



**EFFECT OF DIETARY IRON AND MEDICINAL SUPPLEMENTATION  
WITH NUTRITION EDUCATION ON SELECTED ANEMIC COLLEGE  
GOING GIRLS OF DIFFERENT SOCIO-ECONOMIC GROUPS**

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**ABSTRACT**

The most important segment of the population from the point of view of quality of future generation is today's young girls who are just on the threshold of marriage and motherhood. Adolescent and College going girls constitute nearly 1/10<sup>th</sup> of the population and form extremely important part of the community. Anemia is important nutritional problem among college going girls. So, the study is to assess and detect and remove anemia from the sufferer group. The college going girls have significant effect on nutritional status after the supplementation of dietary iron and medicinal supplementation. The Hb level of students is ranged between 6.7 to 10.8 gm/d and after supplementation the Hb percentage ranged between 8.8 to 12.9 gm/dl. So, there is a need to implement such health programmes to remove anemia of college going girls group from population.

**INTRODUCTION**

The most important segment of the population from the point of view of quality of future generation is today's young girls who are just on the threshold of marriage and motherhood. Young college going girls constitute nearly one tenth of the population and form an extremely important part of the community.

With the profound growth, demand for nutrients is increased during adolescent and young age, social, economic and demographic factors play vital role on the variation in consumption of food and nutrients. At puberty with the onset of menarche and in the absence of adequate dietary intake young girls become highly susceptible to anemia. It is not surprising that more than 3/4<sup>th</sup> of Indian girls are anemic.





Iron deficiency anemia is a problem of serious public health significance giving its impact on psychological and physical development, behavior and work performance. Iron deficiency associated with loss of appetite and growth retardation.

Micronutrient malnutrition and high percentage of anemia among young college going girls is the big health problem of today population. The purpose of the study is to assess the anemia and to control the anemia of selected college going girls group.

The present study is to investigate the percentage of anemia among selected group and treat the anemia through dietary and medicinal supplementation with nutrition education.

### **OBJECTIVE OF STUDY**

- 1) To examine the hemoglobin level of college going girls.
- 2) To find out anemic girls.
- 3) To investigate the anthropometric measurements of college going girls.
- 4) To study the nutritional status and awareness of balanced diet among college going girls.

### **MATERIALS AND METHODS**

The study was conducted in two phases prevalence of anemia among college going girls was assessed in Phase-I and effect of dietary and medicinal supplementation provided and studied is in Phase-II.

#### **Assessment of Anemia of college going girls**

Forty-five students of B.Sc. (Home Science) Course of Sevalal Mahila Mahavidyalaya, Nagpur were selected for testing hemoglobin level. The selected age group is between 18-24 years were included for assessing the prevalence of anemia. The blood hemoglobin level was





estimated using cynomethamoglobin method and the college going girls were categorized as anemic ( $<12\text{g}/100\text{ml}$ ) and non-anemic ( $>12\text{g}/100\text{ml}$ ) based on WHO classification.

Anthropometric and clinical assessment method used to assess the anemia. Questionnaires were filled by the selected group. Data will be collected by observed hemoglobin percentage and anthropometric results.

### **SIGNIFICANCE OF STUDY**

The anemia is a big problem before developing country. Anemia is another important nutritional problem affecting all segments of the population. In general and adolescents young girls and women and pregnant women in particular. In the latter groups prevalence of anemia may be as high as 60-70%. Anemia in our country is essentially due to iron deficiency although in children and pregnant women, folate deficiency also plays a part. Although our diets contain fairly good amount of iron, but its absorption is very poor i.e. 2-3% anemia can be aggregated by environmental factors which leads to blood loss e.g. lookworm installation. All the available information indicate that anemia can be prevented by increase in iron intake.

So, there is need to assess and control anemia among sufferer group (college going girls and adolescent girls).

### **OBSERVATION**

The age group of the study is selected as the emotional and physical development is on rise. Objective was to assess health problems and suggest measures for improvement of health status of young girls. Nutritional status of college going girls was assessed by BMI parameters for age group between 18-24 years.





**Table-1: Percentage of anemia of college going girls.**

Age in years N=43	Anemic	Percentage of anemic	SD	Coefficient of Variation
18-20	N = 09	20.93%	10.56	0.81
21-22	N = 22	55.81%	9.28	1.74
23-24	N = 12	27.90%	22.29	1.41

**Table-2: Anthropometric measurement of college going girls (Age group 18-21 years)**

Particulars	Normal	Underweight	Overweight
Height (cm)	18	-	-
Weight (kg)	27	25	02
BMI	22	19	03

**Table-3: Clinical symptoms observed in anemic college going girls.**

Clinical symptoms	Frequency (N=43)
Brittle Nail	11
Pale Face	13
Pale Tongue	07
Pale Lips	12

**Table-4: Nutritional status of college going girls of different socio-economic groups.**

Particulars (N=43)	Standard	Normal	Underweight
High economy and urban	40%	40%	20%
Middle economy	35%	45%	20%
Low economy and tribal +rural	25%	15%	60%



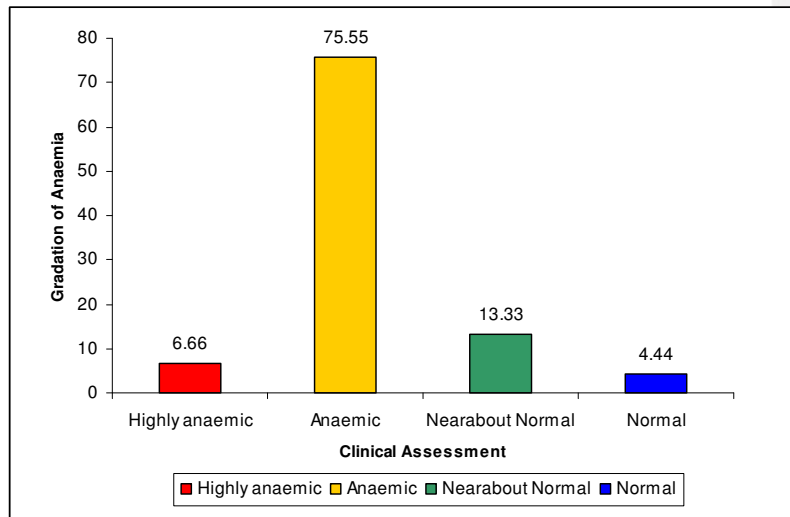


Fig.1: Percentage of anemia of selected college going girls

## RESULTS AND DISCUSSION

The anemic 45 students will be provided by medicinal and dietary supplements. The progress report of the college going girls after the supplementation will be studied. The medicinal supplementation given to the students in the form of tablet and syrup both. The dietary supplementation of Tirangi puri, khajur burfi and other khaskhas kheer, pomegranate raita, fruit salad, til jiggery laddoo, burfi, sprouts, recipes, eggs recipes, milk, paneer preparation etc. are supplemented to the students.

In the present study by conducting health camp the anemic college going girls were supplemented with iron rich food items and protein calorie supplementation with medicines.

The questionnaires are filled by the students to aware and know about anemia. Their socio-economic status was found out from that. The Hb percentage of the students taken into consideration, and the normal hemoglobin level of female is 12-16 gm/dl. The Hb level of students before supplementation is ranged between 6.7 to 10.8 gm/dl and Hb level of students after dietary and medicinal supplementation is ranged





between 8.8 to 12.9gm/dl. The hb percentage is increased after the supplementation and girls are more conscious and aware about anemia. The progress in Hb level and awareness both are equally found.

### **SUMMARY AND CONCLUSION**

The supplementation provided to the young college going girls brought about significant improvements in their nutritional status. Among the dietary and medicinal iron along with nutrition education exhibited better improvement. The college going girls eat outside foods on larger amount and they do not take balanced diet regularly. What they eat are not nutritious, so they are susceptible to anemia and need to aware about iron deficiency.

From the above study, it is cleared that anemia is still important public health problem among adolescent and college going girls and there is a need to give nutrition education and implement health programmes to make them healthy and well nourished women and improve the nutritional status of today's girls.

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