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Nutritional status of adolescent girls (13-14yrs) of rural area of Nanded district

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Abstract
An adolescent is in marked percentage in total population. A number of adolescent in India particularly girls live under suboptimal condition marked by poor nutritional status. Today's adolescent girls are tomorrows mothers if the nutritional status hamper here leads to poor health of would be mothers.
The present study was undertaken to study the nutritional status of adolescent girls of Nanded District. Anthropometric measurements of 14 and 15 years of girls were taken to assess nutritional status mean height and weight as well as BMI was worked.
It can be concluded that the studied sample adolescent girls means height and weight were below the NCHS standards. About 60% girls were below the suggested weight as calculated by BMI. There finding are parallel to findings of other scientists.

Keywords: anthropometry, adolescent, BMI

Introduction
Adolescents constitute over 21.4% of the population in India. In most developing countries, nutrition initiatives have been focusing on children and women, thus neglecting adolescents. Addressing the nutrition needs of adolescents could be an important step towards breaking the vicious cycle of intergenerational malnutrition, chronic diseases and poverty. The extent of under nutrition is high among the adolescents. Adolescent girls in rural areas compared to urban could be at greater risk of nutritional stress because of early marriage and early conception before completion of their physical growth.
A number of adolescent in India particularly girls live under suboptimal condition marked by poor nutritional status. Nutritional anemia is more commonly prevalent among adolescent. On the basis of available data on physical growth of adolescent girls, it can be said that marked percentage of girls are found to have low body weight and less height as compared to the standard value (Gupta, *et al*, 1990)
Adolescence is process of development from childhood to maturity and adulthood. It has been defined as period between 10-18 years (NIPCCD, 1989) [8]. Recently it was estimated that there were about 69.7 million adolescent girls constituting about 7% of the total population (Venkaiah, K, *et al*, 2002)

Methodology
The present study was carried out to assess nutritional status of rural adolescent girls of Nanded district of Maharashtra state. The focus was on the growth of adolescent girls through anthropometric measurements. Pre planned questionnaire was prepared to collect the data.

Selection of sample
The sample of the study was school going girls who were attending higher secondary school. The sample was selected randomly. The sample consists of 100 girls aged between 13 – 14 years. The study samples were collected from the village Pawade Wadi and Musalman Wadi grampanchayat of Nanded District of Maharashtra state.

Socio-economic information
Socio-economic back ground of selected sample was assessed by personally interviewing the subjects using pre-planned questionnaire. Information on age, economic status, educational qualification, occupation of parent were also recorded.

Anthropometric Measurements
The anthropometric measurements of subjects were recorded by using standard procedures (Jelliffee, 1966) [5]. Measurements include were heights and weights of selected sample. Body weights of girls were measured to the nearest 0.1 kg with the help of portable weighing machine. Heights of subjects were measured to the nearest 0.1 cm by non-stretchable metal tape.

Statistical Analysis
Statistical analysis of collected data was carried out after consolidation and computation to interpret the result and conclusions. The "t"-test was applied to find out significance of difference between two parameters.

Result & Discussion

Table 1: Comparison of mean weight of adolescent girls with NCHS standard

Age (yrs)	Mean weight (kg) of studied sample	NCHS standard	t-test
13 Yrs (n = 50)	41.11 ± 5.70	48.00	3.94**
14 Yrs (n = 50)	42.03 ± 6.91	51.40	9.72**

** Significant at 1% level

Table1 revealed that mean values of weights for 14 and 15 years aged adolescent girls, 41.11 ± 5.70 and 42.03 ± 6.91 respectively. There was a significant difference observed when compared with NCHS standards. The girls of both age groups were lighter than their American counterparts (NCHS).

Table 2: Comparison of mean height of adolescent girls with NCHS standard

Age (yrs)	Mean height (kg) of studied sample	NCHS standard	t-test
13 Yrs (n = 50)	154.73 ± 5.10	159.00	2.31**
14 Yrs (n = 50)	155.01 ± 4.80	161.00	6.91**

** Significant at 1% level

The mean height of studied sample was elaborated in table 2. It can be said that adolescents girls of 14 and 15 years age recorded their heights 154.73 ± 5.10 and 155.01 ± 4.80 respectively. A significant difference was observed between height of selected sample and NCHS standard at 1% level. The studied sample were shorter as compared with their American counterparts (NCHS)

Table 3: Body mass Index (B.M.I.) of adolescent girls

Grade	BMI	%of respondents
Under weight	< 18.5	60
Normal weight	18.6 – 24.9	36
Over weight	25 – 29.9	04
Obese grade I	30 – 34.9	-
Obese grade II	35 – 39.9	-
Obese grade III	> 40	-

Table 3 Indicates that 60% respondent belongs to underweight (<18.5 BMI) which is alarming and needs attention to supplement their food with additional nutrients so that they reach to normal level. About 36% girls were belonging to normal range of 18.2 – 24.9, indicating their normal growth and development. Only 4%of the respondents were of overweight. None of the respondents were in obese I, obese II and obese III category.

Conclusion

The mean weight and height of selected sample of adolescent girls was below the average weight and height of their counterparts of NCHS standards. It can be concluded that mean weight and height of selected sample were very far from their American counterparts (NCHS).

From BIM data, it was clear that about 60% of sample was under weight and only 36% sample was according to the standards. Today's adolescent girls are tomorrow's mother and if these are under nourished then what will be the future of children to be delivered by these girls.

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