Study of Anemia among Adolescent Girls

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Abstract

Background: In India adolescents constitute about 25% of the population and form an important physiological group whose nutritional needs demand special attention. Adolescence is a significant period of human growth and maturation, when unique changes occur and many adult patterns are established.

Methods: This was cross-section study. All the adolescent girls studying in standards 9th - 12th class who were given consent to hemoglobin estimation were included in the study.

Results: The prevalence of anemia among adolescent girls was found as 73.00%. Out of 73 anemic girls, 52 girls were suffering from mild degree of anemia and 19 girls were having moderate degree of anemia. Only two girl was found severely anemic. The mean values were 104.2 + 11.8 for Serum Iron and 412 + 8.6 for TIBC

Conclusion: The prevalence of anemia among adolescent girls is alarmingly high in India.

Keywords: Prevalence, Anemia, Adolescent.

Introduction

The world's adolescent population (age 10–19 years) is estimated to stand at more than 1 billion, yet adolescents remain largely neglected, difficult-to-measure, and hardto-reach population in which the needs of adolescent girls, in particular, are often ignored.[1]

In India adolescents constitute about 25% of the population and form an important physiological group whose nutritional needs demand special attention [2] Adolescence is a significant period of human growth and maturation, when unique changes occur and many adult patterns are established.[3]

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 skeletal mass during this period.[4] The iron needs are high in adolescent girls because of the increased requirements for expansion of blood volume associated with the adolescent growth spurt and the onset of menstruation.[5]

WHO has classified anemia into three categories: mild (11.0 - 11.9 g/dl), moderate (8.0 - 10.9 g/dl) and severe (< 8 g/dl) anemia [6]. UNICEF classified anemia to be mild in children, adolescent girls and pregnant women if the Hb level in blood is between 8.0 and 10.99 g/dl among children, 10.0 to 11.99 g/dl among adolescent girls and 8.0 - 10.99 g/dl Hb level among pregnant women. For severely anemic the Hb level should be below 5.0 g/dl among children, 8.0 g/dl among adolescent girls and 5.0

g/dl among pregnant women. Accordingly moderate anemia is denoted when the Hb level is between mild and severe anemia[7].

Materials and Method

This was cross-sectional study. All the adolescent girls studying in standards 9th - 12th class who were given consent to hemoglobin estimation were included in the study. The girls ≥20 years, and those suffering from any chronic disease were not included in the study. A total of 100 girls were interviewed and were investigated for their Hemoglobin concentration. A predesigned and pretested schedule was used to collect the information about the participants.

Results

Table 1 : Prevalence of anemia among adolescent girls (N = 100)

Hb level (g/dl)	No. of girls	Percentage
>11	27	27.00
10.0-11.9	52	52.00
7.0-9.9	19	19.00
<7.0	2	2.00
Total	100	100.00

The prevalence of anemia among adolescent girls was found as73.00%. Out of 73 anemic girls, 52 girls were suffering from mild degree of anemia and 19 girls were having moderate degree of anemia. Only two girl was found severely anemic.

Table 2: Distribution of adolescent girls according to general appearance

General appearance	No. of girls	Percentage
Well nourished	64	64.00
Moderately nourished	25	25.00
Mal nutrition	11	11.00
Total	100	100.00

The above table reveals that out of 100 of the adolescents girls 64(64.00%) adolescents girls were well nurshied, 25(25.00%) were moderately nourished and remaining 11(11.0%) were malnourished.

Table 3. Blood iron status and Total Iron Binding Capacity (TIBC) of the subjects.

Blood parameter	Mean	SD
Serum iron(mcg/dl)	104.2	11.8
TIBC(mcg/dl)	412	8.6

The mean values were 104.2 + 11.8 for Serum Iron and 412 + 8.6 for TIBC

Discussion

Anemia during adolescence influence women's entire life cycle. It also has negative consequences for survival, growth, development of their children later in life. The Government of India has made the adolescent health as a part of RCH package since 1997.

Later to combat the problem, Government of India started Adolescent Girls anemia Control Program with technical support from UNICEF. The main interventions of this program were later continued under the heads of SABLA and WIFS scheme under Rashtriya Kishor Swasthya Katyakram (RKSK). In the base line survey for the program by UNICEF, 65- 99% of adolescent girls were found anemic, at various states of country. [8]

In this study the prevalence of anemia among adolescent girls was observed as 73.00%, which is very close to the observations taken by Rati et al[9] and Patnaik et al[10], who found the prevalence as 80% and 78.8% in their studies in rural areas of Karnataka and Odisha respectively. Though Kaur et al [11] observed anemia prevalencerate as 59.8% in rural Wardha (Maharashtra). Whereas a very high

prevalence of anemia (90.1%) was noted by Kulkarni et al [12] in adolescent girls of a urban slum in Nagpur.

Conclusion

The prevalence of under nutrition and anemia among adolescent girls is alarmingly high in India.

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