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Original Article

Association of Obesity with Food Choices among Children Between Age Group of 5 To 12 Years in Different Areas of Lahore.

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ABSTRACT

The relationship between the socioeconomic status (SES) of parents and the effect of socio-economic status on the food intake pattern of their children was examined in this study. Children of low SES generally have poorer diets than children of high SES. **Objective:** To observe the association of child obesity with food choices in different areas of Lahore **Methods**: Data were collected from 38 participants, from different areas of Lahore, Pakistan. From which 20 were female and 18 were male children. Their parents were requested to solve a questionnaire which comprised of different questions related to child age, height, weight, eating habits and parent's socioeconomic status and their education. **Results:** Study showed that children growing up in families with a lower SES had a higher body mass index (BMI), lower quality of life, less healthy nutrition, and less physical activity as compared to children growing up in families with a higher SES. The food frequency questionnaire showed that children belonging to lower SES consumed 17% grains, 18% dairy sources, 16% vegetables, 12% pluses and lentils, 0% meat, 11% fruits, and 13% tea and coffee in a day. While children belonging to higher SES consumed 17% grains, 29% dairy sources, 6% vegetables, 2% pulses and lentils, 13% meat, 13% fruits, and 7% tea and coffee daily. **Conclusions:** SES has an exquisite impact at the food alternatives and food intake among college-going youngsters. Lower SES children devour greater veggies, less meat, and dairy products at the same time as better SES kids devour fewer vegetables and extra meat and dairy products. Children from DHA were more obese and they were consuming more protein based diet and practicing sedentary life style.

INTRODUCTION

Nutrition occupies a very important place in every one's life. Good or bad health of any individual is related to a dietary pattern. Nutritional status is compromised in both developing and under developing countries [1]. Malnutrition can be described as when there is no balance in supply of nutrients and calories. Malnutrition can be categorized in both under nutrition and over-nutrition. As stated by UNICEF 40% children of the all over world are under nourished of India and Pakistan [2,3]. Malnutrition can adversely affect the child's cognitive function, poor performance in activities, ceased growth, more susceptible to diseases which further lead to adult life with various health issue like hypertension, diabetes, and various psychological concerns. Malnutrition can develop due to many reasons especially when there is low SES and uneducated mother both are influencing factors [4]. Starvation could be a fundamental open wellbeing danger in Pakistan and in South Asian state with more than 130 million individuals [5]. Obesity is the increased body weight than normal body weight. when body mass index (BMI) is 25-29.9kg/m2 it considers as overweight and when BMI is ≥ 30 it will fall in obese category. Physiologically and psychologically impairment are prominent concern in obesity. Chronic disorders related to heart attack, kidney

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disorders, hypertension, prostate cancer, breast cancer are common in adulthood [6]. Assessment of nutritional status of children is required through anthropometry measurements, body habitus, food recall and vital history. Anthropometry is the parameter to evaluate the human body that gives useful information about a child growth pattern and present nutritional status when compared with regular findings. Anthropometric measurements include the weight, height/length, head circumference etc. [7]. Eating behavior starts from infancy as parent play a more influencing role to adopting this behavior. A child weight is directly linked to eating pattern and parent attention towards the children. There are many public health interventions that designed to make improvements in child eating behavior and reduce the obesity and malnutrition during childhood. A study was conducted in Australia which demonstrated that appropriate knowledge, positive attitude and a decent feeding practice is 54%, 99%, 92% accordingly [8]. Childhood weight problems has spread in a wide variety amongst advanced and developing international locations. Both are the cause for the development of obesity inside the later life. They in addition have an expanded risk of growing continual illnesses like diabetes, CVD at a younger age. the exact mechanism for weight problems improvement continues to be now not honestly diagnosed however it is thought to be consider that this will be due to multiple factors which include cultural and environmental issue and way of life changes and so on. all these have a better chance of developing obesity at some stage [9]. The health complications regarding obesity are increase in developing countries due to inappropriate fast-food consumption with massive quantity. Dense calories with high sugar contained soft drinks are the major contributing factors of high obesity prevalence. Fast foods are energy dense, poor nutrition or poor micronutrient, high glycemic load, large in portion size and poor in fiber. In case BMI is < 18.5kg/m2, it is considered as underweight, when 18.5-24.9kg/m2 it is ordinary, when 25-29.9kg/m2 it is overweight and when ≥ 30kg/m2 will drop in hefty category. In children BMI percentile could be a solid pointer of overweight or beneath nourishment [10]. Expanded systolic and diastolic blood weight has been experienced in undernourished children and in those who recuperated from ailing health. This may be a critical hazard figure for expanded BP afterward in life. Wholesome wellbeing chance are typically to be connected with more than one third of worldwide child passing's concurring to WHO, UNICEF, World Bank [11]. It changed into found from the beyond research that obesity is very epidemic among the kids worldwide. Co morbidities associated with weight problems and obese aren't most effective seen in kids but additionally seen in adult population. moreover, high blood pressure, type 2 diabetes, dyslipidemia, and others also are seen in to be more often seem co morbidities related to overweight and obesity a number of the pediatric population [12]. The present study was commenced to study the nutritional status of school going children of different areas of Lahore including model town, Defense housing society, town ship and another city Rahim Yar Khan through food frequency questionnaires tool, anthropometric measurements and to know the fitness status of these children and their relationship with dietary habits. Recent study based on fast food consumption and how it will affect the health of children by consume in large amount.

METHODS

Our study was designed to check the intake of food of different variety that children of age 5 to 12 years are consuming. For this purpose, a questionnaire was designed and provided to students to check how frequent they are consuming food i.e per day, weekly or monthly etc. The eating behavior of children were recorded by such a study that was a quantitative type research. The research basically included school going children with age 5-12 years. The data was collected in different schools of Lahore city including DHA, Johar Town and Model Town areas. The main purpose was to check the reliability of food intake with increasing weight in this specified age group. All children of this age group were specifically focused in our research.The sample size for our study was 100. As children couldn't response well to the questions so their parents and teachers helped in answering those questions. We surveyed different schools and gathered information related to eating patterns of children. Data was in a hard form questionnaire which was then compiled by software's on computer. For this, graphs and charts were designed on excel sheet and then final result was collected by using SPSS version 21.

RESULTS

Table 1 shows the descriptive characteristics of total 100 participants. Males were 40% while female participants were 60%. BMI for the DHA, Model town and Johar Town participants was categorized as obese, underweight, normal and some were overweight. Table 2 signifies the mean values of Diet Constituents especially proteins (beef, chicken burger, nuggets and eggs) in different Areas of Lahore city. Table 3 depicts the mean value for plant based diet such as vegetables, fruits, rice, grains and snacks.

Gender	40% (M) 60% (F)
BMI (DHA)	14%(Ob) 38% (Over W) 40%(N) 8% (Under W)
BMI (MD)	9%(Ob) 38% (Over W) 36%(N) 18% (Under W)
BMI (TS)	9%(Ob) 38% (Over W) 36%(N) 18% (Under W)

Table 1: Descriptive statistical analysis (N=100)

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M=Male,F=Female,BMI=Body mass Index, DHA(Defence Housing society), MD(Model town),TS(Township), Ob(Obese),Over W(over weight),N(Normal),Under W(Under weight)

Diet Constituents (PROTEINS)	Area of data collection		
	DHA (n=24)	Model Town (n=23)	Johar Town (n=29)
Beef	1.96 ±0.806	2.48 ±0.947	2.24± 0.872
Chicken burger	2.63± 0.770	2.43± 0.72	2.41 ±0.780
Nuggets	2.67± 0.868	82.65± 1.027	2.31 ±0.930
Eggs	1.13± 0.338	1.43± 0.662	1.21±0.491

Table 2: Mean values of dairy products in different areas of Lahore city

Diet Constituents (Dairy Products)	Area of data collection		
	DHA (n=24)	Model Town (n=23)	Johar Town (n=29)
Dairy milk	1.21 ±0.658	1.13 ±0.344	1.17±0.468
Yogurt	1.50± 0.780	1.57± 0.843	1.21±0.491
Custard	2.54± 0.833	2.96± 0.706	2.38±0.622
Chesse	2.33± 1.090	2.61± 0.988	2.34 ±0.76
Ice cream	2.42±0.830	2.31±0.783	2.21±0.559

Table 3: Mean values of other diet constituents in different areas of Lahore city

Diet Constituents (Dairy Products)	Area of data collection		
	DHA (n=24)	Model Town (n=23)	Johar Town (n=29)
Vegetables	1.58 ±0.776	1.61 ±0.656	1.69±0.761
Fruits	1.29± 0.550	1.43± 0.590	1.24±0.511
Rice	1.88± 0.448	1.43± 0.590	1.59±0.501
Grains	1.33± 0.702	1.17± 0.388	1.28 ±0.528
Snacks	2.42± 0.776	2.57±0.843	2.24 ±0.689

Table 4: Mean values of plant based diet in different areas of Lahore city

DISCUSSION

Obesity, that is commonly wide spreading factor almost in every part around the globe. It's prevalence among children is a current rising and hard issue to be encounter by health professionals. Not only an unhealthy eating behaviors are responsible for this obesity epidemic but rather irregular lifestyles and disturbed eating routines that are now so common in practice among children of growing age. The age between 5 to 12 years is critical period for them to grow on health outcomes that will ultimately help them through their rest of lives by enhancing immune system and excellent body and mental health as well. But now a day it seems as a hard and fast rule to eat in balance and healthy. Children are being indulging themselves in sedentary activities and they do rare focus on physical activity. They happily prefer to eat fast foods, cold drinks, sodas, vendor items, bakery eatables and various out door foods as their nerve instincts find these foods delicious and highly acceptable to their taste buds instead of homemade healthy and clean diet. The most recent country wide vitamins Survey that performed by means of the rural studies service is persevering with Survey of meals Intakes by way of individuals (CSFII). This survey includes countrywide based totally pattern of people of virtually all age organizations. It presents a detailed statistics of nutrient consumption for both fashionable and occasional-profits population. This statistics also allows to discover the association between poverty and meals inadequacy. For this reason, meals inadequacy popularity changed into mentioned in 2 income families; high and coffee [13]. Among youth, obesity has grown to be a plague amongst developed countries. It's far noted that obese and weight problems are developed via the high intake of candy gadgets, excessive consumption of calories and fat, taking elevated element size with reduced hobby. So, both weight loss program that consumed in extra and bodily inaction are concerned in weight problem [14]. In Seventies, the costs of overweight have come to be expanded in most of the youngsters and adolescent of North. adolescence obesity has been increased daily. For this, prevention and treatment packages have been made to reverse the action of obesity. But, evidence for this effective action isn't finished but, in particular for the formative years weight problems[15]. In order to analyze the prevalence of obesity among children of various areas of Lahore, we have conducted a study of sample size 100 with age groups between 5 to 12 years. Areas we have covered Model Town, Town Ship and DHA in Lahore. Overall analysis suggests that children do their eating practice according to their area and opportunities provided as well as their socio economic status also matters. Moreover, they select food items according to their like based choices which majorly consist of those less healthy diet that gradually lead them towards obesity and overweight. Further, their sedentary habits and lifestyles tend to prevent them from needed physical activity that ultimately affects metabolism and digestion.

CONCLUSIONS

If we see the statistics of all participants, we can see that children overall consume all food groups in their diet, so we studied the factors that affect food consumption in school-going children, one of the factors that we majorly studied and statistics show that socioeconomic have a great effect on the food choices and food consumption among the school-going children. Socioeconomic status greatly affects meat, dairy, and fruit consumption among children. Low socioeconomic status children consume more vegetables, less meat, dairy on the other hand children with high socioeconomic status consume fewer vegetables, more meat, and dairy.

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