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ASSESSMENT OF THE LEVEL OF BODY MASS INDEX AMONG ADOLESCENTS IN SELECTED COLLEGE, KANCHEEPURAM DISTRICT

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ABSTRACT

The lifestyle behavior patterns that are established during early years can have important implications on health and well-being. ***Statement of the problem:*** *A study to assess the level of Body Mass Index among adolescents at SRM College of Nursing.* ***Aim:*** *The objective of the present study was to assess the level of Body Mass Index among adolescents in selected college.* ***Materials and Methods:*** *Quantitative approach and Descriptive design was adopted for this study. A total of 160 adolescent samples were selected using non-probability convenient sampling technique. The tool of the study comprises of 2 Parts, Part A –Demographic Data and Part B - WHO - BMI scale to assess the Body Mass Index. Data collected were analyzed using descriptive and inferential statistics.* ***Results:*** *The findings of the study revealed that, among 160 adolescents, 90(56.3%) samples were in normal range of BMI, 48(30%) samples were underweight. 21(13.1%)samples were overweight and none of them belong to the obese category.* ***Conclusion:*** *Though most of the adolescents had normal BMI, still some of them were found to be underweight and overweight. Nutrition education and awareness about fitness can be created among adolescents by directing periodic health checkup and Nutrition clinics.*

KEY WORDS

Adolescents, Body Mass Index, Underweight, Overweight, Obese.

INTRODUCTION

Adolescence is a time of great change for young people when physical changes are happening at an accelerated rate [1]. The lifestyle behavior patterns that are established during early years can have important implications on health and well-being [2]. Overweight and obesity in adolescents have increased considerably in recent decades and affect a one third of the adolescent population in some developed countries. Approximately 17% of children and adolescents are overweight with a BMI (weight in kg/height in m2) at or above the 95th percentile for age and sex [3]. Overweight during adolescence has been shown to be a stronger predictor of mortality risk related to cardiovascular disease than being obese as an adult [4]. It is known that obesity in adolescence also has other negative effects [5].Obesity in childhood/adolescence also seems to be an important predictor of adult obesity[5, 6]. Adolescent overweight and decreased insulin sensitivity have recently been associated with intrauterine malnutrition during fetal hypothalamic appetite center and sympathetic nervous system development [7].

The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as underweight, normal weight, overweight, or obese based on that value [8]. BMI provides a simple numeric measure of a person's thickness or thinness, allowing health

professionals to discuss weight problems more objectively with their patients. BMI was designed to be used as a simple means of classifying average sedentary (physically inactive) populations, with an average body composition [9]

There are a number of factors associated with the development of overweight in adolescence, among them: parental factors; inappropriate eating habits; physical inactivity; screen time; relationships with peers; socioeconomic levels; the social context in which the individual is brought up; maternal schooling and parents' nutritional status [10,11]

METHODS AND MATERIALS

Quantitative approach and descriptive design was adopted for this present study. The variables studied are study variable and demographic variables. The study variable is Body Mass Index, whereas the demographic variables includes age, gender, type of family, dietary pattern, religion, Mothers education and family monthly income. The study was conducted in SRM College of Nursing, Kattankulathur. The accessible population includes the adolescent girls who were studying B.sc Nursing in SRM College of Nursing. Sample consisted of adolescent girls who fulfilled the inclusion criteria. The sample size for the present study was 160. Non-probability Purposive sampling technique was adopted to select the samples for the study. The tool used for the data collection comprises of 2 sections. **Section A**- Structured questionnaire to elicit the demographic data of adolescent girls. **Section B:** WHO BMI scale to assess the Body Mass Index. Standardized weighing scale and inch tape was used to assess the weight and height respectively. The content of the tools was established on the basis of opinions of nursing experts. Suggestions were incorporated in the tool. The reliability of the rater inter rater method was used for Body Mass Index scale. The 'r' value was 0.9 respectively which indicated a positive co-relation to proceed for the main study. Statistical analysis was performed using SPSS software version 16.

RESULTS

Table 1 depicts that majority of the adolescent girls 81(50.6%) were in the age group of 19-20 years, 155(96.9%) adolescents were females. Majority 137(85.6%) of them belong to Nuclear family.145 (90.6%) samples were Non-vegetarians. Majority of the adolescents were Hindus. Considering education majority of their mother's educational status were primary and middle school level. Majority 45(28.1%) samples family monthly income was between Rs.11817-15753.

Table 2 reveals that majority of the adolescents90(56.3%) were in normal range .48(30%) samples were in the category of underweight. 21(13.1%) were in the category overweight and none of them belong to the category of severe and very severe status.

Table 1: Frequency and percentage distribution of demographic variables of adolescents; N=160

Demographic variables	Category	Frequency	Percentage
Age	17-18 Years	40	25.0
	19-20 Years	81	50.6
	> 20 Years	39	24.4
Gender	Male	5	3.1
	Female	155	96.9
Type of Family	Nuclear Family	137	85.6
	Joint Family	21	13.1
	Extended Family	2	1.3
Dietary Pattern	Vegetarian	15	9.4
	Non-Vegetarian	145	90.6
Religion	Hindu	126	78.8
	Muslim	7	4.3
	Christian	25	15.6
	Others	2	1.3
Mother's Education	Illiterate	17	10.6
	Primary School Certificate	41	25.6
	Middle School Certificate	42	26.3

	High School Certificate	36	22.5
	Intermediate or Post High School Diploma	5	3.1
	Graduate or Post Graduate	19	11.9
Family Income per month	Rs 1590-4726	21	13.1
	Rs 4727-7877	34	21.2
	Rs 7878-11876	22	13.8
	Rs11817-15753	45	28.1
	Rs 15754-31506	16	10.0
	Rs >31,507	22	13.8

Table 2: Assessment of Body Mass Index among adolescents

Body Mass Index	Frequency	Percentage
Underweight - Low	**48**	**30.0**
Normal Range - Average	**90**	**56.3**
Overweight – Pre-obese	**21**	**13.1**
Obese Class I - Moderate	**1**	**0.6**
Obese Class II - Severe	**0**	**0**

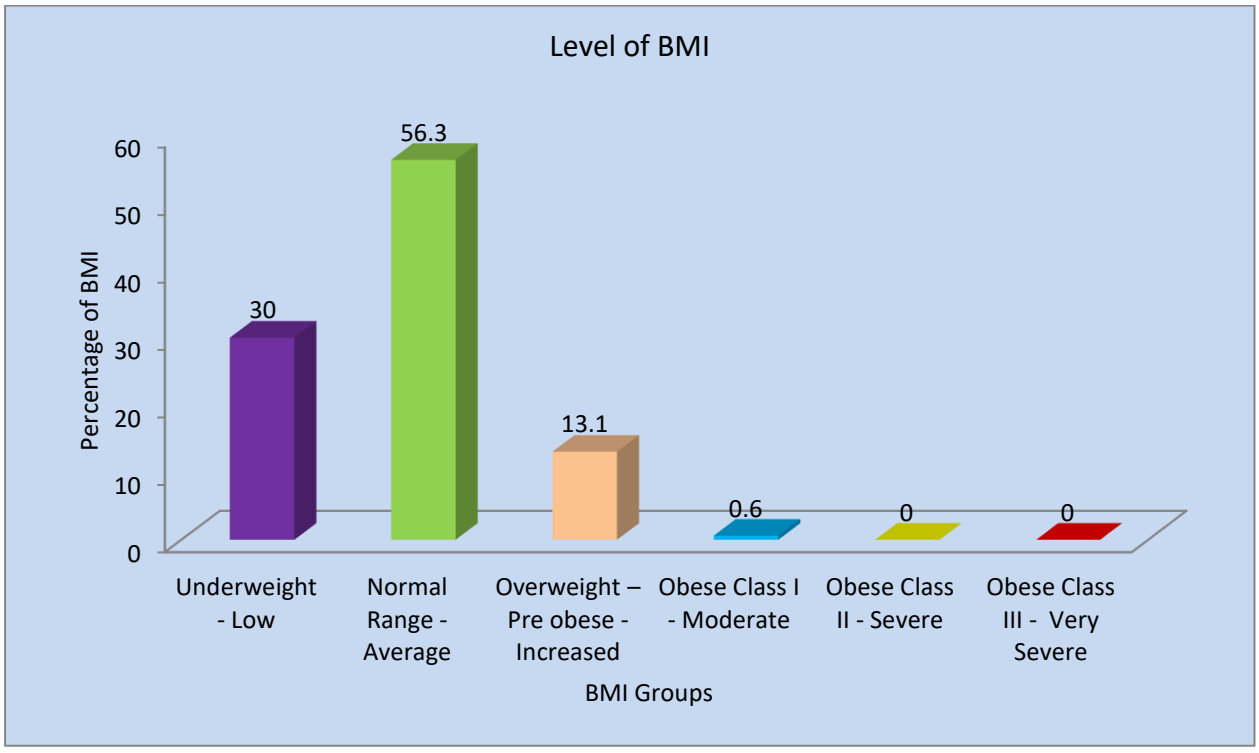

Fig .1 Frequency and percentage distribution of Body Mass Index among adolescents

DISCUSSION

Table 2 reveals that majority of the adolescents 90 (56.3%) were in normal range .48(30%) samples were in the category of underweight. 21(13.1%) were in the category overweight and none of them belong to the category of severe and very severe status. Murtala M, Ahmad Hamidu Ahmed, Kareem Airede (March 2010) conducted a Body mass index among school adolescents in Sokoto, North-Western Nigeria. The aim is to determine the prevalence of overweight and obesity using body mass index (BMI) among school adolescents. The 360 samples were selected. Participating schools and students were selected by a multi-stage random sampling. Anthropometric measurements were done, and body mass index derived from the ratio of weight per height squared. Subjects with age and sex-adjusted BMIs of 85th to <95 Th and ≥95 Th percentiles of the International Obesity Task Force were defined as overweight and obese, respectively. The schools were

stratified into private and public groups based on the three local government areas (LGAs) within the Sokoto metropolis. Results were expressed as means with standard deviations. *P*-values <5% were considered significant. The mean BMI of the male subjects was 18.3 ± 2.7kg/m ^{2}, and 19.3 ± 3.1kg/m ^{2} for the females. The prevalence of overweight was 3.3%, and that of obesity was 1.4%. They concluded that the prevalence of overweight and obesity appear to be low in the study area [12].

CONCLUSION

The study concluded that majority of the adolescents 90(56.3%) were in normal range of BMI. 48(30%) samples were underweight, 21(13.1%) were overweight and none of them were obese. With regard to association there was no significant association found between Body mass Index and demographic variables among the adolescents.

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