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A STUDY ON ANEMIA AND ANEMIC RELATED KNOWLEDGE AMONG THE COLLEGE GRIALS IN ARINGAR ANNA GOVERNMENT ARTS COLLEGE MUSIRI, TRICHY DISTRICT

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Abstract:

To determine the nutritional knowledge among teenage girls the study was undertaken on 152 college girls' students of Musiri taluk, trichy district, Tamilnadu. A questionnaire has been prepared to collect the demographic profile of the subjects, food habits of the subjects and food-frequency questionnaire (FFQ) was used. Most of the subjects were within the age range of 18-21 yrs, living in nuclear family, having non vegetarian food habits and belong to middle income group. Most of the subjects were having faulty food habits; 60% of subjects eat out once a week followed by23% subjects eat out twice a week and most of them preferred to eat fast foods and carbonated beverages. Only 25% of the subjects were having good knowledge about anemia. The results show that the nutrition education intervention is required for the teenage girls to create awareness and to disseminate the knowledge related to the prevention and control of anemia.

Keywords: Hemoglobin, Anemia, Food Frequency, Food Habits, Nutritional Knowledge, Nutritional disorder

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1. Introduction

Anemia is a global public health problem affecting both developing and developed countries with major consequences on human health as well as social and economic development. Anemia is the result of a wide variety of causes that can be isolated. But more often they co-exist globally. The most significant contributor to the onset of anemia is iron deficiency. The other causes of anemia are heavy blood loss, parasitic infections, acute and chronic infections, micronutrient deficiency and hemoglobinopathies (Kurzkm 1996). Adolescence, defined by World Health Organization (WHO) as the period between 10 and 19 years, is an important, formative time which shapes the future of boys' and girls' lives [WHO.1983]. There are about 1.2 billion adolescents in the world, which is equal to 1/5th of the world's population and their numbers are increasing. Out of these, 5 million adolescents are living in developing countries (González , 2007). In our country around 12 percent of the whole populations are adolescent girls. Adolescence is a "coming of age", as children grow into young adults. Adolescence is a particularly unique period in life because it is a time of intense physical, psychosocial and cognitive development. Increased nutritional needs at this juncture relate to the fact that adolescents gain up to 50% of the weight, more than 20% of their adult height, and 50% of their adult skeletal mass during this period. The main nutrition problems affecting adolescent populations worldwide include under nutrition in terms of stunting and thinness, catch-up growth, and intrauterine growth retardation in pre adolescent girls, iron deficiency and anemia, iodine deficiency, vitamin A deficiency, calcium deficiency, other specific nutrient deficiencies, e.g. zinc, float and obesity. Iron deficiency anemia (IDA) constitutes the major anemia during adolescent period. Accelerated development, hormonal changes, malnutrition and starting of menstrual periods in girls are major causes in this period.

The most important nutritional problem in the world today is the Protein Energy Malnutrition.(WHO.1983) . The problem is more severe in third world countries affecting children of all ages especially the under fives. Nutritional deprivation is rampant in children of school age particularly primary school children ranging in magnitude from 20-80%. Since deficient physical growth is naturally reflected in their suboptimal mental achievement (González 2007) the assessment of nutritional status of this segment of population is essential for making progress towards improving overall health of the school age children. NFHS-3

conducted recently has not reported on nutritional status of children in school age group. Nutritional anemia refers to a condition in which the hemoglobin content of the blood is lower than normal as a result of a deficiency of one or more essential nutrients, regardless of the cause of such deficiency. (National consultation of control of nutritional anemia in India. Department of Family Welfare Maternal Health Division, 1998). Anemia is associated with less than optimal behavior in infants and children. Anemia is a nutrition problem worldwide and its prevalence is higher in developing countries when compared to the developed countries.(Djokic , 2010 and, Hioui 2010) Young children and pregnant women are the most affected, with an estimated global prevalence of 43% and 5l% respectively.(WHO 2001) Anemia prevalence among children of school-going age is 37.70%, among non pregnant women 35% and among adult males 18%.(Kotecha2009) .The prevalence of anemia in the developing countries tends to be three to four times higher than in the developed countries.(Gillespie 2012) Recent studies on the prevalence of anemia have been on preschoolers only, (Sidhu,2002, Kapoor , 2002 and Djokic ,2010) and Prevalence of anemia in the school children of Kattankulathur, Tamil Nadu, India (Sudhagandhi, *et al*.,2015) . Anemia affects the physical and mental development of an individual leading to decreased working capacity, which in turn affects the development of the country (UNICEF 2011) . Hence there is a need for more studies related to anemia in college student's level. The present study was undertaken to estimate the prevalence of anemia among college girls including teenaged 18-21 years from Aringar Anna Govt. Arts College, Musiri , Tamil Nadu, India . This study, therefore, is aimed at assessing the prevalence of anemia, known about anemic knowledge and its risk factors as we can create awareness among students..

MATERIALS AND METHODS.

I. Aim of the study This study aimed to evaluate anemia by assessing hemoglobin level of College girls and parental attitude towards anemia prevention and treatment.

II. Objectives of the study: 1. Determine the prevalence of Anemia among college girls (18-21- years of age). 2. Identify the Hemoglobin level of in college girls in Government College

III. 1. Research Methodology Research Approach: Quantitative Research Approach Research Design: A cross-sectional survey design was used in this study.

2. Sample Population: Sample size was calculated by Cochrane formula & was found to be 152. Sampling Techniques: Non-Probability convenience sampling Samples: A total of 152 students below 18-21 years of age

3 Research tool for data collection: Self structured questionnaire was developed to assess the prevalence of anemia related knowledge was based on related review of literature received from books, journals, published and unpublished research studies, consultant and guidance from various subjects experts and in related fields were taken, Past experience of the investigator, Formal and non-formal discussion with peer groups and consultation with statistician for data analysis. After revealing the research and non-research material, opinion from experts, a self structured questionnaire was constructed for collecting socio-demographic data to assess the anemia and anemic related knowledge among the college girls.

IV. STUDY AREA

It was a cross sectional study carried out in government arts college of Musiri, Trichy district, Tamilnadu. The study was undertaken in month of October - December- 2015. The study was designed to include all eligible aged 18-21 years non pregnant, unmarried college coming girls. Ethics approval was received from the college officials, girls and the parents. There were 152 girls (gives her opinion) who participate in this study. After completion of research work anemic girls are instructed to give lectures on nutrition, good eating habits and on anemia are organized in the college .The girls were advised to increase the number of daily meals from two meals to 3-4 meals or multiple meals at short duration daily and also encouraged to consume vitamin C rich foods in combination with iron rich foods.

Results and Discussion

Features of the respondent in this cross sectional study a total of 152 including teenage groups of girls were attend for the studied. The mean age (years, mean ± SD) of those participants was 18.9667±1.230. Among the participants 12.5% participants were 18 years, 25.0% participants were 19 years, 30.8% participants were 20 years, 18.3% were participants 21 years, 11.7% participants were 22 years and 1.7% participants were 23 years old.

In the present study indicates that more than 53.92% of the subject were in age range of 18-20 years, were living in joint family 97% similarly 72% of students of the family income 10,000, 83% of students family within 3 members. The level of education 43% of both father and mother were illiterate, and 67 % of them were single literate and 42% of both father and mother were literate.

All the participant family size was divided into 5 groups. Among this group 83% had up to 3 members in their family, 47, 18, 20 and 04 % of 4, 5, and 6 and above 6 members in their family respectively. All respondents' family had divided into two groups, among them 63.81 % were nuclear family and 36.18 % were joint family (Table 1)

Table 1 also show that among 152 participants only 3.28% were severe anemic, 7.89% were moderate anemic, 25% were mild anemic and the rest of 63.81% students were non anemic. The result of the study corroborated the findings of Verma *et al. (1998) that* the prevalence of anemia in the 5–15 years age group of urban school children in Punjab was 51.5%. Similarly, a study by Gomber *et al., (2003) stated* that the prevalence of anemia in school children from urban slums, aged 5–10.9 years was 41.8%. While questing about the problem of iron deficiency 78.9% of participants answered no i.e. they had no idea about the problem of iron deficiency and rest of 21.05 % participants answered yes that means they had idea about the problem of iron deficiency. Table 2 shows that 50.65 % of students take three meals per day and 41.44 % participants take 2 time meals per day, more than three time 7.89 %. Another special character i.e. participant having habit of eating out on 69% and reaming 83 % of student never eating out habit. A structured questionnaire developed to assess their demographic profile (table 1) food habits of the students (table 3) food frequency question are (FFQ) of the students shows that 100% of the students were consuming rice daily and 37.5% were consuming other cereals .25.6% of the students were consuming green leafy vegetable daily. 37.5%of students were meat, poultry and fishes daily. 23.0% of students were consuming fruits juice daily. 38.15 % of students consuming monthly once. Milk consumption was very low (48.0%) when compared to take Tea and Coffee (78.2%) consumers. Other food item like Burger, pizza, ice cream, chocolate, carbonated cool drinks, chips, somoza and cake were consumed above 40% of students. The distribution of respondents according to their types of family is shown in table 3,

the nuclear family setup has emerged as the main pattern of families during current years thus vanishing the joint setup. Within group analysis table 4 shows that majority 15.3% of participant in anemic group were belonging from joint type of family. Whereas in the normal group of students were distributed as 23.02%family. The family size is also plays an important role in dietary intake of individuals. Table-4 indicates that almost 38.18 % of the students having family size of more than five members. The gradual decrease in percentage of anemic girls was seen in group as in the family size get reducing.

In anemia related knowledge assessment about 80% of students were having good knowledge about anemia and 73.6 and 75.6% were having known about weakness and respiration. Above 60 % of students girls having knowledge about the blood loss, iron tablets,55.9% of student known bout hemoglobin, eye, tongue and pale nails were known, very few of the students (0.5%) known about blood transfusion (table-5)

Priyanka Pareek (2015) advised that there is need to include iron rich food in diet of adolescents, grams, maize, mustard leaf, powder milk and red meat has high iron component so at least once in a week girls should eat iron food to get recommended iron per day to gain normal body mass index.

Table: 1 Demographic Profile and anemic condition of the participant

S. No	Variable Age	Frequency n=152	Percentage
1.	18 – 20	82	53.92
	20 – 22	70	46.05
2.	Family Income		
	10,000	72	47.30
	15,000	35	23.02
	20,000	45	29.60
3	No of Family Members		
	3	83	54.60
	4	47	30.92
	5	18	11.84
	6	20	13.15
	7	04	2.63
4	Family Type		
	Joint	97	63.81
	Nuclear	55	34.17
5	Parents Education		
	Both Illiterate	43	27.29
	Single Literate	67	49.07
	Both Literate	42	27.63
6	Hemoglobin Level		
	Non anemic Hb ≥ 11	97	63.81
	Mild Anemic Hb10-10.9	38	25.00

	Moderate Anemic Hb 7 – 9.9	**12**	**7.89**
	Severe Anemia Hb < 7	**05**	**3.78**
7	**Knowledge of Iron deficiency anemia**		
	Yes	**32**	**21.05**
	No	**12.0**	**78.94**
8	**Mean Age (Years)**	**20 . 43 ±0.43 (Mean ± SD)**	**Min .18 Max. 22**

Table: 2 Food habits of the subject

S. No	**Variable Meal Pattern**	**Frequency**	**Percentage**
1.	**0**	**0**	**0**
2.	**2**	**63**	**41.44**
3.	**3**	**77**	**50.65**
4.	**More than 3**	**12**	**7.89**
	Eating out		
1.	**Yes**	**69**	**45.39**
2.	**No**	**83**	**54.60**
		152	**100**

Table: 3 Food Frequency of the Subject

Types of Snacks	**D**	**W**	**Month**	**R.**	**Not all**
Burgers, Pizzas Creams	**75**	**42**	**20**	**15**	**0**
Chips, Fried Items	**65**	**35**	**27**	**12**	**13**
Sweet Ice Creams	**46**	**32**	**13**	**12**	**5**
Tea, Coffee	**119**	**13**	**11**	**-**	**-**
Soft Dinner	**62**	**35**	**42**	**13**	**-**
Juice	**45**	**27**	**58**	**18**	**148**

Milk Shakes	**73**	**28**	**17**	**15**	**19**
Food Item					
Rice	**100**	**0**	**0**	**0**	**0**
Wheat	**28**	**13**	**15**	**17**	**27**
Cereal	**100**	**-**	**-**	**-**	**-**
Pulser	**29**	**23**	**22**	**14**	**12**
Vegetable	**74**	**54**	**12**	**12**	**-**
Cream Crafty vegetable	**40**	**32**	**38**	**24**	**26**
Egg	**35**	**43**	**35**	**19**	**20**
Meal Poultry Fish	**57**	**67**	**23**	**5**	**-**

Table: 4 Relationship of anemic with certain condition of the respond

	Categories	**Percentage of Anemic n =55**	**% of non anemic n=97**
Family Types	**Nuclear**	**32 (21.07)**	**35 (23.02)**
	Joint	**23 (15.3)**	**62 (40.78)**
Family Members	**Up to 3**	**09 (16.36)**	**18 (18.55)**
	4 -	**13(23.63)**	**21 (21.64)**
	5 -	**22 (40.0)**	**27 (27.83)**
	>6	**11(20.0)**	**31(31.95)**
Monthly Income	**5000**	**23 (41.81)**	**38 (39.17)**
	10,000	**18 (37.72)**	**42 (43.29)**
	15,000	**14 (25.45)**	**17 (17.52)**
Literacy	**Both Literacy**	**35 (63.63)**	**43 (44.32)**
Status of	**Single**	**12 (21.81)**	**48 (49.48)**

Parents	**Both Literate**	**08 (14.45)**	**06 (6.18)**
Green Leafy Vegetable	**Daily**	**05 (9.09)**	**24 (29.89)**
	Weekly	**13 (23.63)**	**38 (39.17)**
	Monthly Rare	**21 (38.81)**	**14 (14.43)**
	No at all	**16(29.09)**	**21 (21.64)**

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