



## Prevalence of Anaemia Among Adolescent Girls in Rural Area, Bijapur. A Cross Sectional Study

### KEYWORDS

Anaemia, adolescent girls ,prevalence

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### ABSTRACT INTRODUCTION-

*India has the world's highest prevalence of iron deficiency anaemia among women, with 60 to 70 percent of the adolescent girls being anaemic. Adolescence is considered as a nutritionally critical period of life*

*Objectives-1.To know prevalence of anaemia among adolescent girls*

*2.To study association of socio demographic characteristics in relation to anaemia*

*Material methods-Cross sectional study was conducted in rural area which is field practice area of dept of community medicine, Shri B.M.Patil medical college ,Bijapur.*

*Results - Significant association was found between prevalence of anaemia with type of family, socio economic status, and mother education.*

*Conclusion- A high prevalence of anaemia was found among the adolescent girls*

### Introduction

The word adolescence is derived from the Latin word, 'ad-olence'; meaning "to grow, to mature"<sup>1</sup>. The WHO has defined adolescence as the age period between 10 to 19 years of age. 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. India's population has reached the 1 billion mark, out of which 21% are adolescents. Anemia is widely prevalent in India, developing country and affects both sexes and all age groups. Among adolescents, girls constitute a vulnerable group particularly in developing countries. In a family with limited resources, the female child is more likely to be neglected<sup>2</sup>

Adolescent girls are at a high risk for anaemia and malnutrition. Inadequate nutrition during adolescence can have serious consequences throughout the reproductive years of life and beyond. Very often, in India, girls get married and pregnant even before the growth period is over, thus doubling the risk for anaemia<sup>3</sup>. During this period of adolescents blood volume and muscle mass increases and this in turn is found to increase the need for hemoglobin formation<sup>4</sup>. The risk of iron deficiency among girls remains during her reproductive life and is the most widespread form of malnutrition among women and children

Prevalence of anaemia also depends on socio economic status, literary status of mothers and type of families. Intestinal infestations are particularly important in adolescence as they cause or aggravate malnutrition including iron deficiency anaemia. The present study was planned to highlight the problem of anaemia in adolescent girls in the light of scarcely available literature for this high risk.

### Material and methods :

The data for the present study has been collected from shivangi which is rural field practice area of Department

of Preventive and Social Medicine, Shri B.M.Patil medical college, Bijapur. Calculated sample size was 400 based on the knowledge that about 50% of adolescent girls are anaemic with 10% allowable error within 95% confidence limits. Data was collected during the period of November 2006 to Feb 2007, house to house visit was done. The exact date of births was collected from the birth certificate and school records. The doubtful cases were excluded from the present sample. Detailed information was collected on pre-designed and pre-tested proforma about socio-demographic characteristics for anemia by oral questionnaire method supplemented by physical examination, hemoglobin estimation and stool examination. Hemoglobin estimation was done using Sahli's haemoglobinometer method. Anemia was diagnosed according to WHO guidelines (Demayer, 1989)<sup>5</sup>. Informed consent of the local community leaders and adolescent has been obtained before taking the sample.

### Results :

Among the 400 adolescent girls 285 ( 68.7% ) adolescent girls were found to be anaemic. The prevalence of mild, moderate and severe anaemia among adolescent girls was 44%, 25% and 2 % respectively.

Socio demographic factors which were found to be significantly associated with anaemia in adolescent girls. Prevalence of anemia was significantly higher among adolescent girls belonging to joint family than those belonging to nuclear family ( $p < 0.01$ )

Education of mothers of adolescent girls is significant associated with prevalence of anaemia, significantly higher in those adolescent girls having illiterate ( 57% ) and just literate mother ( 43% ) as compared to better literate mother ( $P < 0.01$ )

Percentage prevalence of anemia was highest among adolescent girls of socio economic class V and significantly re-

duced with rise in socio economic status being minimum (7%) in class I ( P<0.01).

**Discussion;** Overall prevalence of anaemia was 71.6 (295). Majority i. e.176 (44%) were having mild anaemia. Only 8(27%) were having severe anaemia. In early adolescent girls 114(76%) were having anaemia and in late adolescent girls 171(68.4%)were having anaemia. There is no statistically significant difference between these two groups.

Similar study done by Tiwari K et al(2000) studied the prevalence of anaemia among adolescent girls of urban Kathmandu and found that 60.5% girls were anaemic. The same study revealed that there is no significant difference in the prevalence of anaemia between age group of girls. <sup>6</sup>

In the present study, the prevalence of anaemia was significantly higher among the adolescent girls belonging to joint families(57%) as compared to nuclear families (43%). In which may be due to care and availability of adequate food in nuclear family similar findings were observed by CMS et al study conducted at Meerut.<sup>7</sup>

A significantly higher prevalence of anaemia is adolescent girls belonging to lower socioeconomic status. Higher prevalence in low socio economic condition is reflection of economic condition of the family similar findings were seen study conducted by R.Gavanika et al <sup>8</sup>

A significantly higher (P<0.01) Prevalence of anemia in adolescent girls having illiterate mothers compared to literate mothers. Because educated mothers may be more aware of the nutritional requirements of children and take proper care of food. Similar findings by CMS Rawat et al.<sup>7</sup>

There is no statistically significant association between presence of intestinal parasitic infestation and anaemia. The intestinal parasites are not the principal cause of anaemia in this study group and at the best they may be contributory

**Conclusion:** In the present study prevalence of anaemia among adolescent girls is 71.2%. Joint family, illiteracy in mothers and low socio-economic status have contributed to anaemia in adolescent girls.

**Table 1**

	Early adolescent	Late adolescent	Number	Percentage
Mild Anaemia	65	111	176	44%
Moderate Anaemia	47	54	101	25.3%
Severe Anaemia	02	06	08	2%
Normal	36	79	115	28.7%

X<sup>2</sup>=5.96 df=3 p>0.05

**Table 2**

Family composition	Positive	Negative	
Nuclear	135(47.3%)	83(72.2%)	X <sup>2</sup> =5.96
Joint	150(52.6%)	32(27.8%)	Df=1
Total	285(71.2%)	115(28.2%)	P<0.01
Mother education			
Illiterate	20(7%)	10	
Primary	130(45.6%)	36	X <sup>2</sup> =13.19
Secondary	55(19.3%)	32	Df=5
High school	38(13.3%)	24	P<0.05
PUC	27(9.5%)	5	
Graduate	15(5.3%)	08	
Socio economic status			
Class I	20(7%)	10	
Class II	38(13.3%)	20	
Class III	45(15.8%)	24	X <sup>2</sup> =10.47
Class IV	72(25.3%)	36	Df=4
Class V	110(38.6%)	25	P<0.05

**Table 3 Association between presence of anaemia and intestinal parasitic infestation**

Cases	Intestinal parasitic infestations				Total
	Present		Absent		
	Number	%	Number	%	
Anaemia cases	46	63.9	239	67.66	285
Non -Anaemic cases	26	36.1	89	32.33	115
Total	72	100	328	100	400

X<sup>2</sup>=2.32 df=1 p>0.05

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