ORIGINAL ARTICLE

ASSESSMENT OF LIFESTYLE AND HABITS ASSOCIATED WITH OBESITY AMONG THE SCHOOL CHILDREN OF BHIRAHAWA, NEPAL - A CROSS SECTIONAL SURVEY

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ABSTRACT:
Background: WHO has emphasized on urgent need of understanding the prevalence trend, factors contributing and developing strategies for effective intervention. Thus, the present study was planned and conducted to assess the lifestyle and habits associated with obesity among the school children of Nepal which will help in estimating the local prevalence of factors associated with this condition and hence will assist to organize primary prevention accordingly in this area. **Methodology:** A descriptive cross sectional questionnaire based survey conducted among 200 school going children aged between 6-16 years from 8 private schools of Bhirahawa. Lifestyle and habits were assessed among students. Data so obtained was analysed using SPSS version 16 and statistically analysis was carried out using Chi-square test with p value <0.05 considered as significant value. **Results:** The present study indicates an association between eating habits that are less healthy and obesity. The study found that more than 60% students in both groups used to eat fast food such as burger, chowmein, pizza, instant noodles, momo (dumplings) or other food with high calorie content such as ice-creams, chips, cookies daily and more than half of the students used to drink aerated beverages such as Fanta or Coke, tetra-packed juices such as 'Real' juice and fruit-flavoured drinks such as Tang daily. **Conclusion:** The present study found that with the modernization in the present era, children are practicing unhealthy eating habits and sedentary life style which is an important risk factor leading to overweight and obesity.
Keywords: Fast foods; Sedentary lifestyle

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INTRODUCTION

WHO defines overweight and obesity as abnormal or excessive fat accumulation that poses a risk to health.[1] It is a multifactorial disease, defined as a state of imbalance between calories ingested versus calories expended would lead to excessive or abnormal fat accumulation. Its prevalence is on continuous rise in all age groups of the developed as well as developing countries in the world and it can be described as the New World Syndrome.[2]

Obesity, a key risk factor for the chronic and non-communicable disease and has become a serious public health concern in both developed and developing countries. Worldwide, the prevalence of chronic, non communicable diseases is increasing at an alarming rate. More than 1.1 billion adults are overweight in the world today. Among them 312 million are obese and nearly 115 million children worldwide are overweight or obese according to International Obesity Task force (IOTF). Overweight/obesity is the underlying cause of death for 2.8 million people each year. It is the fifth leading cause of risk for death.[3]

Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood. But in addition to increased future risks, obese children experience breathing difficulties, increased risk of fractures, hypertension, and early markers of cardiovascular disease, insulin resistance and psychological effects.[4] 50-80% of obese children continues as obese adults and falls into risk group of Diabetes, Hypertension, Coronary Heart Diseases and many

more obesity related diseases. Effective prevention of adult obesity will require the prevention and management of childhood obesity and awareness regarding factors leading to obesity. WHO has also emphasized on urgent need of understanding the prevalence trend, factors contributing and developing strategies for effective intervention.[5] Thus, the present study was planned and conducted to assess the lifestyle and habits associated with obesity among the school children of Nepal which will help in estimating the local prevalence of factors associated with this condition and hence will assist to organize primary prevention accordingly in this area.

METHODOLOGY

A descriptive cross sectional questionnaire based survey conducted among 200 school going children aged between 6-16 years from 8 private schools of Bhirahawa. The schools were selected by convenience sampling and students were selected by Stratified sampling method. Students who seemed to obese were selected for the present study. All the subjects were divided into two groups, group A consisted of 6-11 years and group B consisted of 12-16 years school children with 100 students in each group. Ethical clearance was taken from the ethical committee of the institution and an informed consent was obtained from children and their respective teachers before the commencement of the study. Children having chronic illness, severe malnutrition, endocrinal problems and having any physical or mental defects were excluded from the study. The structured questionnaire included patient demographic data along with details of eating habits, physical exercises and games. A comparison of lifestyle and habits between group A and B was carried out. A pilot study was conducted to assess the validity, reliability and acceptability of the questionnaire. Data so obtained was analysed using SPSS version 16 and statistically analysis was carried out using Chi-square test with p value <0.05 considered as significant value.

RESULTS:

Demographic profile of the students which was seemed to be obese among 8 private schools were 61% male and 39% female students in age group of 6-11 years (Group A) and 58% male, 42% female students were present in age group of 12-16 years (Group B). Among them 65% were from urban background, 35% were from rural background in group A and 68% urban were from urban background, 32% were from rural background in group in group B. 41% students in group A and 38% students in group B had family history of obesity and overweight. 69% students from group A and 42% of group B students were involved in physical exercise or outdoor games. None students from group A and 2% from group B goes for walk daily,14% in group A and 4% in group B occasionally and 86% in group A and 87% in group B does not go for morning walk. 73% in group A and 77% in group B played videogames or games on computer daily. 28% in group A and 34% in group B watched television for more than 3 hours daily and 69% in group A and 58% in group B watched television for less than 3 hours but more than 1 hour daily. The present study found that students in group B are more interested in playing videogames and watching television and less involved in physical exercises with significant p value.

70% of group A and 63% of group B students used to eat fast food such as burger, chowmein, pizza, instant noodles, momo (dumplings) or other food with high calorie content such as ice-creams, chips, cookies daily and 48% of group A and 68% of group B students used to drink aerated beverages such as Fanta or Coke, tetra-packed juices such as 'Real' juice and fruit-flavoured drinks such as Tang daily. 89% of group A and 98% of group B students agreed that obesity and overweight are dangerous for health.

DISCUSSION

Main importance in the past years had been given to eradicate poverty and under-nutrition in the children of Nepal. The misconception of being bigger is healthier had been the belief among the population. But it is getting eliminated gradually in most part of the world because of rapid emergence of childhood obesity in the last two decades. The childhood obesity has now recognized as a global health problem because of its devastating consequences and its prevalence is escalating at uncontrollable rate worldwide.[6] Non-communicable diseases (NCDs) are the leading cause of deaths globally and occur most commonly in low-income and middle-income countries. In Nepal, a low-income country, NCDs account for 50% of all deaths; half of those result from cardiovascular diseases (CVDs).[7] Obesity leads to metabolic syndrome along with dyslipidemia, hypertension & hyperglycemia and documented as risk factors for cardiovascular disease (CVD), has become one of the major public health challenges in developed and developing countries.[2]

QUESTIONNAIRE

Variable		Group A % (6-11 years)	Group B% (12-16 years)	P value
Sex	Male	61%	58%	1.006
	Female	39%	42%	
Background	Urban	65%	68%	0.134
	Rural	35%	32%	
Family history of obesity or over weight	Yes	41%	38%	1.089
	No	59%	62%	
Physical exercises/ Outdoor games	Yes	69%	42%	0.0521
	No	31%	58%	
Walk	Daily	-	2%	0.345
	Occasionally	14%	11%	
	Do not go for walk	86%	87%	
Videogames, play games at computer	Do not play	10%	5%	0.042
	occasionally	5%	12%	
	Once in a week	2%	6%	
	Daily	73%	77%	
Watch Television	More than 3 hours daily	28%	34%	0.064
	Less than 3 hours but more than 1 hour	69%	58%	
	Less than 1 hour	3%	8%	
Fast food (Burger, chowmein, pizza, instant noodles, momo or dumplings, etc)/ Ice-creams/ chips/ cookies	Daily	70%	63%	0.025
	Twice a week	19%	28%	
	Once a week	14%	7%	
	Occasionally	2%	2%	
How often you drink aerated beverages such as Fanta or Coke, tetra-packed juices such as 'Real' juice and fruit-flavoured drinks such as Tang	Daily	48%	68%	0.041
	Thrice a week	29%	12%	
	Once a week	22%	17%	
	Occasionally	1%	3%	
Do you think obesity and overweight are dangerous for health	Yes	89%	98%	1.006
	No	11%	2%	

Poor eating habits, including inadequate intake of vegetables, fruit, and milk, and eating too many high-calorie snacks, play a role in childhood obesity.[8] The present study indicates an association between eating habits that are less healthy and obesity. The study found that more than 60% students in both groups used to eat fast food such as burger, chowmein, pizza, instant noodles, momo (dumplings) or other food with high calorie content such as ice-creams, chips, cookies daily and more than half of the students used to drink aerated beverages such as Fanta or Coke, tetra-packed juices such as 'Real' juice and fruit-flavoured drinks such as Tang daily. Triches RM et al[9] evaluated the association between obesity and eating habits among schoolchildren and found obesity among children was found to be associated with limited nutrition knowledge and unhealthy eating and revealed that these children were five times more likely to be obese. Food intake has been related to obesity not only in terms of the volume of food ingested, but also in terms of the composition and quality of the diet. Furthermore, eating habits have also changed and current habits - including the low consumption of fruits, greens and milk, increasing consumption of tidbits/goodies (cookies with fillings, salty industrialized snacks, sweets) and soft drinks, as well as not having breakfast – help explain, at least partially, the continuous increase in adiposity among children.[9] Habits that protect against childhood obesity include eating more vegetables and fruit, eating meals with family, and being physically active. Children's food habits and choices are influenced by family, caregivers, friends, schools, marketing, and the media. Successful interventions for preventing childhood obesity combine family- and school-based programs, nutrition education, dietary change, physical activity, family participation, and counseling.[8] The present study found that among the studied students played videogames or games on computer daily, more than one-fourth of students watched television for more than 3 hours

daily and more than half of the students watched television for less than 3 hours but more than 1 hour daily where as less than 50% students participated in outdoor games or physical exercises. Sharma SK et al[10] conducted a study in Nepal School children and results indicated that significant proportion of school children in Dharan have modifiable risk factors for cardiovascular disease such as physical inactivity, unhealthy dietary habits, overweight/obesity, smoking and exposure to household smoking. Jagadesan S et al[11] determine the prevalence of overweight and obesity among children and adolescents in Chennai, India and reported high prevalence of overweight and obesity as well as also found hypertension common among private schools children. Rapidly changing lifestyles, currently shifting towards high energy-dense diets and low levels of physical activity, increase the prevalence of diet-related chronic diseases.[7] The present study found significant difference in decreased physical activity of students as compared to the younger group as children in age group 12-16 years were more interested in playing videogames and watching television and thus were adapting sedentary life style which is a important factor leading to overweight and obesity. The limitation of the present study was that participants were enrolled purposively and belonged to one particular region of Nepal, hence further studies representing various areas of country should be carried out. It is the crucial to assess the burden of the disease and the associated risk factors in population. Moreover, governmental and non-governmental organization should collaborate to prompt school-based educative program emphasizing on dietary management, physical activity enhancement and constraint of sedentary behavior.[6] It is time to address the problem of childhood obesity before it turns into epidemic.

CONCLUSION

The present study found that with the modernization in the present era, children are practicing unhealthy eating habits and sedentary life style which is an important risk factor leading to overweight and obesity. It is a crucial issue that addresses the need of continuing education and awareness programs for children and their parents to modify unhealthy lifestyles and risk factors for non-communicable diseases as unhealthy diets and low physical activity are proven and preventable risk factors for NCDs.

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