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ANTHROPOMETRICAL PROFILE AND KNOWLEDGE ON NUTRITION AMONG TRIBAL ADOLESCENT GIRLS IN KODAIKANAL

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ABSTRACT

Adolescence is a particularly unique period in life because it is a time ofintense physical, psychosocial, and cognitive development. The nutritional requirement of the adolescent girls increases due to their physical activity and increased growth rate. The main objective of this study is to assess the anthropometrical profile of adolescents and knowledge on nutrition. The data related to sociodemographic profile, dietary pattern was gathered by using questionnaire. The anthropometric measurements such as height, weight, Body Mass Index (BMI) were assessed by standard methods. Knowledge on nutrition measured by Knowledge assessment questionnaire with scores. The results of the study revealed that study community 52 percent of the adolescent's girls were underweight. The knowledge scores of the population shows the poor level.

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INTRODUCTION

Adolescence, defined by World Health Organization (WHO) as the period between 10 and 19 years, is an important, formative time which shapes the future of boys' and girls' lives[1]. There are about 1.2 billion adolescents in the world, which is equal to 1/5th of the world's population and their numbers are increasing. Out of these, 5 million adolescents are living in developing countries [2].

The main nutrition problems affecting adolescent populations worldwide include under nutrition in terms of stunting and thinness, catch-up growth, and intrauterine growth retardation in pre-adolescent girls, iron deficiency and anemia, iodine deficiency, vitamin A deficiency, calcium deficiency, other specific nutrient deficiencies, e.g. zinc, folate and obesity. Iron deficiency anemia (IDA) constitutes the major anemia during adolescent period. Accelerated development, hormonal changes, malnutrition and starting of menstrual periods in girls are major causes in this period[3].

Adolescents may represent a windowof opportunity to prepare nutritionally for a healthy adult life. It may also be a timely period toshapeand consolidate healthy eating and life stylebehaviors, thereby preventing or postponing theonset of nutrition related chronic diseases in adulthood. However, eating patterns are frequentlyerratic in adolescents, and this may be a commonfactor of

nutritional risk. Eating disturbances anddisorders have become leading chronic illnessamong adolescent girls. Number of adolescent inIndia particularly girls live under suboptimalconditions marked by poor nutritional status andhigh level of morbidity and mortality[4]. The nextgeneration of our country will be effected ifadolescent girls who are would be mothers wouldhave ill health and nutritional status. Keeping inview, the importance of adolescent period inhuman life and nutritional problems of adolescent girls , the present study has been elucidated tosee the impact of nutrition education on nutrient adequacy of adolescent girls.Dietary knowledge and access to resources are critical to improve health and nutrition in a sustainable way. Adolescence is the time to learn and adopt healthy habits to avoid many health and nutritional problems later in life Adolescents have more easy access to health and nutrition information through schools, recreational activities, and mass media than they have later in their lives Particularly, health and nutrition knowledge and healthy habits of female adolescents will have critical roles to play in maintaining future family health and nutrition[5]. Hence the present study focuses on the anthropometrical profile of the study population and knowledge on nutrition.

MATERIALS AND METHODS

The purposive sampling method was adopted from Government school in Poomparai village, Kodaikanal. The respondents were selected from the age group of 13-15 years.

Development of Questionnaire

The questionnaire was developed to gather socio demographic profile, and dietary pattern of the adolescent girls.. All questions were designed, pretested, modified and resettled to obtain and record information easily. Any modification necessary were then made and a final recoded, pretested questionnaire was drawn up.

Anthropometric Assessment

The anthropometric data were collected based on standard methods. Ages of the respondents were recorded from the registration book of school. Measurements of weight and height were obtained from all subjects. The subjects were weighed wearing minimal cloths and bare footed. Three weight measurements were obtained using a bathroom weighing scale and the average was calculated and recorded to the nearest 0.1 kg. The height was measured with a wooden measuring board without shoes and the average was calculated and recorded to the nearest 0.1 cm. Body Mass Index (BMI) as the best method of measuring the nutritional status of adolescent girls.Body Mass Index (BMI) was calculated using the formula:

Body Mass Index= Weight (kg) / Height (m^2)

Socio-Demographic Data

Information on demographic and socioeconomic variables was obtained by a structured standard questionnaire

Dietary Behavior Assessment

24 hour recall was used to obtained information regarding the intake of different nutrients such as calories, proteins, calcium, fat and iron. In this the quantity of food consumed by the respondents in terms of household measures (cup, spoons, ladles, serving spoons, katories, plates etc) was recorded. Subjects were asked to recall the actual food consumed during last 24 hours and this was recorded on the diet sheet. The quantity was measured through these standardized containers. These were later converted into metric weight and the nutritive value was calculated using food consumption table.

Nutrition knowledge

A formulated written questionnaire consisted of set of close-ended question was used to assess the levelof knowledge on nutrition and nutritional needs for maintaining good health.

Data Analysis

The data set were first checked, cleaned and entered into the computer from the numerical codes on the form. The data was edited if there is any discrepancy and then cleaned it. The frequency distributions of the entire variables were checked, for tabular, charts and graphical representation Microsoft word and Microsoft excel were used.

RESULTS AND DISCUSSION

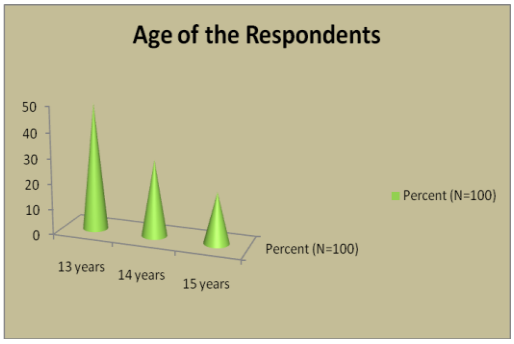
General information of the subjects shows that majority 50 percent of the population belongs to the age group of 13 years. 30 percent belonged to 14 years, and rests of them were from 15 years.The educational status of the respondents revealed that, 70 percent of the girls were doing 8^{th} standard, 18 percent were from 9^{th} standard class, and remaining from 10^{th} standard class.

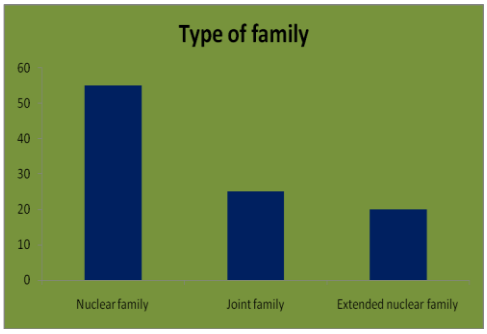
The type of family of the study population denoted that 55 percent of them from nuclear families, 25 percent from joint families and 20 percent were belonged from extended nuclear family.

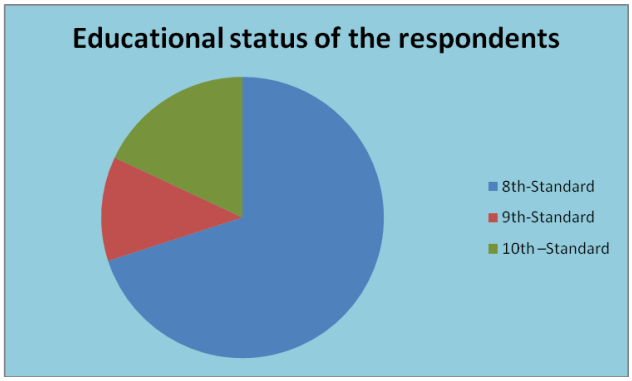
Table-1General information of the respondents

Particulars	Percent (N=100)
Age(years)	
13	50
14	30
15	20
Education	
8th-Standard	70
9th-Standard	12
10th–Standard	18
Family size	
Nuclear family	55
Joint family	25
Extended nuclear family	20

Figure-1 General profile of the respondents







Anthropometric profile of the respondents

The anthropometric details such as height, weight and Body Mass Index were measured by using standard technique. From the table it is evident that the majority (52%) of the respondents was underweight, 38% percent were overweight and rests of them only have a normal Body Mass Index (BMI) (Fig 2). None of them were in obese condition. This shows that majority of the anemic girls were in underweight category.

Assessment of Knowledge on Nutrition

Before imparting nutrition education, majority (42 %) of the respondents had obtained the scores between 10-15 followed by 15-20 and 5-10 (22%). Only 4 percent were secured marks above 20-25.

After nutrition education, most of the respondents (47%) were able to get higher scores from 20-25 and 41 percent of the respondents were got 15-20 scores. Only 12 percent received score 10-15 (Table 3 and 4).

Table-2 Body mass index (BMI) of the respondents

Body mass index(BMI)	Percent (N=100)
Under weight	52
Normal	38
Overweight	10
Obesity	-

Fig 2 Body Mass Index (BMI)

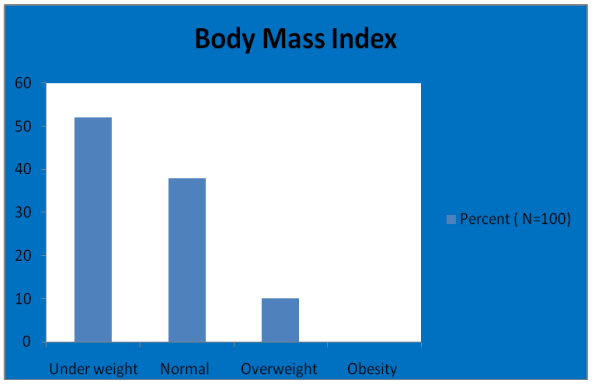


Table- 3 Nutrition knowledge scores obtained by the respondents before and after nutrition education

Scores (in numbers)	Before nutrition education (Percent N=100)	After nutrition education (Percent N=100)
0-5	7	0
5-10	22	0
10-15	42	12
15-20	25	41
20-25	4	47

Table 4 Impact of nutrition education on knowledge on nutrition among the respondents

Nutrition Education	Mean score	SD	t- value
Before	12.5	18.45	3.83 (0.01)
After	12.5	43.85	

The analysis of the table results showed that there is a significant difference between the scores before and after nutrition education.

CONCLUSION

The results denoted that adolescents group from the age group of 13-15 years shows that majority 52 percent were underweights. The knowledge on nutrition revealed that poor and after imparting nutrition education the scores was improved. Hence the study concluded that nutrition education could be effective tool to improve the nutrition knowledge.

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