

Assessment of Nutritional Status among Early Adolescent Girls (11-14 Years) Attending Government Schools of Visakhapatnam City

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Abstract:

Introduction: Adolescence is a transition period between childhood and adulthood and they constitute 21.4% of the total population. Adolescent health and nutrition are important issues which have not received the attention it deserves in our country, especially in the context of a girl child. Hence an attempt was made to assess the nutritional status of early adolescents attending government schools. **Methodology:** A cross sectional descriptive study was conducted among 102 early adolescent girls (11-14 years) attending government school in Visakhapatnam city. Study variables were age, religion, education of the mother, birth order, type of family, BMI, etc. **Results:** Nearly 3/4th (76.46%) of study population were in the age group of 12-13 years and their mean age was found to be 12.67 years. Regarding birth order, 38 were first born, 43 were second born, 20 were third born and one was fourth born. Weight of our adolescent girls ranged from 19 kgs to 64 kgs with mean weight of 36.5 kgs. Nearly 3/4th (74.5%) of adolescent girls were having chronic energy deficiency (BMI <18.5). 24.5% were having normal BMI and one girl was overweight. At the time of study, on clinical examination 10 were found to be pale, 13 were having dental caries and one child was identified as having Bitot's spots. **Conclusion:** It was found that large proportion of adolescent girls were undernourished. Changes in food habits of adolescents are required for bringing the improvements in the nutrition status of adolescents.

Key Words: Adolescent girls, Chronic energy deficiency, Nutritional status

I. Introduction

Adolescence is a transition period between childhood and adulthood⁽¹⁾. WHO defines adolescence from age 10-19 years⁽²⁾. They constitute 21.4% of the total population⁽³⁾. Early adolescence among girls is considered more crucial as far as growth and development of reproductive systems including health and nutritional status of individual is concerned. On account of practice of early marriages and potential exposure to greater risk of morbidity and mortality adolescent girls constitute a vulnerable group⁽⁴⁾. During the phase of rapid growth the adolescents are at a high risk of developing malnutrition. It is common among adolescents from poor socio-economic status and from rural and urban slum areas⁽⁴⁾.

Adolescent health and nutrition are important issues which have not received the attention it deserves in our country, especially in the context of a girl child. Hence an attempt was made to assess the nutritional status of early adolescents attending government schools.

II. Methodology

A cross sectional descriptive study was conducted among early adolescent girls (11-14 years) attending government school in Visakhapatnam city. All the girls who were in the above age group and physically present at the time of study were included. A prior permission was obtained from the school authorities for the conduct of study. It was conducted in the month of December 2013. Study variables were age, religion, education of the mother, birth order, type of family, BMI, etc. Clinical examination of the students was done to detect the signs of nutritional deficiency i.e., conjunctival pallor, Bitot spots etc., Data was analysed manually and relevant statistical tests were applied.

III. Results

In our study, a total of 102 adolescent girls attending government schools were included. Nearly 3/4th (76.46%) of study population were in the age group of 12-13 years and their mean age was found to be 12.67 years. Almost 78% were Hindus, 16.6% were Christians and the rest were Muslims by religion.

Regarding educational status of the mother, 42% stated that their mothers were illiterates and 1/3rd (33%) had secondary level of education. Among the mothers of the study subjects, 38 were unemployed and 54 were engaged in semi-skilled work like sweeping, domestic help, working in pan shops etc. One mother was a teacher by occupation.

In our study 55% attained menarche and the mean age at menarche was 12.23 years. Among those who attained menarche, 37 girls stated that their menstrual cycles were regular.

Regarding birth order, 38 were first born, 43 were second born, 20 were third born and one was fourth born.

Weight of our adolescent girls ranged from 19 kgs to 64 kgs with mean weight of 36.5 kgs (± 7.94). Height of study population ranged from 124 cms to 162 cms with mean height of 145 cms (± 8.37).

Nearly 3/4th (74.5%) of adolescent girls were having chronic energy deficiency (BMI <18.5). Only 25% were having normal BMI and one girl was overweight. On further analysis it was observed that 63% (48/76) of them were either second or third born.

At the time of study, on clinical examination 10 were found to be pale, 13 were having dental caries and one child was identified as having Bitot's spots. None of the children were receiving IFA supplementation.

IV. Discussion

In the present study, malnutrition was found to be very high (74.5%) which is of concern among adolescent girls. This finding is in contrast with previous studies where the range is between 24 - 51.7%⁽³⁾. Nearly 10% of the adolescents had pallor in our study whereas it was 28.45% in a study done by Damhare DG on nutritional status and morbidity among school going adolescents in Wardha⁽³⁾, and 30% in another study conducted by Vinod Wasmik⁽⁵⁾.

Among the study participants, dental caries was observed in 12.75% of the girls in contrast to a study conducted by Damhare DG et al where 35.34% of their study population were having dental caries and it was 27.1% in another study conducted by Vinod Wasmik⁽⁵⁾.

V. Conclusion

It was found that large proportion of adolescent girls were undernourished. Changes in food habits of adolescents are required for bringing the improvements in the nutrition status of adolescents.

Table No.1: Distribution of study subjects according to type of family, housing and ration card (N=102)

Type of family	n	(%)
Nuclear	73	(71.56)
Joint	7	(6.86)
Three Generation	14	(13.72)
Others	8	(7.84)
Type of Housing		
Pucca	68	(66.66)
Semi pucca	30	(29.41)
Kutcha	4	(3.92)
Type of Ration Card		
White	87	(85.29)
Pink	3	(2.94)
No card	6	(5.88)
Not known	6	(5.88)

Table No.2: Distribution of study population according to number of siblings (N=102)

No. of siblings	n	(%)
0	2	(1.96)
1	46	(45.09)
2	37	(36.27)
3	17	(16.66)
Total	102	(100)

Table No.3: Distribution of study population according to Nutritional deficiencies

Nutritional deficiencies	n	(%)
Pallor	10	(9.8)
Dental caries	13	(12.74)
Vitamin A deficiency	1	(0.98)

Table No.4: Distribution of study population according to BMI (N=102)

BMI	n	(%)
Under weight (<18.5)	76	(74.5)
Normal (18.5 – 24.99)	25	(24.5)
Over weight (≥ 25)	1	(0.98)
Total	102	(100)

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