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NUTRITIONAL STATUS AND PREVALENCE OF ANEMIA AMONG ADOLESCENT GIRLS IN URBAN SLUM, BIJAPUR

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ABSTRACT

Background: Girls are more likely to be victim due to various reasons. In a family with limited resources, the female child is more likely to be neglected. She is deprived of nutritious food, education and utilized as an extra working hand to carryout the house hold work. If their nutritional needs are not met they are likely to give birth to under nourished children, thus transmitting under nutrition to future generation. Prevalence of anemia was high in adolescent girls from low socio-economic families and joint families due to inadequate intake of diet by the adolescent girls. The present study is under taken to know the nutritional status and prevalence of anemia among adolescent girls. **Objectives:** 1. To assess the nutritional status of adolescent girls 2. To estimate the prevalence of anemia among Adolescent girls.

Method: Community based cross-sectional study was done in urban field practice area of BLDEAS Shri B.M.Patil Medical College, Bijapur. The study subject includes all adolescent girls who have attained menarche. Data was collected by questionnaire method and analyzed. **Results:** The overall prevalence of anemia was found to be 78.93%. It was observed that statistical significance was found between socioeconomic status with Body Mass Index as well as Anemia. **Conculsion:** This study concludes that under nutrition and anemia were widely prevalent in adolescent girls. There is a need to initiate intervention measures aimed at this group in order to reduce the prevalence of anemia and under nutrition.

Keywords: Anemia, under nutrition, BMI, Socioeconomic, Education.

INTRODUCTION

Adolescence, a period of growth spurt between the ages of 10-19 years¹ and is also a high risk group for nutritional deficiency disorders. It is a period of increased nutritional requirements because during this period 35% of weight and 11-18% of adult height is acquired.² During the period of adolescence, blood volume and muscle mass increases and that in turn is found to

increase the need for hemoglobin formation and lack of proper nutritious diet leads to anemia.³

In our country, the prevalence of anemia amongst adolescent girls varies between 50-82%⁴; such a high prevalence of anemia among adolescent girls is a matter of great concern as these girls enters reproductive life. Girls are more vulnerable, particularly in developing countries including India due to adverse socio-cultural and economic reasons. The WHO Expert committee has recommended that measures of Height and Weight provide useful

source of data for assessment of growth status of adolescents⁵.

The present study was conducted to assess the problem of under nutrition and prevalence of anemia among adolescent girls of urban field practice area.

Objectives

1. To assess the nutritional status of adolescent girls
2. To estimate the prevalence of anemia among adolescent girls.

MATERIALS AND METHODS

Community based cross-sectional study was done in urban field practice area of BLDEA'S Shri B.M.Patil Medical College, Bijapur for a period of one month. The Adolescent population is about 22.5% (2001 census)⁶ Both boys & girls are almost equal. The Population of Urban Health Centre is 6000. Adolescent population constitutes about 1350 & adolescent girls population is 675. Adolescent girls who have attended menarche is 400, among them 342 adolescent girls were available. remaining 48 girls could not cooperate for interview .

House to house visit was done all the respondent parents were explained in detail about the purpose & methodology of the study. After taking consent, they were interviewed, examined & investigated.

A pre-tested, pre-designed questionnaire was used to record information. Statistical methods like Percentage and Chi-square test was applied.

Tools for measurements

Nutritional status was assessed by anthropometric measurement(Height & Weight) using standardized methodology as recommended by WHO.⁵ Body mass index was computed using standard equation Body Mass Index (kg/ml)= $Wt(kg)/Ht^2$ (tm).⁷Hemoglobin estimation was done by Shale's method. Depending on Hemoglobin level severity of

anemia was graded as mild (10-12% gm/dl). Moderate (7-10gm/dl), severe (<7gm/dl).⁸

RESULTS

The present study comprised of 342 adolescent girls and majority of the respondents belonged to the age group of 18yrs i.e. 69(20.18%) followed by 19yrs (16.08%). As per the religion wise distribution 184(53.81%) were Hindus & 158(46.20%) were Muslims. Maximum number of girls belonged to nuclear families i.e. 64.61% & 35.39% to joint family.

Of the total adolescent girls 67(19.59%) were married and mean age at marriage was 16.38 ± 1.89 . In the present study 94.74% girls were literate and 51.75% were from lower socioeconomic status class IV & V (Modified B G Prasad Classification)⁹

157 (46%) adolescent girls were studying and 185 (54%) were discontinued.288 (84.2%) respondents dietary habit was mixed and 54 (15.8%) were vegetarian.

Present study observed that statistical significant was found between education with BMI ($p=0.022$) as well as Anemia ($p=0.0001$). (Table- 1). Association was also found between socio-economic status with Anemia ($p=0.009$) and BMI ($p=0.049$) (Table- 2).

It was observed that majority of the respondents had anemia (78.93%), among them 54.38% of them had mild anemia. Significant association was found between education of mother and anemia ($p= 0.01$).

DISCUSSION

In the present study of the 342 adolescent girls, 94.74% girls were literate. Among the literates 156(46%) were currently studying and 186(54%) were drop outs. This may be due to the fact that there is cultural practice of not giving higher education and there is belief that it is of no use for girls. The study from Tulsiwadi slum community showed that for 13% girls'

further education was refused merely because they were girls. At the same time 32.81% discontinued because of domestic work & 6.25% due to poverty.¹⁰

The present study found that 19.59% girls were married and mean age at marriage was 16.38±1.89. And 51.75% were from low socio-economic status. This may be due to fact that more number of parents was illiterates. Koshi E P, studied 568 adolescent girls from Lucknow¹¹ observed that 75.4% came from families with social-class IV & V, which is higher than the present study.

Association of education and socio-economic status with BMI and anemia was observed in the present study could be due to better affordability of quality and quantity of food items with increasing literacy and socio-economic status. and also may be due to better knowledge of nutritive value of food, similar finding were observed by Toteja GS et al¹² Rawat et al¹³ and A. Saibaba et al.¹⁴

Association of the prevalence of anemia with education status of mother reflects better awareness among literates mother. Sanjeev et al¹⁵ also observed the same findings in his study.

Nutritional status of the study subject had been significantly influenced by their education status and socio-economic status. Similar finding was observed by S.Chowadary et al.¹⁶

In the present study there is no significant association found between BMI and Anemia. Similar finding were observed by S.Kaur et al.¹⁷

Conclusion and Recommendations

This study has demonstrated that under nutrition and anemia were widely prevalent in adolescent girls of urban slum of Bijapur district, Karnataka. Thus considering their high risk status. There is need to initiate intervention measures aimed at this group in order to reduce the prevalence of anemia and under nutrition. Our recommendations are

1. There is need create awareness about the quality of food rather than the quantity.
2. Develop strategies for intensive nutritional education.
3. Existing national nutritional programmes like anemia prophylaxis should be strengthened.
4. More focus should be on the interventions not only at the household level but also at the community level to bring about some real change, as today's adolescent are the future of the country.

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Table - 1: ASSOCIATION BETWEEN EDUCATION AND ANAEMIA

| Education | Anemia | | | | | | | | Total |
|--------------|----------|-------------|-----------|--------------|------------|--------------|-----------|--------------|------------|
| | <7 | | 7-10 | | 10-12 | | >12 | | |
| | No | % | No | % | No | % | No | % | |
| Illiterate | 2 | 25 | 6 | 7.89 | 9 | 4.83 | 1 | 1.38 | 18 |
| Primary | 3 | 37.5 | 30 | 39.47 | 17 | 9.13 | 7 | 9.72 | 57 |
| secondary | 2 | 25 | 18 | 23.68 | 68 | 36.55 | 16 | 22.22 | 104 |
| High school | 1 | 12.5 | 15 | 19.73 | 46 | 24.73 | 16 | 22.22 | 78 |
| PUC | 0 | 00 | 6 | 7.89 | 36 | 19.35 | 26 | 36.11 | 68 |
| Degree | 0 | 00 | 1 | 1.31 | 10 | 5.37 | 6 | 8.33 | 17 |
| Total | 8 | 2.33 | 76 | 22.22 | 186 | 54.38 | 72 | 21.02 | 342 |

Pooled $X^2 = 65.67$

df =10

P= 0.0001

Table - 2 ASSOCIATION BETWEEN SOCIO-ECONOMIC STATUS AND BMI

| SE-Status | BMI | | | | | |
|--------------|-------------|--------------|------------|--------------|------------|------------|
| | underweight | | Normal | | Total | |
| | No. | % | No. | % | No. | % |
| I | 3 | 1.80 | 10 | 5.68 | 13 | 3.80 |
| II | 16 | 9.63 | 27 | 15.34 | 43 | 12.57 |
| III | 49 | 29.51 | 60 | 34.09 | 109 | 31.87 |
| IV | 60 | 36.14 | 50 | 28.40 | 110 | 32.16 |
| V | 38 | 22.89 | 29 | 16.47 | 67 | 19.59 |
| Total | 166 | 48.53 | 176 | 51.47 | 342 | 100 |

$X^2 = 9.527$

P=0.049