RESEARCH ARTICLE

ASSOCIATION BETWEEN EATING HABITS AND BODY MASS INDEX (BMI) OF ADOLESCENTS

Benazeera, Umarani J

Department of Paediatric Nursing, Yenepoya Nursing College, Yenepoya University, Deralakatte, Mangalore, Karnataka, India

Correspondence to: Umarani J (umaync@gmail.com)

ABSTRACT

Background: Adolescent's eating habits and weight status is a cumulative effect of the health and nutritional problems occurring during early childhood as well as those originating in adolescence.

Aims & Objective: To assess the eating habits among adolescents. To assess the body mass index of adolescents. To find the co-relation between eating habits and body mass index (BMI) of adolescents. To find the association between eating habits and body mass index (BMI) with selected demographic variables.

Materials and Methods: The research design adopted for the study was descriptive co-relation research design. The study was conducted in selected schools at Mangalore. The samples comprised of 150 adolescents of 14-15 years who were selected using purposive sampling technique. Demographic proforma, self-administered rating scale on eating habits and formula for assessing BMI were used to collect the data. Descriptive and inferential statistics were adopted to analyze the data.

Results: Majority (69.3%) of the adolescent had healthy eating habits and 30.7% were having unhealthy eating habits. As per the BMI assessment, it was found that 34% belonged to normal and underweight, 21.44% were obese and 10.66% were overweight. It was also found that there was no co-relation between BMI and eating habit (r= -0.085; p < 0.05).

Conclusion: In the present study, there are low prevalence of unhealthy eating habits, obesity and overweight. Samples are benefited with an information booklet on healthy eating habits. The samples that are underweight, overweight, and obese and also having unhealthy eating habits can be benefited by conducting nutrition and health awareness programmes.

Key Words: Eating Habits; Body Mass Index (BMI); Adolescents

Introduction

Health is a rudimentary and energetic function in everyone's habitual lives. It is influenced by circumstances, beliefs, culture and social and physical ambiance. Health is an amalgamation within the mind, body, and spirit, which is considered unique to each person.[1] The level of wellness or health is, in part intent by the ability to deal with and defend against stress. Nutritional requirement during adolescence are increased because of the dramatic increase in growth rate and changes in body composition associated with puberty.[2] The dramatic changes, increase energy and nutrient requirements and other factors may affect adolescence the food pattern and nutrient intake, and thus the nutritional status.[3] Nutrition plays an important role in maintaining health and preventing diseases. Decrease in morbidity and mortality associated with lifestyle diseases may be achievable if satisfactory nutritional habits are adopted in early life and maintained in the long term.[4]

Adolescent's eating habits and weight status is a cumulative effect of the health and nutritional problems occurring during early childhood as well as those originating in adolescence.[5] It is important to highlight that childhood and adolescence are a decisive period in human life within which body composition and psycho sociological changes take place.[6] The characteristic behaviour patterns that show up during adolescence may produce energy imbalance and nutritional status disturbances.[7,8]

In India among adolescents there is an increased consumption of more energy dense nutrient poor foods, with high level of sugar and unsaturated fat, combined with reduced physical activity and more passive leisure pursuits that are suspected as major contributors to raising levels of nutritional associated disorders.[9,10] Economic growth in India depicts urbanization has a remarkable impact on socio-economic status, life style and also globalization of food markets are the major forces thought to underline the epidemic.[11] In addition to this, cultural factors such as dietary practices, attitude towards food are changing which ultimately influences the impact of eating habits.[12]

Adequate knowledge about healthy food choices and food safety can be predisposing factors for improving eating habits and adopting a good healthy diet, motivations required for adolescents to adopt healthy eating habit is essential.[12] Factors influencing eating

behaviours need to be better understood to develop effective nutrition interventions tailored to individuals to improve their healthy eating. Therefore, determinants such as practice, inclination, self-efficacy, barriers to change and the meaning of "healthy" and "unhealthy" diet and food must be considered.[13] Sound nutrition can play a role in the prevention of several chronic diseases, including binge eating, cardiac abnormality, and certain types of oncological disorders, stroke, and DM-2. To help prevent diet-related chronic diseases, researchers have concluded that healthy eating behaviour should be established in childhood and maintained during adolescence.[14] The above facts show that adolescents are having lack of knowledge on eating habits and about their body mass index measurement. It is the health care professional's responsibility to help the adolescence to gain knowledge about food choices and food safety and motivate them to choose healthy eating habits.

Materials and Methods

A descriptive approach was selected to carry out the study. The study population comprised of adolescents from selected schools at Mangalore. The sample size for the study was 150 adolescents. Dependent variables in this study are eating habits and body mass index. Purposive sampling technique was adopted. Prior written permission was obtained from the Yenepoya University Ethics Committee and the school authority. Demographic performa, self-administered rating scale were used for assessing eating habits among adolescents and WHO: BMI classification formula was used to find out BMI of the adolescents. The health status of the adolescents are classified as, Underweight (BMI< 18.5); Normal weight (BMI 18.5-22.9); Over weight (BMI 23-24.9); and Obesity (BMI>25). The Validity was obtained from experts from various fields. In order to assess the reliability of the self-administered rating scale on the eating habits of the adolescents, the Crohnbach's alpha method was used. The calculated value (r) is 0.86. To assess the reliability of the formula and to assess the expected BMI of adolescents, split half method was used. The reliability of the tool (r) was found to be 0.83. The tools were of sufficient reliable for the purpose of the study. To get the co-operation of the school authority, self-introduction and orientation about the investigator's study topic and procedure was given to them. The participants were explained and consent was obtained from the study participants. The participants were assured about the confidentiality of their responses. The baseline performa, self-administered rating scale on

eating habits was followed by height and weight assessment for estimation of BMI of the selected adolescents. Data was analyzed using descriptive and inferential statistics.

Results

Sample Characteristics

Among 150 samples, equal numbers (50%) of the respondents were in the age group of 14 and 15 years. Distribution with regard to gender shows that majority (62.7%) were male. Most of the subjects (42.7%) were Hindu. Class wise distribution of the samples shows that maximum numbers of samples (58%) were studying in 10th standard. Most of the samples (30%) had two siblings. Majority (79.3%) were residents in urban area. Maximum number of adolescents (84%) were consuming non vegetarian. Most of the subjects (58.6%) were from nuclear family. Majority (45.3%) of the subject's father were private employees.

Determination of Eating Habits of the Adolescents

The data in the pie diagram (figure 1) shows that, majority of the adolescents (69.33%) had healthy eating habit and 30.7% were having unhealthy eating habits.

Determination of Body Mass Index (BMI) of the Samples

The health status of the samples in figure 2 depicts that equal numbers (34%) of the adolescents were belonging to normal and underweight, 21.33% were obese and 10.67% were overweight.

Aspect Wise Assessment of Eating Habits of the Samples

Table 1 reveals that majority of the samples obtained maximum score in the aspects of preparation of food is (63.25%) and measures to maintain body weight (55.85%).

Co-relation between Eating Habits and Body Mass Index of the Samples
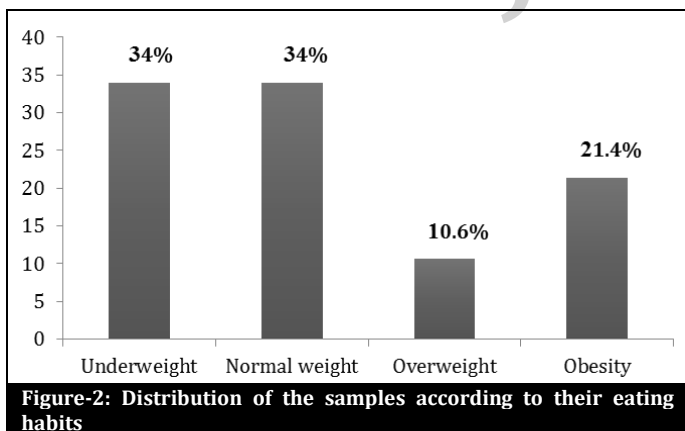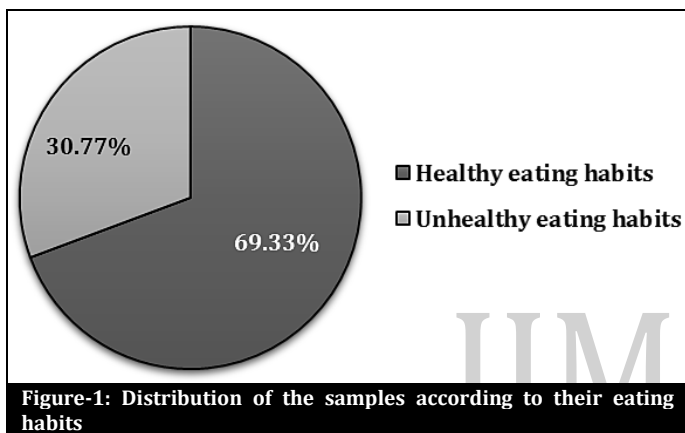
Karl Pearson co-relation co-efficient was computed in order to find the relationship between eating habits and body mass index of the selected adolescents. Table 2 denotes that, there is no co-relation between the eating habits and body mass index of the selected adolescents (r= -0.085). Hence the hypothesis is accepted.

Table-1: Aspect-wise-Mean, Range, Mean percentage of eating habits of the samples (N=150)

Aspects	No of Items	Max Possible Score	Range	Mean	SD	Mean %
Types of food	8	16	13	8.91	2.96	55.68
Eating habit	5	10	9	5.23	2.15	52.33
Place of eating	6	12	11	6.20	2.47	51.71
Preparation of food	4	8	6	5.06	1.57	63.25
Junk food	4	8	7	4.26	1.70	52.95
Measures to maintain body weight	9	18	13	10.05	3.08	55.85
Measures to gain body weight	4	8	7	3.96	1.59	49.57
Combined	40	80	66	43.69	15.56	381.34

Table-2: Co-relation co-efficient computed between Eating habits and body mass index of the selected adolescents (N=150)

Variables	Co-relation co-efficient (r)	P value
Eating habit & Body mass index	-0.085	0.3010

Figure-1: Distribution of the samples according to their eating habits

Figure-2: Distribution of the samples according to their eating habits

Discussion

India has the fastest growing adolescent population in the world. For the past few years and the recent scenario, obesity has been one of the major health disquietude policy makers in India. BMI is the most widely used and simplest anthropometric index for assessing the nutritional status of children and adolescents since it can be used to identify those who may be overweight, underweight, normal weight and obese at risk, based on age and sex.[15]

In the present study self-structured rating scale on eating habits was used, to find out adolescent's belonging to healthy and unhealthy eating habit categories. It found that, majority of the subjects (69.33%) had healthy eating pattern and (30.7%) were having unhealthy eating habits. Whereas Charanleen[16] conducted study in India among adolescents to assess the eating habits, results revealed that majority were had healthy eating habits.

The present study found that equal numbers (34%) of adolescents belongs to normal and underweight, 21.33% were obese and 10.67% were overweight and also it was found that there was no co-relation between BMI and eating habit (r = -0.085; p < 0.05). It is supported by study conducted in Turkey result showed a negative co-relation between eating habits and body mass index (r = -0.0875).[17] In contrast, a study was conducted in Bangalore to co-relate the eating habits and body mass index of the adolescents. The finding revealed that there is co-relation between eating habits and body mass index of the adolescents (r = +6.25; p < 0.05).[18]

Nurses can integrate the current research finding in school care setting as an effective nursing intervention. It's important for nurses to prevent any health related problems in schools. In collaboration with health care team members and school personals they can jointly support the school children to improve their health status. Nurses should organize regular teaching programs to educate children and their parents regarding healthy eating habits. A study can be conducted on effectiveness of school health programmes regarding adolescent's healthy eating habits to increase the awareness among school teacher. Poster and pamphlets on healthy eating habits can be exhibited in the class room and community to create awareness among children and public.

Conclusion

In the present study, there were low prevalence of unhealthy eating habits, obesity and overweight. Samples were benefited with an information booklet on healthy eating habits. The samples who are underweight, overweight, obese and also having unhealthy eating habits can be benefited by conducting nutrition and health awareness programmes. School personnel and parents should motivate the school students to develop healthy eating habits and its importance.

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