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Research Paper

Prevalence of Anemia among College Going Girls of Raipur City

Healthcare

KEYWORDS : Prevalence, Anemia, Adolescent Girls, Hostel

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ABSTRACT

Anemia is one of the most widespread nutritional problems among all vulnerable groups. Approximately more than 50% of the women, girl child, and adolescent girls are suffering from anemia all over the world including India. The nutritional status as well as the hemoglobin levels among adolescent girls has been very low as compared to developed countries. Low consumption of iron rich foods and faulty dietary pattern of developing countries attributes to this problem.

Objective: Keeping this view in mind the present study was designed to assess the prevalence of anemia among college going girls of Raipur city, Methodology: cross- sectional, descriptive study was carried out on 178 college going girls between the age group of 18-25years , residing in college hostels. Results: The overall prevalence of anemia was 63.48%. Out of 178 Adolescents College going girl, 113 (63.48%) had varying severity of anemia, while anemia was absent in 65(36.52%) girls. Out of the 113 girls, 30 (16.86%) were mild anemic, 70 (39.32%) were moderately anemic and 13(7.30%) were severely anemic. Conclusion: The present study revealed that anemia is major health problem among the college going girls in government hostels. Continuous follow-up programme and nutrition education can improve the nutritional status of college going girls.

Introduction:

The physical transition from childhood to Adolescent is called adolescence. Adolescence is one of the fastest and growing periods in human development. In these period many physical changes takes place due to secretion of hormones both in boys and girls. The changes of puberty are Dramatic and momentous. Anemia, widely prevalent nutritional problem among young generation, is mainly caused due to iron deficiency. A study carried out by NIN in Maharashtra reveals that anaemia was major health problem among preschool children. Another study carried out on adolescent girls in Gujarat confirms that more than 75% adolescent girls were anemic. According to National Institute of Nutrition (2003-2004) anemia is most common in all the groups hence adolescents became main beneficiary group in national nutritional policies. Similarly a survey by ICMR (2003) showed that 70 % of adolescent's girls were anemic. The data generated by NNMB Survey (2003) revealed that in rural Indian, adolescents' girls meet only 50 percent of RDA of their iron requirements and hence susceptible to anemia. Recent World Health Organization (WHO) Statistics indicate a worldwide anemia prevalence of about 30 percents with higher rates in developing countries. Young children and pregnant women are the most affected group with an estimated global prevalence of about 40 percent and 50 percent respectively. Anemia is also prevalent in non- pregnant women (35percent) and among adult males (18 percent). The National Family Health Survey -3 (NFHS-3) data suggests that anemia is widely prevalent among girls (Hb < 11gm%) is at alarming level among adolescent girls in the age groups 15-19 years and in the older age group 20-29 years it remains almost stagnant at 55.8 % and 56.1 % respectively. In recent years several programmers has been introduced to combat under nutrition and iron deficiency in this group. Weekly iron folic acid supplementation (WIFS) is the latest recommended programme by NIN, this programme was started in vadodara district of Gujarat in the year 2000. The total beneficiaries were 69000 adolescent girls. They found positive impact of iron supplementation on prevalence of anaemia.

Adolescence is the phase of completion of growth and of sexual maturation. The Timing of growth spurt and onset of sexual function varies considerably in individual. They need specific nutrients as well as antioxidants in this period to get positive health. **1**

Anemia is said to be present in person when the hemoglobin level in the blood is below the lower extreme of the normal range for the age and sex of the individual **3**. According to the WHO criteria, the cut off level of the hemoglobin concentration in blood for the diagnosis of anemia is less than 12 gm/ dl for non-pregnant women and less than 13gm/dl for adult males **4, 5**.

The present study was undertaken to assess the prevalence of anemia among college going girls who were residing in hostels.

Material and Methods

The present study was cross- sectional study, conducted on college going girls, residing in hostel. The study was conceded out from November 2014 to December 2014. The college going girls were belonging to the age groups of 18-25 years. The participants were first informed about the study and written consent was obtained from them, similarly written consent was taken from the principal. A pre-tested Performa was used to collect relevant data. Anaemia status was examined by using biochemical examinations.

Anaemia:

To study the prevalence of anaemia among girls, hemoglobin estimation was done by digital haemometer (mission company). Chi- square test was used for the statistical analysis.

Results

The overall prevalence of anemia among girls was 63.34%. Out of 178 Adolescents College going girls, 113 had varying severity of anemia and only 65girls (36.52%) was normal. Out of 113 anemic students 30 (16.86%) were mildly anemic, 70 (39.32%) were moderately anemic and 13(7.30%) were severely anemic. The mean hemoglobin level of all the students was 11.34 +0.01 gms/dl. The mean haemoglobin level of 113 anemic students was 6.49_+0.3gms/dl and 10.49+1.5gms/dl among 65 normal girls. Similar results were observed by verma (2005), they found (30)10.99+- 0.42mild anemic, Moderate (70)10.99+ 0.7, and (13)7.26 + 1.1 were severe anemic girls.

Out of the 178 girls, majority of girls [n= 113(63.48%)] were in the age group of 20-25 years and rest [n=65(36.51%)] were in late adolescence period (18 -19). The prevalence of anemia was more

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among 20-25 years of age. The prevalence of anemia among the late adolescents was 40.0% whereas; it was 44.44% among 20-25 years of age. This was found to be statistically significant. Thus, the prevalence of anemia was high among the hostel girls of 20 to 25 years of age as compared to late adolescents (18-19).

N. Arlappa1 et.al. (2012). they found Prevalence of anaemia was high among rural pre-school children of Maharashtra, India. The mean haemoglobin level among the children of 1-5years was 10.4 g/dL (CI: 10.2-10.6), with 9.6 g/dL (9.3-9.9) in 1-3 year and 10.6 g/dL (10.4-10.8) in 4-5 year-age group. The prevalence of anaemia was decreased with increase in age where significantly ($p<0.01$) a higher proportion (90.9%) of 1+ year- children were anemic compared to the children of 4+ years (48.1%). **(2)**

Discussion

Anemia is major public health concern in pre- school children and pregnant women in the developing world. While many studies have examined these two at-risk groups, there is a paucity of data on anemia among adolescents who were living in developing countries, in the complex ecologic context of poverty and malnutrition **6**. It is become increasingly evident that control of anemia in pregnant women can be more easily achieved if a satisfactory iron status can be ensured in the adolescent females prior to marriage **7**. The reason for the high incidence of anemia among the adolescent college going girls are, Increased iron requirements because of growth, menstrual loss, discrepancy between high iron need for foods which are rich in iron need for hemoglobin formation and low intake iron containing foods, Erratic eating habits, dislike for foods which are rich in iron, like green leafy vegetables, antioxidants rich food, iron absorption inhibitors in food phytates /tennis / **7.**

The P.V. Kotecha, S.,Nirupam & P.D. Karkar (2009) conducted the studies on Adolescent girls' anemia control programme ,Gujarat, in India. They found prevalence of anemia was75 % in all the three areas. Although level of serum feritin was low. Impact of iron supplementation showed reduction in anaemia by 21.5 % that is, from 74.7 % to 53.2 % ($P<0.05$). Pre- and post-intervention also showed improvement in serum ferritin value. **(3)**

In the present study, it was found that out of 178 adolescent college going girls 113 (63.34%) were suffering from various degrees of anemia and rest of 65(36.52%) girls were non-anemic. This indicated that it was a public health problem of high magnitude as per the WHO guidelines5. In a multi- country study on the nutrition status of a adolescents, which was carried out by international centre for Research on women (ICRW), anemia was found to be the most prevalent in the rural areas of TamilNadu. Approximately prevalence of anemia in those areas was 59.8% and 56% respectively **8.**

Verma R, Govil v.k, Kuldeep, kharb M (2013) conducted a study on "prevalence of anemia in college going youth in rural blocks of northern India" found that overall prevalence of anemia was 43.7 6% **9.**

Thus, the result of various which have been mentioned above, demonstrated that the prevalence of anemia in this study was high as in other parts of the country. This indicates the importance of including adolescents in the risk groups to improve their iron status and the need for planning intervention programs that would increases the hemoglobin levels among the adolescent's girls through prophylaxis treatments, dietary modification and helminthes control.

Ramesh Verma et. al. conducted a study on prevalence of anemia in college going youth in a rural block of Haryana. Severe anemia was found to be 2.6%, where as moderate anemia was 44.38% .

While comparing with study carried out in Haryana we can conclude that prevalence of anaemia was higher than above results, as in our study we found 7.30% girls were sever anemic, 39.32% were moderate anemic and only mild anemia was16.82%. Similarly we found that anemia was more prevalent in girls between the age group 18-19 years (40.00%) as compared to late adolescents (44.44%). The results were close to study done in Haryana **(10).**

Conclusion

It can be concluded that anemia is a major health problem among the college going girls in urban and rural areas of our country. The prevalence of anemia was higher among adolescent girls who were 20-25 of age group.

There was a higher prevalence of mild anemia. Information based programme which enhances knowledge and awareness about dietary habits, health and hygiene issues for adolescent girls and mother can be beneficial in combating under nutrition and anaemia.

Recommendation:

There is need to advocate iron rich food in the diet of adolescent girls. Importance of Grams, Maize, green leafy vegetables ,Mustered leaf, black sesame, ragi, carrot, tomato, beet root ,amla, guava and other citrus fruits ,milk and milk product and red meat should be conveyed properly at regular intervals, as all these food items has high iron content . At least once a week girls should eat antioxidants rich food to get recommended iron per day to gain normal body mass index.

Limitation of the study

The present study was carried out among college going girls of Raipur city, who were residing in hostel, it could not be generalized to whole population where this situation may be worse than the figures shown.

Table NO. 1 Distribution of study participation in relation to Anemia

No. of students 178	N	%	Mean	SD
Anemic	113	63.48	6.49	0.12
Non-anemic	65	36.52	10.49	0.3
Total	178	100	11.34	0.01

Table 2. Distribution of study participates in Relation to the severity of the Anemia N= 113

No. of Students 113		%	Mean	SD
Mild Anemic	30	26.54	10.99	0.42
Moderated Anemic	70	61.94	10.99	0.7
Severe Anemic	13	11.50	7.65	1.1

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