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A STUDY TO ASSESS THE PREVALENCE OF OBESITY AND TO COMPARE THE LIFE STYLE PRACTICES AMONG OBESE AND NON-OBESE CHILDREN IN SELECTED SCHOOL BATHINDA, PUNJAB.

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ABSTRACT :
Until quite recently, there has been a widespread belief in the popular media and scientific literature that the prevalence of childhood obesity is rapidly increasing. The incidence of childhood obesity is rising across the globe, and obesity related co-morbidities are increasing concomitantly in the pediatric population. Obesity has reached epidemic proportions globally. More than 1 billion adults are overweight and at least 300 million of them are clinically obese. Significantly, obesity is increasing rapidly in developing countries undergoing rapid nutrition and lifestyle transition, and it often coexists with under-nutrition. The studies have documented that the prevalence of overweight and obesity was higher in children for all age groups, highlighting the possible role of change in the dietary pattern and physical activities. The research design adopted was explorative research design. The study was conducted in two selected schools in Bathinda Punjab. Non-Probability Convenience sampling technique was adopted to select the desired sample. The sample size was 200 children in the age group of 12- 14 years. The data was collected by checking body mass index to find out prevalence of obesity and structured questionnaire which was designed to compare the life style practices among obese and non-obese children. . The collected data were analyzed by using both descriptive and inferential statistical methods.The findings on the prevalence of obesity among children revealed that , 52(32%) non-obese and 0 (0 %) obese were having the BMI upto 18.50 (under weight) , 111(68%) non-obese and 0 (0 %) obese were having BMI from 18.5 - 24.9 (Normal) , 0 (0%)non-obese and 28 (76 %) obese were having BMI from 25.0 - 29.9 (over weight) , 0 (0 %) non-obese and 7 (19 %) obese were having BMI ranging from 30.0 – 34.9 (class I obesity) and 0 (0 %) non-obese and 2 (5 %) obese were having BMI ranging from 35.0- 39.9 (class II obesity) . It was also revealed that 163 (81.5 %) children were non-obese and 37 (18.5 %) were obese. The findings of the study illustrate that while comparing life style practices between non-obese and obese, it was revealed that for non-obese children 10 (6.1%)were having the scores between 61 – 80 (Good life style) , 117 (71.8 %) were having scores between 41- 60 (Average life style) 36 (22.1 %) were having scores between 20- 40 (Poor life style) . For obese, the results revealed that 1 (2.7 %) were having scores between 61-80 (Good life style) , 7 (18.9 %) were having scores between 41 – 60 (Average life style) and 29 (78.4 %) were having scores between 20 – 40 (Poor life style) . This shows that there was significant difference between the lifestyle practices among obese and non- obese children. In the present study the Chi square value computed for life style practice scores and demographic variables showed weight at p 0.000 and BMI at p< 0.001 for non-obese and occupational status of father at p 0.001 and height at p 0.001 for obese showed statistically significant association with the level of life style practices among children.

Keywords: Prevalence, overweight, obese, children, life style.

INTRODUCTION

The World Health Organization (WHO) defines obesity as abnormal or excessive fat accumulation that presents a risk to health and is now estimated that there are more than 100 million obese individuals worldwide. The most important factors that contribute to a sudden increase in incidence of obesity are changes in dietary practices (inclusion of more fats and oils, more sugar and less fibre in the diets of people, convenience foods and fast foods) and urbanization (changes in occupational activity, sedentary lifestyles and a lack of adequate physical activity) which in turn have contributed to the increased incidence of obesity.
Common causes of weight gain among children are eating large portions of food (more than the recommended intake for a particular age and sex based on the nature of work), frequent consumption of food, eating fried and junk foods, using chocolate as

a reward and eating while viewing television, which affects the physical activity of children. Childhood obesity is not confined to industrialised countries, as high rates are already evident in some developing nations.[1]
Obesity is associated with five out of ten leading causes of death and disability such as heart disease, diabetes, cancer, hypertension and stroke. An estimated 300,000 people die each year of illnesses related to obesity, more than the number killed by pneumonia, motor vehicle accidents and airlines crashes combined.[2]

India is following a trend of other developing countries that are steadily becoming more obese. Unhealthy, processed food has become much more accessible following India's continued integration in global food markets. Indians are genetically susceptible to weight accumulation especially around the waist.[3]
The global escalation of childhood obesity is a major concern, as excessive adiposity is the root cause of leading metabolic and cardiovascular diseases and related mortality. Widely prevalent in obese adults, these metabolic co morbidities are beginning to surface in obese children and it will not be unreasonable to expect a dramatic increase in young adults afflicted with glucose intolerance, hypertension, dyslipidemias, non-alcoholic fatty liver disease (NAFLD) and ischemic heart disease in the near future. Pediatricians now have to handle chronic illnesses that were once regarded as adult diseases. For countries with gender specific BMI charts of their pediatric population, obesity is generally defined as the 95th percentile or greater of BMI for age and those with BMI between the 85th and 94th percentiles are considered overweight.[4]
India is in epidemiological polarization which means, on one end the nation is facing challenges to combat under-nutrition and on the other end the over nutrition (overweight and obesity) has started appearing in a relatively higher proportion. At present, the emerging issue is the increase in number of childhood obesity in developing nations like India and that will be faced by these nations in near future. The World Health Organization describes overweight and obesity as one of today's most important public health problems contributing to 2.6 million deaths worldwide every year .[5]
The prevalence of obesity is increasing worldwide and it has become a significant health hazard. Prevalence of obesity in India is up to 50% in women and 32.2% among men in the upper strata of the society. In Delhi, the prevalence of obesity is 33.4% in urban women and 21.3% in Men. Obesity and overweight are not only a problem of adults but also of the children and adolescents worldwide.[6]
One of the most commonly applied methods to assess the prevelance of obesity is calculating body mass index (BMI) for which the measurements i.e. height and weight are necessary to record. BMI is calculated by dividing a person's weight in kilograms (kg) by the person's height in meters squared (m^2).The World Health Organization (WHO) classifies normal weight as having a BMI (BMI) of 18.5 to 24.9 kg/m^2, overweight 25 to 29 kg/m^2, moderately obese as greater than or equal to 30 kg/m^2, and morbidly obese as greater than or equal to 40 $kg/^{m2}$.[7]
Body mass index = Weight in kgs/Height in meter square

AIM
To find out the prevalence of obesity and to compare the life style practices among obese and non obese children.

MAJOR FINDINGS:
Age wise distribution showed 116 (71%) non-obese children and 26 (70%) obese children in the age group of 10- 13 years and 47 (29%) non –obese and 11 (30%) obese children in the age group of 14- 17 years.

Regarding gender 95 (58%) were non –obese male and 24 (65%) were obese male. 68 (42%) were non –obese females and 13 (35%) were obese females.

Regarding type of family, 99 (61%) non-obese and 19 (51%) obese belonged to nuclear family, 54 (33%) non –obese and 16 (43%) obese belonged to joint family, 10 (6%) non –obese and 2 (5%) obese belonged to extended family.

Regarding order of birth, 69 (42%) non –obese and 11 (30%) obese were in first order, 56 (34%) non –obese and 21 (57%) 0bese were in second order, 28 (17%) non- obese and 5 (14%) obese were in third order.10 (6%) non –obsese and 0 (0%) obese were in order other than third.

Regarding Educational Status of father, 19 (12%) non-obese and 5 (14%) obese were having no formal education, 61 (37%) non –obese and 19 (51%) obese were having primary education, 73 (45%) non-obese and 10 (27%) 0bese were having secondary education and 24(15%) non –obese and 5 (14%) obese were having graduation and above.

Regarding Educational Status of mother, 18 (11%) non-obese and 1 (3%) obese were having no formal education, 65 (40%) non –obese and 15 (41%) obese were having primary education, 56 (34%) non –obese and 16 (43 %) obese were having secondary education and 24 (15%) non –obese and 5 (14%) obese were having graduation and above.
Regarding occupational status of father, 8 (5%) non-obese and 2 (5 %) obese were government employee, 38 (23 %) non-obese and 7 (19 %) obese were private employee , 114 (70 %) non-obese and 28 (76%) obese were self employed and 3 (2 %) non-obese and 0 (0 %) obese were unemployed.

Regarding occupational status of mother, 3 (2%) non-obese and 2 (5 %) obese were government employee, 16 (10 %) non-obese and 1(3%) obese were private employee , 40(25%) non-obese and 10(27%) obese were self employed and 104 (64 %) non-obese and 24 (65 %) home maker.

Regarding BMI , 52 (32 %) non-obese and 0 (0 %) obese were having BMI less than 18.50 , 111 (68 %) non-obese and 0 (0 %) obese were having BMI ranging from 18.50 – 24.9 , 0 (0 %) non-obese and 7 (19 %) obese were having BMI from 30.0 – 34.9 and 0 (0 %) non-obese and 2 (5 %) obese were having BMI ranging from 35.0- 39.9

Regarding total family income per month in rupees , 93 (57%) non obese and 11 (30%) obese were having income upto 10,000 , 23 (14%) non- obese and 14 (38%) obese were having 10,001-20,000 , 39(24%) non- obese and 10(27%) obese were having 20,001 to 30,000 and 8 (5%) non -obese and 2 (5%) obese were having more than 30,000.

Regarding religion 62 (38%) non – obese and 15 (41%) 0bese belonged to Sikh religion, 86 (53%) non – obese and 20 (54%) obese belonged to Hindu religion, 8 (5%) non-obese and 1 (3%) obese belonged to Muslim religion and 8 (5%) non-obese and 1 (3%) obese belonged to Christianity.

Regarding area of residence 109 (67%) non-obese and 29 (78%) obese were from rural area and 54 (33%) non-obese and 13 (35%) obese were from urban area.

Regarding dietary pattern 109 (67%) non-obese and 24 (65%) obese were vegeterian and 54 (33%) and 13 (35%) obese were having mixed dietary pattern.

Regarding mode of transport to and from school, 85 (52%) non-obese and 19 (51%) obese come to school by school transport , 32 (20%) non-obese and 5 (14%) obese come to school by bicycle , 41 (25%) non-obese and 11 (30%) obese come to school by foot and 5 (3%) non-obese and 2 (5%) obese come to school by other modes.

Regarding height , 1 (1%) non-obese and 0 (0%) obese were in the group of 101- 120 cm height , 47 (29%) non-obese and 5 (14%) obese were in the group of 121-140 cm height, 109(67%) non-obese and 28 (76%) obese were in the group of 141-160 cm height and 6(4%) non-obese and 4 (11%) obese were in the group of 161-180 cm height.

Regarding weight , 13 (8%) non-obese and 1 (3%) obese were in the group of 21- 30 kg's , 57 (35%) non-obese and 1 (3%) obese were in the group of 31-40 kg's, 60 (37%) non-obese and 2 (5%) obese were in the group of 41-50 kg's , 33 (20%) non-obese and 16(43%) obese were in the group of 51-60 kg's , 0 (0%) non-obese and 8 (22%) obese were in the group of 61 -70 kg's , 0 (0%) non obese and 4 (11%) obese were in the group of 71-80 kg's , 0 (0%) non-obese and 3(8%) obese were in the group of 81-90 kg's and 0 (0%) non –obese and 2 (5%) obese were in the group of 91- 100 kg's.

FIGURES

Diagram showing the prevalence of obesity among children in the age group of 12-14 years (Figure 1)

Diagram showing frequency and percentage distribution of life style practice of obese (Figure 2)

Diagram showing frequency and percentage distribution of life style practice of non-obese (Figure 3)

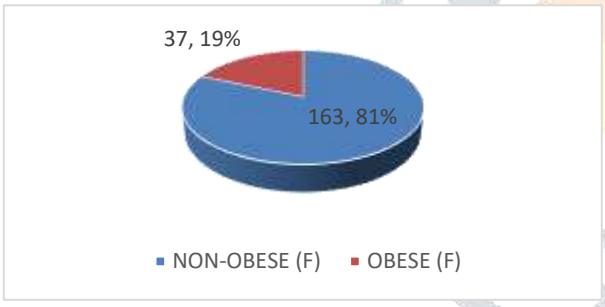

Figure 1

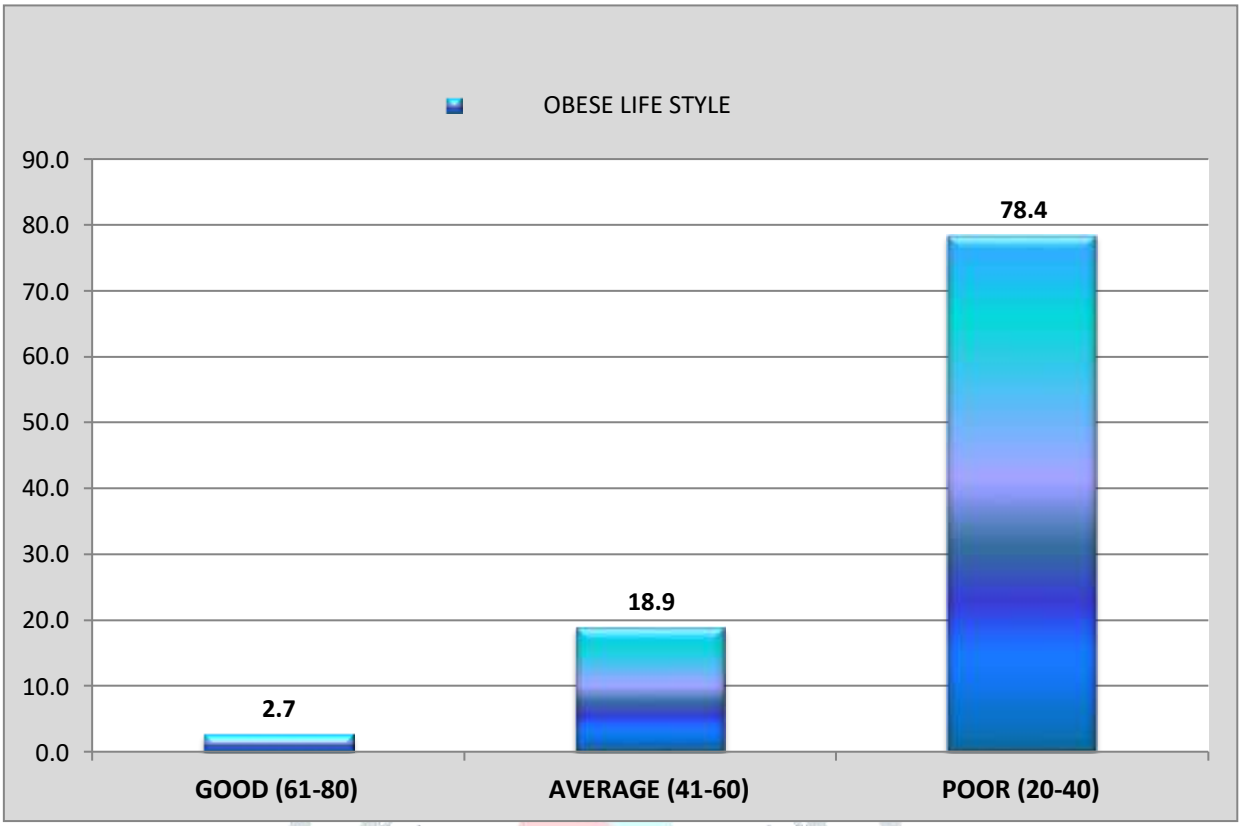

Figure 2

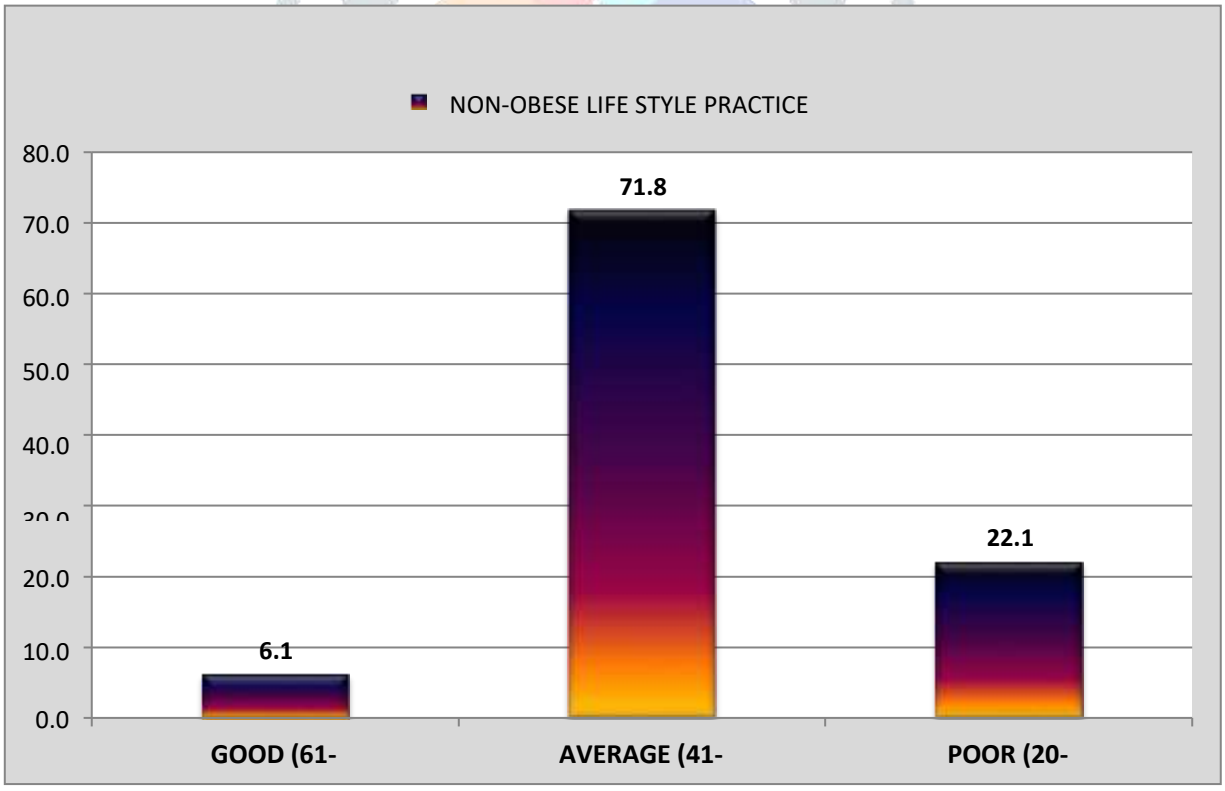

Figure3

CONCLUSION

The study concluded that among 200 selected school children 37(19%) were obese and 163(81%) were non-obese and showed a significant difference between the life style practices among obese and non-obese children.

DISCUSSION:

The focus of this study was to assess the prevalence of obesity and to compare the life style practices among obese and non-obese children in selected school Bathinda Punjab. An explorative research design was used. The Non-Probability Convenience Sampling was used. Sample of 200 children were drawn using non- probability simple random sampling technique. The data was collected by structured questionnaire to assess the prevalence of obesity and to compare the life style practices, further analyzed and interpreted by applying statistical methods. The study revealed the following results.

The findings on the prevalence of obesity among children revealed that , 52 (32%) non-obese and 0 (0 %) obese were having the BMI upto 18.50 (under weight) , 111 (68%) non-obese and 0 (0 %) obese were having BMI from 18.5 - 24.9 (Normal) , 0 (0%)non-obese and 28 (76 %) obese were having BMI from 25.0 - 29.9 (over weight) , 0 (0 %) non-obese and 7 (19 %) obese were having BMI ranging from 30.0 – 34.9 (class I obesity) and 0 (0 %) non-obese and 2 (5 %) obese were having BMI ranging from 35.0- 39.9 (class II obesity) . It was also revealed that, 163 (81.5 %) children were non-obese and 37 (18.5 %) were obese. The life style practice score for non-obese (163 subjects) shows mean ,S.D , median, mean percentage as 47.72 , 8.029 , 47 and 59.65 % respectively with maximum score 64 , minimum score 30 with range 34 . The life style practice score for obese (37 subjects) shows mean ,S.D , median, mean percentage as 37.22 , 8.718 , 35 and 46. 52 % respectively with maximum score 61, minimum score 20 with range 35.

It was evident from the table that Chi square value was computed for life style practice scores and demographic variables which showed, among all, only weight at p 0.000 and BMI at p 0.001 for non-obese and occupational status of father at p 0.001 and height at p 0.001 for obese showed weight at p 0.000 and BMI at p <0.001 for non-obese and occupational status of father at p 0.001 and height at p 0.001 for obese showed statistically significant association with the level of life style practices among children.Chi square value computed for findings of prevalence and demographic variables revealed that there was statistically significant association with weight, height, order of birth and total family income per month with at p 0.000, p 0.050, p 0.003 and p 0.000 respectively.

MATERIAL AND METHODS:

SETTING: The present study was conducted in two selected schools of Bathinda Punjab.

SAMPLING: Non probability Convenience sampling technique.

SAMPLE SIZE: 200 children in the age group of 12-14 years.

DESCRIPTION OF TOOLS: Data collection tool was divided into two parts

PART I: comprised of socio - demographic data of children such as age , gender , type of family , order of birth, educational status of father , educational status of mother ,occupational status of father , occupational status of mother , family income , religion , ,area of residence , dietary pattern , mode of transport to and from school, height, weight and body mass index.

PART II: Structured questionnaire to compare the life style practices among obese and non- obese children. There were 20 questions; each question has four options: ALWAYS (4), SOMETIMES (3), RARELY (2), NEVER (1). There were 20 questions from 3 different aspects of lifestyle ie, Dietary behavior, Physical activity and Life style. The section under Dietary behaviour consists of 10 questions, Physical activity section consists of 5 questions and Life style section consists of 5 questions. Lifestyle was compared in terms of scores gained in each section. The maximum score were 80 and minimum score was 20. To interpret comparison of lifestyle, the scores were distributed as follows:

SCORING KEY FOR QUESTIONNAIRE

Q. No	Maximum score	Minimum score
1- 20	80	20

CRITERIA FOR MEASURING LIFESTYLE

CATEGORY	SCORE	PERCENTAGE
GOOD	61-80	10 (6.1%)
AVERAGE	41-60	117 (71.8%)
POOR	20-40	36 (22.1%)

IMPLICATIONS

1. NURSING EDUCATION

The nursing curriculum consists of knowledge related to health information and appropriate strategy for imparting the knowledge. The nursing curriculum should lay more emphasis on the secondary school students to make them aware about the obesity, its

consequences and healthy life style practices. The structured questionnaires can be used to check body mass index and life style practices among children. Questionnaires can be used by nursing educators and student nurses for awareness of the students in the community as well as in the schools. So, periodical strategies and programmes should be conducted to make the students aware regarding obesity, its consequences and healthy life style practices as a part of the curriculum.

2. NURSING PRACTICE

Nurses comprise the largest workforce in any health care setting. Nurses provide preventive, promotive, curative and rehabilitative health care services. Nurses as resource persons working in hospital and community settings should impart education especially on promotional aspects. Health education is an important function of the health personnel. The nursing personnel can be helpful in controlling the complications regarding obesity among school children, if education and other important programmes will be conducted for the children and family a well. The nurses play an important role in the prevention of complications, as well as promotion of health. Educational programs with effective strategies make it easy for the people to understand the concepts in a better way. Paediatric nurses should play a major role in providing information regarding obesity and healthy life style practices among school children

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3. Nursing Administration

Nurse administrators are key person to plan, organize and conduct educational programs. Nurse administrator's support is necessary to conduct and evaluate health education programs. The nurse administrator should formulate policies, protocols, guidelines and systems of care in collaboration with the multi- disciplinary team. It is essential for nursing administrators to facilitate activities to provide facilities for conducting programmes for creating awareness regarding obesity among school children. They can help to improve the knowledge of population by providing various teaching programs with the help of various audio-visual aids which includes charts, videos etc. they should organize, implement and evaluate educative programs which will in turn help to improve the knowledge as well as to meet the future needs and welfare of the population.

4. NURSING RESEARCH

Nursing research can be focused on aspects regarding educating the children and developing strategies to create awareness regarding obesity and ways of adopting healthy life style practices. There is an extensive need to develop information materials based on creating awareness among school children regarding obesity and its consequences. Dissemination of findings through conference and professional journals will make application of research findings to be effective.

RECOMMENDATION

On the basis of the findings of the study the following recommendations have been made:
1. Similar study can be undertaken with a large sample to generalize the findings.
2. Same study can be done as a comparative study between school children from government and private schools.
3. A pre- experimental study can be conducted to assess the knowledge among school children regarding obesity and healthy life style practices.

REFERENCES

[1]Sharma A, Sharma K .et al. Growth pattern and prevalence of obesity in affluent school children of Delhi. Public Health Nutrition.2005; 10(5):485-491.

[2]Price RA, Danielle RR, Nicholas JG. Resemblance for Body Mass Index in Families of Obese AfricanAmerican and European American Women. *Obesity Research.* 2000; **8**: 360–366.

[3]Yadav K, Krishnan A. "Changing patterns of diet, physical activity and obesity among urban, rural and slum populations in north India". *Obes Rev*9 (5): 400–418.

[4]Yung Seng Lee. Consequences of Childhood Obesity. 2009; 38 (1): 75-81.

[5]Mishra Amit Kumari, Prasad Acharya Himanshu et.al. Prevalence of obesity among children aged 10 to 12 years in Sambalpur. International Journal of Medical Science and Public Health. 2015; 4(10):1366-1368.

[6]Selveraj Kokila, Shivaprakasam P. A study on the prevalence of overweight and obesity among medical students of Kanchipuram District. National Journal of Research in Community Medicine. 2013; 2(2):79-148.

[7]Shirazi Ibrar Bashir, Hamid Sajad.et al. A cross sectional study to determine sex wise prevalence of obesity in adults of Kashmir population. International Journal of Research in Medical Sciences.2014; 2(2):667-671.