursing College Indore, Madhya Pradesh. Quantitative research method was used for this study. The research design adopted for this study is pre experimental one group pre-test one group post design. Non – probability convenient sampling test is used for collecting samples. The study was conducted after obtaining consent from the concerned authorities of the College. A tool was prepared to assess the effectiveness of Anemia and Iron deficiency among adolescent's girls. A total of 24 questionnaires were prepared to assess the knowledge of adolescent girls. The data thus collected were analysed using differential and inferential statistics. The pre-test mean score is 13.98% and post-test is 22.42%. The 't' value is 17.71%. The study revealed that there is an inadequate knowledge regarding iron deficiency and anemia among Adolescent girls. It is proved that there is a significant improvement in the knowledge regarding iron deficiency and anemia among Adolescent girls. It is proved that there is no significant association between the knowledge and practice.

KEYWORDS: *Anemia, Iron deficiency, Adolescent, Red blood cells.*

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I. INTRODUCTION

Anemia is an important public health problem, and it can affect people of all ages and from any region. ⁽¹⁾ The most prevalent type of anemia is nutritional anemia, caused by a lack of iron, folate, or vitamin B12. ⁽²⁾ According to the World Health Organization (WHO), adolescent age is defined as a period between the ages of 10 and 19. ⁽³⁾ According to the WHO, anemia affects 24.8% of the world's population and affects 27% of adolescent females in impoverished countries and 6% of adolescent females in affluent nations. ⁽⁴⁾ Adolescents especially girls are particularly more vulnerable to iron deficiency. The highest prevalence is between the age of 12-15 years, when requirements are at peak. ⁽⁵⁾ Adolescence is a time of increased iron needs because of the expansion of blood volume and increase in muscle mass. ⁽⁶⁾ Young women are at particular risk for the development of iron deficiency due to menstrual blood loss. ⁽⁷⁾ According to estimation worldwide among anaemia patients, there has nearly 59100 perinatal deaths and 115000 maternal deaths. As cited by Aggarwal et al., ⁽⁸⁾ anaemia patient's number is ranging from 80 to 90 per cent of adolescent girls, pregnant women and preschool children. India is one of the countries with very high prevalence of anaemia in the world. Almost 58% of pregnant women in India are anaemic and it is estimated that anaemia is the underlying cause for 20-40% of maternal deaths in India. India contributes to about 80% of the maternal death due to anaemia in South Asia. ⁽⁹⁾ According to National Nutrition Monitoring Bureau, 83.8% pregnant women were suffering from anaemia in Madhya Pradesh, of which 16.8%, 59.4% and 7.6% women had mild, moderate and severe degree of anaemia respectively. ⁽¹⁰⁾ On keeping a view in mind a study was conducted as a small attempt to know the knowledge of iron deficiency and anaemia among the adolescent girls of selected college in Indore City of Madhya Pradesh, India.

Objectives of the study

1. To assess the knowledge on Iron deficiency and Anemia among adolescent girls.
2. To find out the effectiveness of self-instructional module on Iron deficiency and Anemia among Adolescent girls.
3. To find out the association between knowledge score with their selected demographic variables.

II. Materials and methods

This study was conducted in selected College of Indore, Madhya Pradesh. The population of the study comprises of 50 Adolescent girls. Purposive sampling method is used to select the samples in the entire population. Demographic variables consist of five items namely Age, Religion, Occupation of Father, Type of Family, Food habit. A total of 25 questions were prepared to assess the knowledge level of the Adolescent girls regarding Iron deficiency and Anemia. The knowledge level was classified into Inadequate (0-15), Moderate (16-20) and Adequate (21-25). Pre-test was conducted for all the 60 Adolescent girls by administering the self-structured questionnaire. Immediately after the Pre-test, self-instructional module was administered to all the Adolescent girls. The Post-test was conducted after 7 days of administration of self in structural module. Mean, SD and “t” test was used to analyse Pre- test and Post-test.

III. Result

The data obtained were analysed and presented under following headings.

Section A: Distribution of Demographic characters of Adolescent Girls.

Section B: Analysis and interpretation of data regarding knowledge of Iron deficiency and Anemia among Adolescent girls

Section C: Overall comparison of Pre-test and Post-test knowledge level of Adolescent girls regarding iron deficiency and anemia

Section D: Association between knowledge of Adolescent girls with their selected demographic variables.

Section A: Distribution of Demographic characters of Adolescent Girls.

The demographic data shows that 92% of the Adolescent girls were at the age group of 18, were as 6% of the girls at the age of 19 and 2% of the girls at the age 20. Regarding the Religion of the Adolescent girls 78% were Hindus, 10% were Christians, 8% were Muslims and 4% of Adolescent girls belongs to other religion. Type of family was divided into 2 categories namely Nuclear family which consists of 82% and Joint Family which consists of 18%. In dietary pattern of Adolescent girls 74% were vegetarian, 2% were vegetarian with egg and 24% were non vegetarian. Occupation of the father reveals that 8% were Government employees, 38% were Private employees and 16% were Coolie workers.

S.No	Demographic Variables	Categories	Frequency	Percentage
1	Age	18	46	92
		19	3	6
		20	1	2
2	Religion	Hindu	39	78
		Christian	5	10
		Muslim	4	8
		Other	2	4
3	Type of Family	Nuclear	41	82
		Joined	9	18
4	Food Habit	Vegetarian	37	74
		Vegetarian with egg	1	2
		Non Vegetarian	12	24
5	Occupation of Father	Government	4	8
		Private	38	76
		Coolie	8	16

Section B: Analysis and interpretation of data regarding knowledge of Iron deficiency and Anemia among Adolescent girls

In Pre-test 10% Adolescent girls had adequate knowledge regarding Iron deficiency and Anemia . 26% had moderate knowledge and 64% had Inadequate knowledge on Iron deficiency and Anemia.

In Post-test 92% of Adolescent girls had adequate knowledge, 8% has moderate knowledge and 0% girls had Inadequate knowledge regarding Iron deficiency and Anemia.

Level of Knowledge	Pre Test		Post Test	
	Frequency	Percentage	Frequency	Percentage
Inadequate	32	64	0	0
Moderate	13	26	4	8
Adequate	5	10	46	92

Section C: Overall comparison of Pre-test and post-test mean knowledge level of Adolescent girls regarding iron deficiency and anemia.

Variables	Mean	Mean difference	SD	't' Value	df
Pre-test	13.98	8.44	2.52	17.71	98
Post-test	22.42		2.13		

During pre-test the mean score is 13.98 and SD is 2.52. During post-test the mean score is 22.42 and SD is 2.13. The 't' value is 17.71. Thus it becomes evident that self-instructional module is effective in improving the knowledge regarding Iron deficiency and Anemia.

Section D: Association between knowledge of Adolescent girls with their selected demographic variables.

S.No	Demographic Variables	Categories	P value	Chi square	Null hypothesis
1	Age	18	0.74	1.94	Rejected
		19			
		20			
2	Religion	Hindu	0.432	5.91	Rejected
		Christian			
		Muslim			
		Other			
3	Type of Family	Nuclear	0.33	2.19	Rejected
		Joined			
4	Food Habit	Vegetarian	0.787	1.71	Rejected
		Vegetarian with egg			
		Non Vegetarian			
5	Occupation of Father	Government	0.636	8.9	Rejected
		Private			
		Coolie			

The study shows that Age, Religion, Type of Family, Food habit, Occupation of Father has no significant association as the Chi-square value is less than Chi-square table value.

IV. DISCUSSION

Anemia is defined as hemoglobin concentration of < 12gm% in females and < 13%gm in males. Mild anemia was defined as hemoglobin ranging from 10-12.9gm/dL in adult males and 10-11.9gm/dL in adult females. Moderate anemia is defined as hemoglobin level of 7-9.9gm/dL and severe anemia was defined as hemoglobin level is less than 7gm/dL for all the age group (WHO 1968). The present study was done to assess the knowledge on iron deficiency and anemia among adolescent girls.

According to Packirisamy⁽¹¹⁾ lack of awareness among parents especially mothers faced with this type of problem due to lack of knowledge about this disease. Researchers Lasamahu and Widati⁽¹²⁾ stated that the community members living with family and parents, health workers and neighbors are needed to be educated and informed regarding their health benefits and the various side effects of folic acid and iron supplementations in pregnant women and adolescents girls. Adolescents should take measures to increase iron intake through food based approaches, namely dietary diversification and food fortification with iron and iron supplementation. The community health nurses has to educate the adolescent girls to improve the hemoglobin levels by organize nutritional exhibition. The finding of the study will be helping the nursing professionals to teach the adolescent girls on identification of anemia and health problems in early stage and its prevention for further complications.

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