

# To Identity the Prevalence of Anemia and Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Anemia Among Adolescent Girls Age Group 12-18 Years

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## ABSTRACT

Anemia is a great public health problem worldwide and is often ignored in both developed and developing countries. The adolescent girl still residue young planet that neither gets light or water, she remains the flower that could have blossomed but did not. The prevalence of anemia among adolescent girls in India is the highest in the world. Anemia among adolescent girls may lead to delayed attainment of all aspects of development.(Rati et. al. (2014))Objectives : To identity the prevalence of anemia and assess the effectiveness of structured teaching programme on knowledge regarding prevention of anemia among adolescent girls age group 12-18 years studying in a selected government school Jhajjar, Haryana. Material and Methods:The study was conducted at government Sr. Sec. School, Bharana (Jhajjar) Haryana- 124508. The target population of the study was the adolescent girls age group 12-18 years. 100 adolescents girls was selected for the study by using non- probability convenient sampling technique. Result: The finding of the study revealed that prevalence of anemia results had Mild anemia in girls were 61%, Moderate anemia were 39% and Severe anemia were 0%.knowledge pre test result was 25% of girls had poor knowledge score 75% of girls had average and 0% of girls had good score on knowledge regarding prevention of anemia among adolescent girls age group 12-18 years, post-test 17% of adolescent's girls had average and 83% of adolescents girls had good knowledge score on knowledge regarding prevention of anemia among adolescent girls age group 12-18 years. comparison of pre test and post knowledge score to assess the effectiveness of Structured teaching programme in terms of gain knowledge scores among adolescent girls age group 12-18 years ant it was concluded that Structured Teaching Program was effective to improving knowledge regarding prevention of anemia among adolescent girls age group 12-18 years.

**KEY WORDS:** (KNOWLEDGE, EFFECTIVENESS , STRUCTURED TEACHING PROGRAMME(STP), ANEMIA, ADOLESCENTS GIRLS.).

## INTRODUCTION

Globally, anaemia affects 1.62 billion individuals which corresponds to 24.8% of the residents and the population group with the highest amount of persons affected is non-pregnant women (468.4 million). Anaemia, as defined by low haemoglobin concentration, is a condition in which the

number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiologic needs which vary with age, gender, residential elevation, smoking behaviour, and different stages of pregnancy(Available from URL <https://en.wikipedia.org/wiki/Anemia>. et. al.) Being a significant public health challenge in India ( $\geq 40\%$  prevalence) too, it is translating into substantial morbidities, particularly among the vulnerable adolescent girls affecting their physical growth, cognitive development, performance in school, work capacity and reproductive functions. Anaemic girls become the next generation of anaemic mothers, thus perpetuating this vicious cycle of malnutrition.

(Beard JL Journal of nutrition et al. (2000)) And adolescent ageprovides a best prospect for combating anaemia if appropriately intervened, as iron deficiency and other

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nutritional deficiencies which are supposed to be most common cause can be intruded. Other causes include parasitic infections, enteropathic inflammation disorders affecting haemoglobin synthesis, red blood cell production/survival (inherited or acquired). NFHS-4 states that 41.4% of non-pregnant women in age group of 15-49 years are anaemic in Haryana after adjusting the haemoglobin levels for altitude and smoking status. Very few studies have been conducted in Haryana regarding adolescent anaemia and therefore present study was done to study the magnitude and socio demographic factors related to anaemia among school going adolescent girls(Gupte S et. al. (2004).

The world's adolescent people (age 10–19 years) is estimated to stand at more than 1 billion, yet adolescents remain largely neglected, difficult-to-measure, and hard to-reach population in which the needs of adolescent girls, in particular, are often ignored. In India adolescents constitute about 25% of the population and form an important physiological group whose nutritional needs demand special attention (Rao V, 1987). Adolescence is a significant period of human growth and maturation, when unique changes occur and many adult patterns are established. Increased nutritional needs at this juncture relate to the fact that adolescents gain up to 50% of their adult weight, more than 20% of their adult height, and 50% of their adult very thin mass during this time period(Available from ,www.gujhealth.com et. al.). The iron needs are high in adolescent girls because of the increased supplies for expansion of blood volume associated with the adolescent growth spurt and the onset of menstruation.

During the adolescent growth spurt, the risk of iron deficiency anemia reappears for both boys and girls. Adolescent girls are a particularly vulnerable group as their requirements of iron as well as its losses from the body are high. Of the total population, adolescent girls form 22% and estimates suggests that about 25-50% girls become anemic by the time they reach menarche. Anemia during adolescence limits growth and delays the onset of menarche, which in turn may later lead to cephalopelvic disproportion. Iron deficiency is the most widespread form of malnutrition among women and children. India has the highest commonness of iron deficiency anemia among women, including adolescents, worldwide. Between 60 percent and 70 percent of Indian adolescent girls are anemic (Hemoglobin (Hb) < 12 g/dl). The prevalence of anemia is disproportionately high in developing countries, due to poverty, inadequate diet, certain diseases, pregnancy/lactation and poor access to health services.

This phase of life is also important due to the ever-increasing evidence that control of anemia in pregnant women may be more easily achieved if satisfactory iron status can be ensured during adolescence. Few programs for anemia control have targeted adolescent girls and health care of adolescent girls all over the world has not been given priority(Deshmukh P.R et. al (2008)). The USAID/OMNI/PCD consultation concluded that "iron supplementation resulted in significant improvement in school measurements of verbal and other measurable skills with primary school children and young people Data on the prevalence of anemia among adolescent

girls in North – east India is lacking and hence the present study is significant. It will help in identifying the quantum of this problem and planning interventions to increase Hemoglobin (Hb) level of adolescent girls through Iron Prophylaxis, dietary modification and helminth control. This will ensure better school performance at this stage of life and safe motherhood in future(Upadhye J.V et. al. (2017).

**Objectives**

- To assess the prevalence of anemia by Hemoglobin measuring among adolescent girls age group 12-18 years studying in a selected school Jhajjar, Haryana.
- To assess the dietary pattern among adolescents girls age group 12-18 years studying in a selected school Jhajjar, Haryana.
- To assess the knowledge regarding anemia among adolescent girls before giving intervention in age group 12-18 years studying in a selected school Jhajjar, Haryana.
- To develop and implements structured teaching programme regarding anemia among adolescents girls age group studying in a selected school Jhajjar, Haryana.
- To assess the effectiveness of structured teaching programme regarding anemia among adolescent girls age group 12-18 years studying in a selected school Jhajjar, Haryana.
- To find out association between the post test score regarding anemia among adolescents girls age group 12-18 years with selected demographics variables.

**METHODOLOGY**

**Research Design:** One group pretest and post test design, where only the experimental group is selected as the study subject. A pretest observation of the dependent variable (Knowledge) is made before implementation of the selected group. Structured teaching programme (STP) regarding Anemia is administered and finally a post test observation of dependent variables is carried out to assess the effectiveness of Structured teaching programme (STP) on the group.

Group	Pre-	Treatment Test	Post-Test
Experimental Group	O <sub>1</sub>	X	O <sub>2</sub>

Key :-

O<sub>1</sub>= Pretest to assess the knowledge regarding prevention of anemia in adolescent girls age group 12-18 years in a selected school Jhajjar Haryana.

X = Administration of structured teaching programme on knowledge regarding prevention of anemia among adolescent girls age group 12-18 years studying in a selected school Jhajjar Haryana.

O<sub>2</sub>= Post test to assess the effectiveness of structured teaching programme on knowledge regarding prevention

of anemia among adolescent girls age group 12-18 years studying in a selected school Jhajjar Haryana.

**Research setting:** the study was conducted at Govt. girls Sr. Sec. School, Bhrana ( Jhajjar) Haryana – 124508. It reputed school of district Jhajjar.

**Population of the study:** The target population of this study was the adolescent girls 12-18 years. The accessible population was the adolescents girls who are studying in the Govt.Girls Sr. Sec. School, Bhrana ( Jhajjar) Haryana.

**SAMPLES:** The samples were the adolescents girls age group 12-18 years and full-fill the inclusive criteria.

**SAMPLE SIZE:** The sample size for this present study was 100 adolescents girls age group 12-18 years.

**Inclusion criteria:-**Adolescent girls age group 12 -18 year, Those having Hemoglobin level less than<12 mg/dl. Adolescents girls who can read and write in Hindi or English. **Exclusion criteria:-**Adolescent who are not willing to are participate in the study. Adolescent who are not available at the time of data collection.

**Tools for data collection:** The tools consist of structured questionnaire with following sections:

**SECTION A:** - This consist of 11 items for obtaining information of demographic variables of adolescent girls studying in selected Govt. school such as-Age ,Religion, Father’s education, Father’s Occupation, Mother’s education, Mother’s Occupation, Type of family, Total income of family, Number of sibling, Area of living , Dietary pattern.

**SECTION B:** - Check the Hemoglobin level in adolescent girls by using the sahli’s method.

Percentage (%)	Category
11.9-10.9gm/dl	Mild
9.9-7.0gm/dl	Moderate
<7.0gm/dl	Severe

**SECTION C:** - structure questionnaire to assess the knowledge regarding prevention of anemia and their dietary pattern.

The questionnaire consists of two parts. They are distributed as:

**PART A:-** Structure questionnaire to assess the knowledge regarding prevention of anemia in adolescents girls age group 12-18 years. **PART B:-** Assess the dietary pattern. It consists of 12 MCQs for assess the dietary pattern

**Pilot Study:** With formal permission from the school principal and content validity from the experts, the study

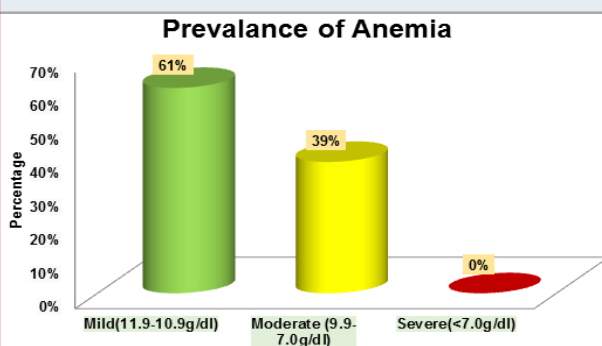
was conducted at Govt. Girls Sr. Sec. School, Silani( Jhajjar) Haryana – 124508. By Non-Probability convinces Sampling technique, 20 samples of the adolescent girls 12-18 years was selected. Check the Hemoglobin level in adolescent girls by using the sahli’s method. Pre-test was conducted to assess the knowledge regarding prevention of anemia in adolescents girls with structured questionnaire tool. On the same day structure teaching programme was administered on adolescent girls 12-18 years . After 7 days post test was conducted.

**Method Of Data Collection:** The research will obtain the permission from the selected school. The purpose and need for the study will be explained to the adolescent girls age group 12-18 years. Check the hemoglobin level and A structured knowledge questionnaire to assess the knowledge regarding prevention of anemia in adolescent girls age group 12-18 years was distributed and requested to be filled by the respondents. Structured teaching programme was provided for the respondents. After 7 days post test will be conducted.

## RESULT AND DISCUSSION

The demographic profile of study participants is shown in Table 1. The Prevalence of anemia among adolescent girls age group 12- 18 years studying in selected government school of Jhajjar, Haryana is Shown in Fig-1. The Pre test result reveals that 25% of girls had poor knowledge score, 75% of girls had average and 0% of girls had good score on knowledge regarding prevention of anemia among adolescent girls age group 12-18 years. Hence, it was concluded that majority of adolescent girls having poor knowledge regarding prevention of anemia among adolescent girls age group 12-18 years. The Post test reveals that 17% of adolescent’s girls had average and 83% of adolescents girls had good knowledge score on knowledge regarding prevention of anemia among adolescent girls age group 12-18 years. Hence, it was concluded that majority of adolescent girls age group 12-18 years having good knowledge regarding on anemia.

Figure 1



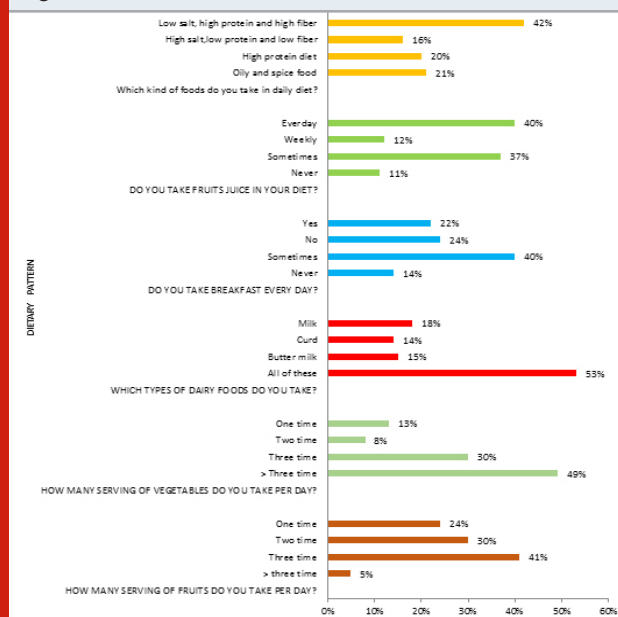
The Dietary pattern of adolescent girls age group 12-18 years shown in Fig 2.Comparison of mean pre and post test of knowledge score on regarding prevention of anemia among adolescent girls age group 12-18 yearsdepicts that post test mean knowledge score

was more than pre test knowledge score with mean difference of 10.21 The statistical paired t- test implies that difference in the pre test and post test valve was turned statistically significant at the level of with a pairewd t-test valve of 39.17. In congruence with these

findings MEENA .S, (2018) Effectiveness the Effectiveness of Structured Teaching Programme on Knowledge Regarding Iron Deficiency Anemia Among Adolescent Girls In Higher Secondary School.

<b>Table 1</b>			
	<b>Demographic Variables</b>	<b>Frequency</b>	<b>Percentage%</b>
1.	AGE IN YEAR		
a.	12-13 year	41	41%
b.	14-15 year	34	34%
c.	16-17 year	25	25%
d.	18 year	00	00%
2.	RELIGION		
a.	Hindu	100	100%
b.	Muslim	00	00%
c.	Sikh	00	00%
d.	Other	00	00%
3.	EDUCATIONAL STATUS OF FATHER		
a.	Illiterate	08	08%
b.	Middle school education	25	25%
c.	Secondary school education	50	50%
d.	Graduate and above	17	17%
4.	FATHER'S OCCUPATION		
a.	Labour	08	08%
b.	Private work	39	39%
c.	Government servant	33	33%
d.	Any other	20	20%
5.	EDUCATIONAL STATUS OF MOTHER		
a.	Illiterate	24	24%
b.	Middle school education	49	49%
c.	Secondary school education	21	21%
d.	Graduate and above	6	6%
6.	MOTHER'S OCCUPATION		
a.	Private work	13	13%
b.	Government Servant	03	03%
c.	House wife	78	78%
d.	Any other	06	06%
7.	TYPE OF FAMILY		
a.	Joint family	49	49%
b.	Nuclear family	51	51%
c.	Extended family	00	00%
d.	Blended family	00	00%
8.	TOTAL FAMILY INCOME		
a.	Less than 5000/-	08	08%
b.	5000-10000/-	38	38%
c.	10001-15000/-	33	33%
d.	15000-20000/-above	21	21%
9.	AREA OF LIVING		
a.	Rural	100	100%
b.	Urban	00	00%
c.	Town	00	00%
d.	Sub urban	00	00%
10.	NUMBER OF SIBLING		
a.	One	33	33%
b.	Two	34	34%
c.	Three	23	23%
d.	Four and above	10	10%
11.	DIETARY PATTERN		
a.	Vegetarian	83	83%
b.	Non- Vegetarian	05	05%
c.	Mixed	00	00%
d.	Eggetarian	12	12%

Figure 2



The mean score of post-test knowledge 22.55 ( 62.63%) was apparently higher than the mean score of pre-test knowledge 13.85 (38.47%), suggesting that the structured teaching programme was effective in increasing the knowledge of the adolescent girls regarding iron deficiency anemia. The mean difference 8.7 between pre-test and post-test knowledge score of the adolescent girls was found to be significant. The Association between the post test knowledge score and selected demographic variables depicts that there was association which found significant at of 0.004 ( $p < 0.05$ ) between post test knowledge score on regarding prevention of anemia among adolescent girls age group 12- 18 years with selected demographic variables such as age of adolescent age.

## CONCLUSION

The study concluded that there was a significant difference in knowledge score before and after administered

Structured teaching programme on regarding prevention of anemia among adolescent girls age group 12- 18 years . The association of post test knowledge score with selected demographic variables such as age of adolescent girls was found statistically significant at of 0.004  $p < (0.05)$  It was proven that Structured Teaching Programme was effective for adolescents girls who are studying in selected Government school of Haryana regarding the prevention of anemia among adolescent girls age group 12- 18 years .

## Recommendations:

1. Similar study can be undertaken on a large sample for making a more valid generalization.
2. Study can be conducted on different samples.
3. A comparative study can be conducted to assess effectiveness of Structured Teaching Programme with other instructional methods.
4. A correlation study can be conducted to analysis of knowledge regarding prevention of anemia among adolescent girls age group 12- 18 years.

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