Research Article

Eating habits and other risk factors: are the future health care service providers really at risk for life style disorders!

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ABSTRACT

Background: Adolescence period is crucial position in the life, characterized by rapid rate of growth. It is a need to study risk factors among this group so applicability of primary prevention can be planned. It is essential to know that whether future care providers are having any risk of acquiring life style disorders as they will be the future role models of society. Objectives: To study the dietary and other risk factors for acquiring life style related disorders and to correlate various anthropometry measurements with these risk factors.
Methods: A cross-sectional study. All medical, physiotherapy and nursing students from Government Medical College, Surat having met with age criteria of adolescent (17-19) as per WHO were included in the study. Pre tested structured self-administered questionnaire was used. It was having questions on various risk factors of acquiring life style related disorders and having anthropometry measurements to correlate. Data were entered and analyzed in MS excel.
Results: Total 290 participants were enrolled, out of them 240 (82.76%) were females and 50 (17.24%) were males. Out of those, 153 (52.75%) were having a habit of eating outside the home at least once in a week. 80 (27.5%) participants reported that they never play outdoor games, 18 (6.21%) reported that they never do exercise. 21 (7.24%) were having BMI $\geq$25, From this total 21 participants, 17 (5.86%) were females and 4 (1.38%) were males. Out of total 240 females, 20 were having Waist Hip Ratio (WHR) >0.85, while no male is having WHR >1.
Conclusion: Primary preventive measures for dietary change should be applied among future care providers. Life style change should also be advised to reduce the risk for life style disorders.

Keywords: Life style related diseases, Risk factors, Adolescent

INTRODUCTION

Obesity is one of the most neglected and pervasive health problems worldwide affecting all ages, socioeconomic classes and ethnicities. It is rightly referred as "Globesity", as it has emerged as a global non-communicable epidemic. Obesity is defined as an abnormal and excessive deposition of adipose tissue to the extent that the health may be adversely affected. It is the fifth leading cause of death all over the world.[1,2] It has been perceived that developing countries like India are encountering dual burden of under-nutrition and over-nutrition.[3]

The most crucial time of the life when obesity can develop easily is college years when healthy and unhealthy life style can be adopted and may be carried out in the later life. Overweight and obesity predispose more strongly to certain diseases if they arise in early age. Irregularity in diet, stress, lack of exercise and addiction are independent risk factors of the overweight and obesity; which are inadvertently present in the

medical and paramedical students especially who live far away from their home in the hostels.[4,5]

It has been assumed that medical students would practice healthy dietary habits compared to non-medical students.[6] Some studies have found otherwise. A previous study in China revealed that medical students exhibited early risk factors for chronic diseases due to poor eating habits.[7]

It was found that although medical students had sufficient knowledge regarding good dietary habits, they failed to apply this knowledge into practice. Stress of university life and medical study load would be factors that negatively influence their diet.[8]

Objectives

- To study the dietary and other risk factors for acquiring life style related disorders.

- To correlate various anthropometry measurements with these risk factors.

METHODS

Study design

Cross-sectional study

Study population

All medical, physiotherapy and nursing students between age group of 17 to 19 year of govt. medical college and new civil hospital, Surat. Total 290 students were enrolled.

Study period

January 2013.

Study tool

Pre tested structured self-administered questionnaire was used. It was having questions on various risk factors of acquiring life style related disorders and having

anthropometry measurements to correlate. Students were asked to fill self-administered questionnaire in close groups.

Analysis

Data were entered and analyzed in MS excel 2007 and Open Epi software.

RESULTS

Total 290 participants were enrolled in this study. Out of them 240 (82.76%) participants were females and 50 (17.24%) participants were males.

Out of total participants, 83.5% students had a food pattern of breakfast, lunch and dinner. Around 37% students were taking snacks in between meal (Table 1).

Table 1: Distribution of adolescents according to food pattern (≥ 5 days) in week.

Variable	Number	Percentage (N=290)
Breakfast	245	84.5%
Lunch	287	99.0%
Dinner	290	100%
Breakfast + lunch + dinner	242	83.5%
Snacks between meal	107	36.9%

Out of total participants, 153 (52.75%) were having a habit of eating outside the home at least once in a week whereas 42 % having a habit of eating outside the home once a month (Table 2).

Table 2: Distribution according to frequency of taking major meal outside home among adolescents.

Frequency of taking meal outside	Number	Percentage (N=290)
Never	8	2.8 %
Weekly	153	52.8 %
Monthly	122	42.0 %
Yearly	7	2.4 %

Table 3: Distribution of adolescents according to frequency of taking different food items.

Food item	Never	Weekly	Monthly	Yearly
Bread and related items	13 (4.5 %)	87 (30.0 %)	174 (60.0 %)	17 (5.9 %)
Bakery items	4 (1.4 %)	196 (67.6 %)	86 (29.7 %)	4 (1.4 %)
Farsan (Salty snacks)	2 (0.7 %)	186 (64.1 %)	99 (34.1 %)	3 (1.0 %)
Cold drinks	32 (11.0 %)	111 (38.3 %)	133 (46.9 %)	14 (4.8 %)
Vegetables	0 (0.0 %)	289 (99.7 %)	1 (0.3 %)	0 (0.0 %)
Salads	3 (1.0 %)	277 (95.5 %)	9 (3.1 %)	1 (0.3 %)
Pulses	4 (1.4 %)	270 (93.1 %)	16 (5.5 %)	0 (0.0 %)
Fruits	3 (1.0 %)	258 (89.0 %)	29 (10.0 %)	0 (0.0 %)
Milk	32 (11.0 %)	233 (80.3 %)	22 (7.6 %)	2 (0.7 %)

Out of total participants, almost all students were having a habit of eating vegetables at least once in a week. Percentage of students having a habit of eating bakery items, farsan (Salty snacks) and drinking cold drinks at least once in a week were 67.6%, 64.1% and 38.3% respectively (Table 3).

Out of total participants, 80 (27.5%) participants reported that they never play outdoor games, 18 (6.21%) reported that they never do exercise. Almost half of participants were spending their time of up to 7 hours a day on computer/internet or phone (Table 4).

Table 4: Distribution of adolescents according to hours spend on different activity in week.

Activity	Never	<7 hours	7-14 hours	>14 hours
Computer/internet/phone	8 (2.8 %)	149 (51.4 %)	83 (28.6 %)	50 (17.2 %)
Indoor game	150 (51.7 %)	109 (37.6 %)	26 (9.0 %)	5 (1.7 %)
Outdoor game	80 (27.6 %)	191 (65.9 %)	18 (6.6 %)	1 (0.3 %)
Exercise	18 (6.2 %)	113 (39.0 %)	89 (30.7 %)	70 (24.1 %)

Out of total study population, 21 (7.24%) were having BMI ≥25, from this total 21 participants, 17 (5.86%) were females and 4 (1.38%) were males (Table 5).

Table 5: Distribution according to body mass index (BMI).

BMI	Male (n=50)	Female (n=240)	Total (N=290)
<18.5	15 (30.0%)	89 (37.1%)	104 (35.9%)
18.5-24.99	31 (62.0%)	134 (55.8%)	165 (56.9%)
25-29.99	4 (8.0%)	17 (7.1%)	21 (7.2 %)
≥30	0 (0.0%)	0 (0.0%)	0 (0.0 %)

Out of 282 adolescent who are taking meals outside home frequently among them 19 (6.7%) were overweight and 2 adolescents were overweight among those who were not taking meals outside home.

The chi square test suggests that there is no statistically significant relation between overweight and eating meal outside home in this study (Table 6).

Table 6: Relation between taking meal outside home and overweight.

Taking meal outside home	Overweight	Not overweight	Total
Yes	19 (6.7%)	263 (93.3%)	282 (100.0%)
No	2 (25.0%)	6 (75.0%)	8 (100.0%)
Total	21 (7.2%)	269 (92.8%)	290 (100.0%)

(Chi square = 3.863, df = 1, P = 0.21)

There is no statistically significant difference between exercise and overweight. Out of total 240 females, 20 were having Waist Hip Ratio (WHR) >0.85, while no male is having WHR >1 (Table 7, 8).

Table 7: Relation between exercise in week and overweight.

Exercise (hours in a week)	Overweight	Not overweight	Total
<7 hours	13	204	217
7-14 hours	7	52	59
>14 hours	1	13	14
Total	21	269	290

Chi square = 2.383, df = 2, P = 0.30

Table 8: Waist measurement and waist to hip ratio (WHR).

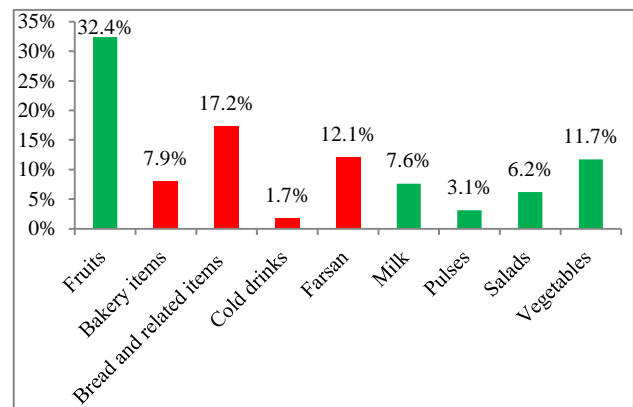|	No. of students
Waist measurement for male	
≥102 cm	0
Waist measurement for female	
≥88 cm	3 (1.0 %)
WHR in male	
>1	0
WHR in female	
>0.85	20 (6.9 %)

Figure 1: Distribution according to frequency of first food likes (N=290).

DISCUSSION

The World Health Organization has described obesity as one of today's neglected public health problems. Following the increase in adult obesity, the proportions of children and adolescents who are overweight and obese have also been increasing.[9]

In present study prevalence of overweight was 21 (7.2%), T. Aggrawal, et al.[10] reported prevalence of overweight was 12.7%. Khadikar, et al.[11] reported a prevalence of obesity to be 5.7% and overweight 19.9% among adolescents in Pune.

It was observed that out of 21 overweight adolescents, 19 had positive history of consuming junk food. But history of junk food and overweight was not statistically significant. (Chi square = 3.863, df = 1, P = 0.21). The results of this study were contrast with the studies done by Baudier et al.[12] and Bhatia et al.[13] who reported that majority of adolescents prefer junk food over regular meals. Ravi and Truman[14] have also reported a high consumption of junk foods and carbonated beverages among adolescents.

It was observed that activities that involve less physical work may lead to overweight and obesity. Sedentary life style particularly inactive recreation like watching TV, physical indoor games promotes unhealthy weight gain. In present study we found that out of 21 overweight adolescents, 8 students gave positive history of outdoor activity while 13 gave negative history of outdoor activity. Studies done by Supreet Kaur et al.[15] found the association between BMI and physical activity in children revealed that as the amount of physical activity increased, the BMI decreased. Studies done by Ramchandran[16] and by Laxmaiah[17] also found the similar results.

It was observed that 9 (2.3%) boys & 3 (0.7%) boys had Waist hip ratio in between 0.93 cm to 1 meter in urban and rural area respectively. Which was compared in a study conducted in Delhi on obesity amongst affluent adolescent girls, central obesity was present in 54.5% where criteria of WHR were >0.85.[18]

CONCLUSION

Exposure to risk factors for overweight and obesity is initiated from the birth and continues in childhood and adolescence. In India about 22% of population are adolescents and are at major risk for developing overweight and obesity in adult life. Sedentary life style, altered dietary patterns and stress are already described as risk factors for overweight and obesity in adult as well as in adolescent age groups. The major risk factors for hypertension among adolescents are BMI and higher junk food (high salt) intake.

In short, the present study showed an increasing trend of overweight in children particularly in girls of urban areas. The increasing trend of the modern day epidemic of overweight/obesity in children calls for immediate action in both rural and urban areas to reduce the incidence of malnutrition through appropriate nutritional intervention programmes involving school children, their parents and school authorities. If immediate measures are not taken the condition can lead to serious problems beyond repair.

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