

PREVALENCE OF ANEMIA AMONG ADOLESCENT GIRLS IN RURAL AREAS OF KANCHIPURAM DISTRICT

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ABSTRACT:

Background: Iron deficiency is the commonest cause of anemia in the world, and continues to be the most prevalent nutritional anemia in developing countries. Iron deficiency anemia leads to poor pregnancy outcome, impaired school performance, decreased work productivity and other adverse outcomes. Targeting Adolescents girls will prevent iron deficiency during Pregnancy and its consequences.

Aim: The present study was undertaken to assess haemoglobin concentration, haematocrit of 100 adolescent girls in rural areas of kanchipuram district.

Methods: Cross-sectional study was conducted in Adolescent girls (10-19 years) in the schools of kanchipuram district. Haemoglobin concentration and haematocrit value are estimated by the Digital hemoglobin testing system, were hemoglobin is converted into methemoglobin. The intensity of the colour produced from this reaction is proportional to the haemoglobin concentration.

Results: It was found that 36 % was mild anemic, 14% was found to be moderate anemic and 50% were normal and no severe Iron deficiency Anemia. It was found that 88 % was having less haematocrit value. The study concluded that 50 % adolescent girls in the age group of 13-19 years were anemic. It was found that improper diet and social economic status contribute to anemia in adolescent girls. Proper health education and Iron supplementation to be administer to women especially adolescent girls have adequate iron stores prior to conception.

Key Words: Adolescent Girls; Iron Deficiency Anemia; Nutrition Education.

INTRODUCTION

In a most developing countries, Iron deficiency Anemia is a serious Health concern. Adolescents girls need Iron because of increased expansion of blood volume associated with growth spurts and onset of menstruation. Thus poor diet, lower socio economic group, loss due to menstruation, hookworm infections and no added iron supplementation causes high risk of Iron deficiency anemia^(1,2). Iron deficiency during Adolescence can cause poor concentration in studies ,poor physical work capacity, low academic performance in schools. Targeting Adolescents girls will prevent Iron deficiency Anemia in pregnancy and reduce the risk factors associated with pregnancy.³ Anemia is also associated with higher incidence low birth infants and three increased risk of Premature delivery⁴

AIMS AND OBJECTIVES

- To study the prevalence of anemia in Adolescents school girls in rural areas
- To assess haemoglobin concentration, haematocrit of adolescent girls in rural areas.

MATERIALS AND METHODS

A Cross-sectional study was conducted in Adolescent girls (13-19 years) in the schools of kanchipuram district. Subjects were included in the study after obtaining written informed consent.

Inclusion Criteria:

Adolescent girls of age 13-19 were included.

Exclusion Criteria:

Subjects with recent malaria, Subjects with chronic disease like TB, Girls with known diagnosed morbidities like Sickle Cell Anemia, Subjects who are unwilling to participate in the study are excluded. In this study 100 girls were included

Data Collection

The socioeconomic data and demographic data on the subject were collected using standard questionnarie.General characteristics of 100 schools girls participating in this study.

Haemoglobin Assessment

Haemoglobin concentration and haematocrit value are estimated by the Digital haemoglobin testing system, were haemoglobin is converted into methemoglobin. The intensity of the colour produced from this reaction is proportional to the haemoglobin concentration. The methodology used is reflectance photometry.

STATISTICAL ANALYSIS

Results

The general socioeconomic status and health characteristics are shown in the table 1.

Out of 100 Adolescent girls, 89% were Non-Vegetarian, 11% were vegetarian. In home 74 % subjects as sanitary latrines and remaining 26 % does not have toilet facility. 5 % have history of passing worms in stools .95 % of absent of having passing worms in stools.

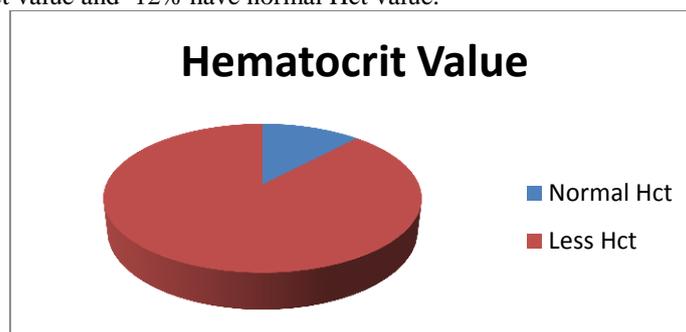
The meat intake of Adolescent girls weekly Once (89%), twice in a week (3%), Monthly (4%). Most of the father occupation is Farmer 60%. Most of girls belong to poor class is 63%.

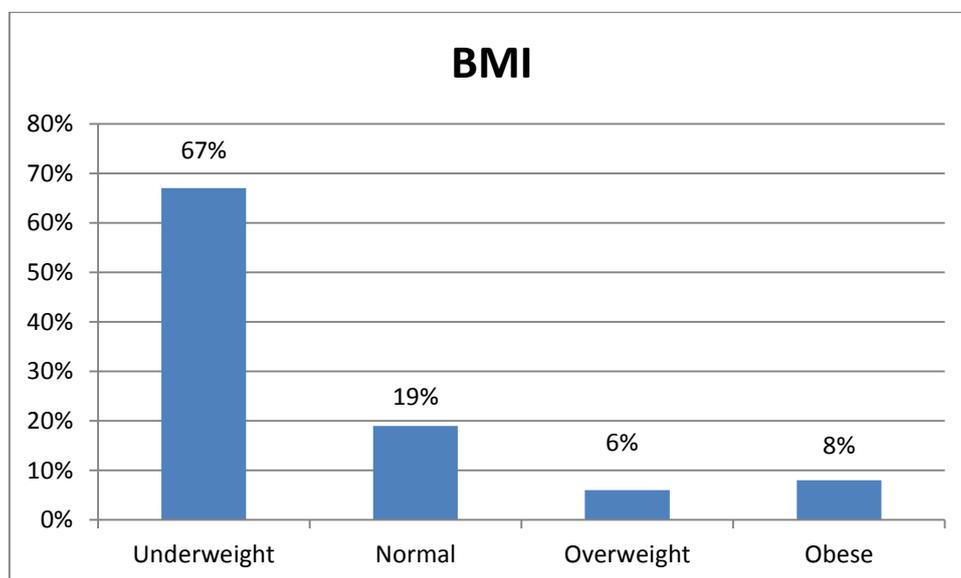
Characteristics	No. (%)
<u>Age</u>	
Early Adolescence	64
Late Adolescence	36
<u>Sanitary latrines</u>	
Present	74
Absent	26
<u>Diet</u>	
Vegetarian	11
Non –Vegetarian	89
<u>History of passing Worms in Stools</u>	
Present	5
Absent	95
<u>Meat Intake</u>	
Once in a week	89
Twice in a week	3
Monthly	4
Nil	4
<u>Menstruation Periods</u>	
3 days	34
5 days	37
7 days	1
Not attained menarche	28
<u>Pallor</u>	
Yes	17
No	83
<u>Occupation(Father)</u>	
Farmers	60
Cooly	13
Others	23
Expired	4
<u>Class of people</u>	
Poor	63
Lower Class	14
Lower Middle Class	8
Middle Middle class	3
Upper middle class	0
Upper class	0
Rich	0
Not known	12

Graph 1 shows that Body mass of index of Adolescent girls in rural area. In that 67% are underweight, 19 % are normal, 6 % were overweight, 8 % were obese.

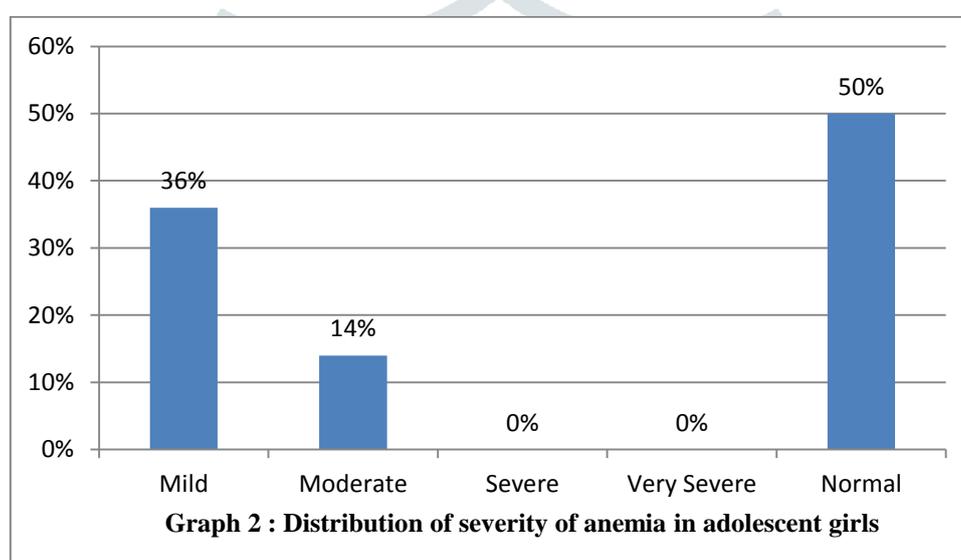
Overall Prevalence of anemia in adolescent girl of age group of 13-17 was found to be 50%. It was observed that out of 100 adolescent girls, It was found that 36% was mild anemic, 14% was found to be moderate anemic and 50% were normal and no severe and no very severe Iron deficiency Anemia.[Graph 2].

88% Adolescent girls have lesser Hct value and 12% have normal Hct value.





Graph 1: Body mass Index of Adolescent girls



Graph 2 : Distribution of severity of anemia in adolescent girls

DISCUSSION

The results from present study were carried out in Adolescent girls selected from the rural area of kanchipuram district. The overall prevalence of Anemia was found to be 50%.

This indicates that Anemia is still a major public health problem. The similar prevalence was reported by jawarkar et al ⁴ (54.8%) , Deshmukh et al (62.8%) ⁵

The prevalence of anemia was higher in Adolescents girls who have attained menarche and low socio economic status in our study. jawarkar et al and kaur et al also documented high prevalence of Anemia who attained menarche

CONCLUSION

The contributing factors of anemia was found to be onset of menarche, Low economic status ,improper diet ,lack of nutrition and lack of health education .Iron deficiency Anemia affect the ability to read, write and learn. Hence nutrition education and Iron and folic acid supplementation should be part of education system to improve iron status in adolescents ,so that after marriage they enter pregnancy without any further complications.

REFERNCE

- [1] Kaur et al., Impact of Nutrition education in reducing Iron Deficiency anaemia in Adolescent Girls.IJFALS.2011 vol.1(4)October-December,pp222-228.
- [2] Dr Sharma N.K et al., Study of Effectiveness of Daily / weekly Iron folic Acid supplementation with or without Intensive Health education among Adolescent Anaemic School Girls of Varanasi(Uttar Pradesh).IJSR Volume 4 Issue 9,September 2015.
- [3] Vir C.S et al., Weekly iron and folic acid supplementation with counselling reduces anaemia in Adolescent girls: A large-scale effectiveness studying Uttar Pradesh, India.
- [4] Jawarkar AK, et al., Prevalence of anemia and effectiveness of iron supplementation in anaemic adolescent school girls at Amravati City (Maharashtra). JHPN. Jan-April vol 2 2015.
- [5] Deshmukh PR, et al., Effectiveness of weekly supplementation of Iron to control anaemia Among Adolescent girls of Nashik, Maharashtra, India. JHPN 2008 Mar26(1) pgno:74-78