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A Study on Nutritional Status among Adolescent Girls in Urban Slums of Visakhapatnam City, Andhra Pradesh State

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Abstract:

Background: *In India adolescents (10-19) constitute 21.4% of population, comprising one fifth of the total population. Growth monitoring by anthropometric measurement during this period is not only a health indicator but also a predictor of various morbidity in the community.*

Objectives: *To study the 1. Socioeconomic status of study population. 2. To assess the nutritional status of a dolescents by anthropometry.*

Methodology: *A Community based cross- sectional study was done.A sample of 100 adolescent girls who were attending Anganwadi centers were included; pretested questionnaires was administered and height and weight were recorded.*

Results: *Mean age of study population was 16.4 yrs; 65% had secondary level education and the rest had primary education. 35% of adolescent girls had BMI <18.5. Maternal education had no association with nutritional status of adolescent girls.*

Conclusion: *Nearly one third of adolescent girls were suffering with Chronic Energy deficiency, indicating that there is a need for focused health and nutrition education among adolescent girls.*

Keywords: *Adolescent girls, chronic energy deficiency, Nutritional status*

I. Introduction

As per WHO, the age group of 10-19 years is considered as adolescence. It is a period of increased nutritional requirements because it is during this time that they gain up to 50% of their adult hood and skeletal mass. In India adolescents (10-19) constitute 21.4% of population, comprising one fifth of the total population. Therefore comprehensive health care of this section will fulfill health need of 1/5 population. [(1)] Adolescence is a time when the body prepare itself for the nutritional demands of pregnancy, lactation and heavy work load that girls will soon experience. The urban adolescent girl is subjected to more physical and mental challenges on a day to day basis due to ever increasing presence of modernization. [(2)]

Growth monitoring by anthropometric measurement during this period is not only a health indicator but also a predictor of various morbidity in the community. Health and nutrition of the girls of today will affect the health and survival of the future generation. [(3)]

Objectives: The present study was taken up to study 1. Socioeconomic status of study population. 2. To assess the nutritional status of adolescents by anthropometry.

II. Methodology

A community based cross-sectional study was done. Adolescent girls attending Anganwadi Centers were taken as study population. A total of 5 Anganwadi centers were covered to meet the sample size of 100 adolescent girls. All the girls who gave informed consent to participate in the study were included. A pretested questionnaire was administered and height and weight were recorded. BMI was calculated and WHO'S classification was used to classify the nutritional status. Other study variables include age, literacy, education, type of family, age at menarche etc. Data was analyzed manually and relevant tests were applied and $P<0.05$ was considered as statistically significant.

III. Results

In our study 100 adolescent girls were included.

Table No. 1. Distribution of study population according to age

Age(yrs)	N (%)
12-13	6(6)
14-15	27(27)
16-17	35(35)
18-19	32(32)
Total	100(100)

The age of the study population ranged from 12-19 years with mean age of 16.4 years. More than one third (35%) were in the age group of 16-17 years and (32%) were 18-19 years of age.

Regarding educational status none were illiterates, 65% had high school education and the rest of 35% had primary level of education. None were graduates. When the illiteracy status of parents was enquired 57% of fathers and 67% of mothers were illiterates. Majority of the girls (84%) belong to nuclear type of family 10% were from joint family and the rest of 6% were from three generation family. All the adolescents were from below property line.

Table No. 2. Distribution of study population according to Parental education:

Education	Father n (%)	Mother n (%)
Illiterate	51(51%)	67(67%)
Primary	22(22%)	14(14%)
High school	25(25%)	19(19%)
Intermediate	1(1%)	
Degree	1(1%)	
Total	100(100%)	100(100%)

Nearly half (51%) of the fathers in the study population and (67%) of the mothers were illiterates.

Nutritional status:

BMI >25 = 5
NORMAL: (18.5- 24.99) = 60
Chronic energy deficiency (CED)<18.5 = 35

GRADES of CED : I - 17-18.5 =16
II - 16-17 = 9
III - <16 = 10

In our study, 35% of the girls were having chronic energy deficiency (BMI < 18.5) of whom, 16% had grade I, 9% had grade II and 10% had grade III CED.

Table No. 3. Distribution of study population according to Mother's education vs. BMI

Mothers education	BMI		Total
	<18.5	≥18.5	
illiterate	26	41	67
Literate	11	22	33
Total	37	63	100

Chi-square value = 0.284,df =1,P = 0.594

There is no significant association between mother's education status and BMI of the study population.

The weight of the study population ranged from 31 k.gs- 78 kgs. The Height of the study participants ranged from 140- 165 cms with mean height of 149.38 cms.

On clinical examination, 36% of the adolescent girls were having pallor of conjunctive & tongue. Majority 98% attained menarche and the mean age at menarche was found to be 12.79 years. On further analysis it was observed that 59% were having dysmenorrhea, of whom all were malnourished 57% were having under nutrition and 2% were having over nutrition.

IV. Discussion

In our study the age of the study population ranged from 12-19 years with mean age of 16.4 yrs. In our study 35 % of the girls were under weight (BMI <18.5) whereas 51.7 % of girls were underweight in a study done by Dambahare DG et al [(1)] and 17% were underweight in a study done by Beena Sachin et al [(4)]. 80% of the girls were undernourished in a study done by M. Kalhan et al[(5)] and 75.5% in a study done by Ganga Bhavani Guduri et al [(6)] In our study it was observed that 35% of adolescent girls were have CED (i.e. BMI <18.5). This

finding is comparable to a study done by prashant et al [(2)] where the prevalence of underweight was 42% among adolescent girls in all urban slum community. Nearly 36% study population had pallor in our study where as 38.89% in a study done by Dambahare DG et al [(3)], in a study conducted by Ganga Bhavani et al[(6)] 10% of the adolescents had pallor.

V. Conclusion

Nearly one third of adolescent girls were suffering with chronic Energy deficiency indication that there is a need for focused health and nutrition education among adolescent girls.

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