ORIGINAL RESEARCH

A Study On Pervasiveness And Knowledge Of Anemia Of Adolescent Girls

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Abstract

Introduction: Determining the prevalence of iron deficiency anemia and those factors associated with it among adolescent girls is crucial for initiation of effective intervention that improve their nutritional status to prevent occurrence of different risks during their adolescence, pregnancy, child birth, and beyond.

Methods: Data collection started after getting permission from the concerned authorities. Ethical clearance was also obtained. Before collecting data consent was obtained from the participants. Hb estimation by WHO colour coding and other details were collected by using the interview schedule.

Results: 86% of students were from urban area and 14% were from rural area. Majority of the students(83%) were from nuclear family, 9% of students were from joint family and 8% were from extended nuclear family.

Conclusions: Anemia was found to be a mild public health problem in the study area. Household monthly income, family size, intestinal parasite infections, duration of menstrual flow per each cycle, and BMI for age were the main predictors of anemia.

Keywords: Prevalence of anaemia, adolescent girls, Anemia affects

Introduction

Adolescent girlsconstitute one fifth of the female population in the world.Nutritional anemia is a global problem of immense health significance affecting persons of all age and economic group.

During young age iron plays a vital role for growth and development. A daily diet supplying one mg of iron is required as same amount of loss occurs every day. Hence the children have the greater risk of developing anemia. Anemia affects nearly two billion people, of which 90% arefrom the developing countries. In developing regions of the world, the prevalence of anemia among children has been estimated as 59% and 14% in developed countries.

Need and significance of the study

Adolescence of both sexes are particularly vulnerable to developing anemia because of rapid growth, weight gain, and blood volume expansion and in girls additionally because of onset of menstruation. In girls, middle adolescence growth happens earlier (during12-15years) than in boys(during13-16years).

Girls are more likely to be the victims of the anemia due to various reasons. In a family with limited resources,the female child is more likely to be neglected. The added burden of menstrual blood loss normal or abnormal precipitates crisis too often. Nurses are primary care providers can play a vital role in reducing the incidence of anemia among adolescent girls through assessment and health education programme. The present study was planned to highlight the problem of anemia in adolescent girls.

Different researchers have conducted studies on anemia among adolescent girls from different part of the world. However, the age range which these scholars considered as adolescent differs among the studies and they were not the standard age category between 10 and 19 years. Since using the finding of studies that use different age ranges can negatively affect the impact of interventions, we argue that the studies should be conducted by selecting the appropriate age group.[1-5]

Indeed, the government of Ethiopia had implemented the National Nutrition Program II focusing on reducing prevalence of stunting, wasting, and chronic undernutrition among women of childbearing age. However, intermittent weekly oral iron supplementation for children which is recommended by the WHO was not practically implemented yet to prevent the risk of iron deficiency anemia during childhood.[6] Additionally, studies conducted on anemia among the adolescent girls in the country are not only few in number but also did not address these adolescents' living conditions and their knowledge on anemia prevention and food rich of iron and the effect that these variables have on anemia. In the current study, these factors were considered,[5,7-9].

Furthermore, determining the prevalence of iron deficiency anemia and those factors associated with it among adolescent girls is crucial for initiation of effective intervention that improve their nutritional status to prevent occurrence of different risks during their adolescence, pregnancy, child birth, and beyond.

Materials and Methods
Study approach
Quantitative approach.

Population
Adolescent girls of higher schools.

Sample
Adolescent girls of a higher secondary school.

Samplesize
120

Inclusioncriteria
Adolescent girls who were present on the day of data collection.

Exclusioncriteria
1. Adolescent girls with haematological disorders.
2. Adolescent girls who were not willing to participate inthestudy.

Tools
The tools used were WHO haemoglobin colour scale for the estimation of haemoglobin and an interview scheduleto assesstheknowledge.

Data collection process

Data collection started after getting permission from the concerned authorities.

Ethical clearance was also obtained. Before collecting data consent was obtained from the participants. Hb estimation by WHO colour coding and other details were collected by using the interview schedule.

Results

In the study 40% of girls were in 11th standard, 60% ofgirls were inthe 12th standard.

**Table1: Distribution of girls based on prevalence of anaemia**

Anaemia				Total
Present		Absent		
Frequency	Percentage	Frequency	Percentage	
50	41.6	70	58.3	120

86% of students were from urban area and 14% werefromrural area. Majority of the students(83%) were from nuclear family, 9% of students were from joint family and 8% were from extended nuclear family. From the above table it is clear that prevalence of anaemia in adolescent girls is 40%

Table 2: Distribution of girls based on knowledge regarding anemia

Knowledge	Frequency	Percent
Poor	57	47.5
Average	45	37.5
Good	18	15.0
Total	120	100.0

Figure 1: Distribution of girls based on knowledge regarding anemia
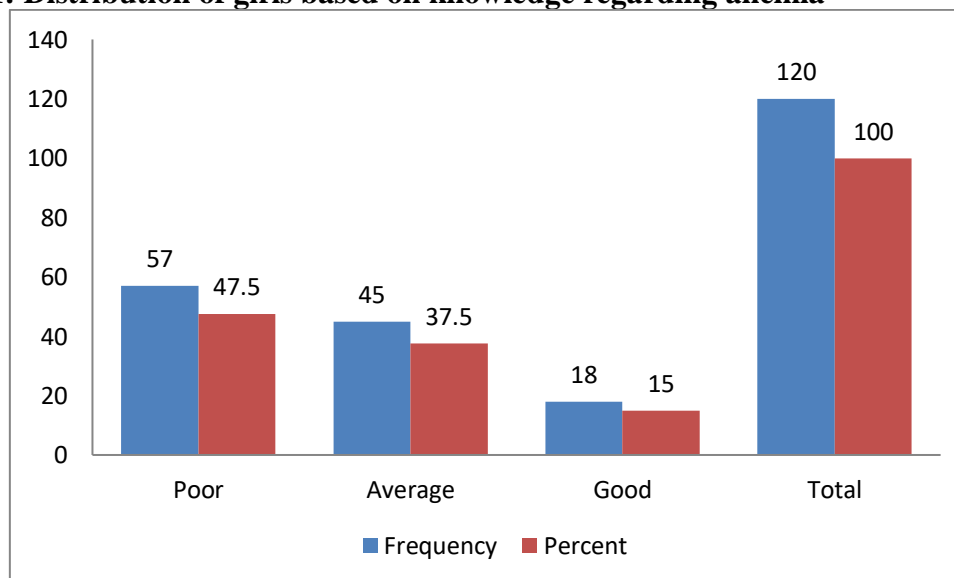
Discussion

The possible reason for this variation might be due to high malaria and intestinal parasite infection, excessive heavy, and irregular menstruation at those study settings. Similarly, it was also lower than those studies reported from Karad district Satara of Maharashtra (45.3%), Lucknow district, Ultarpradesh of India (88.3%) and Anganwadi, Hassan district (45.2%), and Central Kerala of India (21%), respectively.[10-13] This may be due to irregular,

prolonged and heavy amount of menstruation, high intestinal parasite infections and undernutrition, poor knowledge on nutrition and anemia, and skipping of meals.

School adolescent girls who had family size of > 5 were 3.2 times more likely to be anemic as compared to those school adolescent girls with a family size of <5. This finding was in agreement with the finding which is reported by a study done in Bonga town, southwest Ethiopia; household family size 5 was 2.58 times more likely to develop anemia as compared to household family size <5. It was also in line with a study conducted in Tang ail region of Bangladesh, Guntur, Andhra Pradesh of India, Khordha Rural District of Odisha in India, and Chennai, Tamil Nadu of India. This might be due to the reason that the large size of the family can be related to low care for each family member and low family income to obtain variety of foods rich in iron and other micronutrients in those study areas.

Adolescent girls whose average household income is less than 500 ETB were 10 times more likely to develop anemia and those adolescent girls with 501-1000 ETB were 6 times more likely to develop anemia. This was consistent with the finding reported in Berahle district of Afar region that low socioeconomic status was 2.8 times more likely to develop anemia compared to medium ones. This finding was also comparable with studies conducted in Tang ail region of Bangladesh, Guntur, Andhra Pradesh of India, Khordha rural district, Odisha of India, and Hassan District of south India. This might be due to low family income to obtain variety of foods rich in iron and there should be a means in which iron supplementation started for adolescent girls.

Adolescent girls who had history of intestinal parasite were 2.7 times more likely to be anemic compared to those who did not. It was in agreement with a study done in Yala division, Siaya District of Kenya, in which respondents who tested positive for ova of Ascaris were 8 times more likely to develop anemia compared to those who tested negative. This finding was consistent with a previous similar study conducted in Bonga Town, southwest Ethiopia; adolescents who had intestinal parasitic infection were 5.37 times more likely to develop anemia compared to those who did not.[14] Although we were not sure which specific intestinal parasite infection the girls had, intestinal parasites have their own contribution to blood loss which further lead to anemia.

Adolescent girls who had menstrual flow for ≥ 5 days were 2.4 times more likely to be anemic as compared to those adolescent girls with menstrual flow < 5 days per each cycle. This finding was in agreement with similar findings reported in Tang ail region of Bangladesh, Guntur, Andhra Pradesh of India, Khordha rural district, Odisha of India, and Western Kenya [8, 10, 20, 21]. This may due to the fact of blood loss during the menstruation.

Anemia is significantly associated with low BMI for age. Adolescent girls who had a low BMI for age were 3.2 times more likely to be anemic as compared to those who have a BMI for age. Similar findings were also reported in Bonga Town; those with low BMI for age were 2.54 times more likely to develop anemia compared to those with high BMI for age.[14] It was also parallel with the finding in Tangail region of Bangladesh and Chennai, Tamil Nadu of India. Since this study used cross-sectional design the cause-effect relationship was not addressed. Additionally, the study period which is fasting time might have affected the real dietary diversity practice of school adolescent girls.

Conclusion

Anemia was found to be a mild public health problem in the study area. Household monthly income, family size, intestinal parasite infections, duration of menstrual flow per each cycle, and BMI for age were the main predictors of anemia. Thus, school-based Iron folic acid supplementation and regular nutritional screening and deworming program should be implemented to help adolescent girls who are at risk of anemia.

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