



Nutritional Assessment of Adolescent Girls of Porbandar District

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Abstract:

The present study has been conducted on adolescent girls belonging to Porbandar District. The main aim of the study is to perform anthropometric assessment of adolescent girls by recording weight, height and BMI and also to study the dietary pattern among them. Questionnaire was used as research tool to collect data from girls. 71.6% of girls were not involved in any type of physical activities. 38% and 30.4% of girls were obese and overweight respectively. Present study also revealed that only 27% of girls had normal BMI. 63.6% of girls like to have all food items including spicy, sweet and oily.

Key Words: Nutritional Status, Adolescent, Physical Activity

INTRODUCTION:

Adolescence is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood, a window of opportunity to pick up growth and correcting poor nutritional practices. The sensitive indicators of health, growth and development are the Anthropometric measures. The ultimate intention of using anthropometric measures is to improve overall human health. (Beghin et al., 1988). Malnutrition refers to an impairment of health either from excess or deficiency or imbalance of nutrients, which is of great public concern among adolescents. It has now been well established that the BMI (Body Mass Index) is the most appropriate variable for determining nutritional status among adolescents (WHO, 1995; Himes and Bouchard 1989; Must et al., 1991; Rolland-Cachera, 1993). Maximum physical growth and sexual maturation is achieved during adolescent phase of life. As Nutrition is an important area which plays a vital role in physical growth of adolescents, it requires a great attention too. Inadequate nutrition during adolescent phase can have serious consequences throughout the reproductive years and beyond. Under nourished girls may face complications during pregnancy, giving birth to low weight baby, premature baby. Therefore for preventing future health related problems adolescent nutrition is very much important. Hence it is utmost importance that parents of adolescent girls must pay particular attention in fulfilling their nutritional needs. For achieving full growth potential optimal nutrition is requisite. Inadequate diet may result in

delayed sexual maturation and retarded physical growth. The most important nutrients that need to increase during this critical phase of life are Energy, Protein, Fat, Calcium and Iron.

AIM:

- a. To perform anthropometric assessment of adolescent girls by recording weight, height and BMI.
- b. To study dietary pattern among adolescent girls.

METHODOLOGY:

The research study was performed in eight schools of Porbandar District. The design used in the study is cross-sectional in nature. 500 girls from different schools of Porbandar district were selected randomly. Data was collected on 2008. The written permission from respective school authority was taken and also consent from the parents of the participants was obtained. Girls of different socio-economic classes were included for the study. Due to time and resource constraints it made it obligatory to study subjects from schools rather than from community.

Specially designed and well-modulated questionnaire was used as research tool to collect data. Questionnaire was divided into three modules. First module included demographic data, Second module was about anthropometric measurements and the third module dealt with the dietary pattern. The questionnaires were kept anonymous as well as confidential.

Since the body measurements are an indicator of nutritional status, parameters like Height, Weight, BMI were assessed. All the anthropometric measurements were taken following the standard techniques. BMI was computed using equation $\text{Weight (Kg)}/\text{Height}^2 (\text{m}^2)$. The data obtained were entered in Excel sheet and coding was done wherever required. Using IBM SPSS Statistics version 20 the data drawn from the filled questionnaire were further studied in terms of frequencies, percentage distribution of girls, average and standard deviation.

RESULTS AND DISCUSSIONS:

Classification of Girls According To the Family Type

No. of Girls	Joint Family	Nuclear Family
500	232(46.4%)	268(53.6%)

At present with the modification in standard of living and the new approach of small family by all, most of our respondents were happened to be from small family. From the above table 53.6% and 46.4% of girls were belonging to nuclear and joint family respectively.

Classification of Girls According To Their Physical Activity

No. of Girls	Number of Girls Performing Physical Activity	Number of Girls Not Performing Physical Activity
500	142(28.4%)	358(71.6%)

Reduced physical activity may result in reduced energy expenditure which may result in weight gain. Increase in weight may be one of the causes of early menarche. 71.6% of girls were found not performing any kind of physical activity. On the contrary only 28.4% of girls were found performing physical activity.

Anthropometric Measurements

The second module in the questionnaire dealt with the anthropometric measurements. The data collected in this module is represented below. (Note: All the anthropometric measurements were collected after menarche took place)

BMI (Body Mass Index)

Classification of Girls According to the Body Mass Index

No of Girls	Under Weight	Normal	Over weight	Obese
500	23(4.6%)	135(27%)	152(30.4%)	190(38%)

By calculating BMI the nutritional status of the girls was assessed. Among 500 girls, 135(27%) girls had normal BMI. Also the percentage of girls who were belonging to obese category was comparatively higher (38%) than the other three categories. It is also clear from the above table that the percentage of girls (30.4%) belonging to obese category is also comparatively higher than Normal category. It seems that lifestyle, low physical activity; overconsumption of fast food and high fat diet may be the factors leading to overweight and obesity of the early menarching girls in the present study.

Dietary Details

In this module of the questionnaire the general dietary information and 72 hours food recall data was obtained which are represented in the below tables.

Food Allergy:**Classification of Girls According to Food Allergy**

No. of Girls	Number of girls experiencing food allergy	Number of girls not experiencing any allergy
500	60(12%)	440(88%)

According to the results of the above table 12% of girls were found to have allergic reaction to certain type of foods. In the same way 88% of girls had no allergic reaction to any type of food.

Food Type:**Classification of Girls According to Food Type**

No. of Girls	VEGETARIAN	NON-VEGETARIAN	OVO-VEGETARIAN
500	421(84.2%)	61(12.2%)	18(3.6%)

From the above table, maximum number 84.2% of girls were found to be vegetarian and minimum number 3.6% of girls were belonging to ovo-vegetarian group.

Frequency of Food Eaten Outside**Classification of Girls According to Frequency of Food Eaten Outside**

	No of Girls	Food Eaten Outside			
		Daily	Weekly	Once in 15 Days	Once in a Month
Total	500	107(21.4%)	155(31%)	69(13.8%)	169(33.8%)

The researcher collected information on how frequent the girls were used to take food outside. Maximum and minimum number of girls of 33.8% and 13.8% were found to take outside food once in a month and once in 15 days respectively. 31% of girls were found to take food outside every week.

Food Items Consumed More

Classification of Girls According to Food Items Consumed More

	No of Girls	FOOD ITEMS CONSUMED MORE			
		Sweet	Oily & Fatty	Spicy	All Type
Total	500	58(11.6%)	12(2.4%)	112(22.4%)	318(63.6%)

From the above table, majority of girls (63.6%) like to consume all type of food items. 22.4% and 11.6% of girls like to consume spicy and sweet food respectively. On the other hand minimum number of 12 girls was found to consume oil rich foods.

CONCLUSION:

Adolescence is a period of growth and maturation in human development. The nutritional status of adolescent girls, the future mothers, contributes significantly to the nutritional status of the community. This period is characterized by an exceptionally rapid rate of growth. Present study provided the growth, dietary pattern for the school –based population (15-18 years) of Porbandar city. 53.6% of girls were from nuclear family. The tendency of nuclear family is very noticeable in Porbandar district. 71.6% of girls were not involved in any type of physical activities. Generally majority of the girls (88%) did not have any food allergies. It was found that only very few girls were allergic to brinjal and banana. 38% and 30.4% of girls were obese and overweight respectively. Present study also revealed that only 27% of girls had normal BMI. 63.6% of girls like to have all food items and 21.4% of girls would like to consume outside food on daily basis.

RECOMMENDATIONS:

- ✚ Intervention is, therefore a necessary step at school level for the prevention of obesity. Among all settings, school is a priority setting to large adolescents because it offers substantial opportunities for prevention.
- ✚ Increase the intake of GLV, fruits, nuts, other vegetables.
- ✚ Cereals when eaten with pulses increase the quality of protein.
- ✚ Regular deworming in order to prevent hookworm infestation. (One of the cause of anaemia)
- ✚ Underweight adolescents should be advised to consume small, frequent, easy to digest nutrient dense meals.
- ✚ Good quality protein is completely utilized by the body and as far as possible best
- ✚ Regular outdoor exercise helps to maintain normal body weight.

Limitation of the Study:

- Questionnaire was used to collect data, so we depend completely on the answers given by the subjects.
- Only school going girls were selected for the study so girls those who were not going to schools were completely missed. Only few parameters used to assess nutritional status of girls was studied.

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