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 :

Introduction: Adolescence period is crucial period in life, characterized by rapid rate of growth. It is need to study risk factors among this group to apply primary prevention and to know whether future care providers are having any risk of acquiring life style disorders as they are the future role models of society. **Objective:** To study the dietary and other risk factors for acquiring life style related disorders and to correlate anthropometry measurements with these risk factors. **Method:** Medical, Physiotherapy and Nursing students met with age criteria of adolescent (17-19) as per WHO were included in the study. Prior permissions from the head of institute were procured. Pre tested structured self-administered questionnaire used, containing questions on various risk factors of acquiring life style related disorders with anthropometry measurements to correlate. Data were entered and analyzed in MS excel. Appropriate statistical tests were applied. **Results:** Total 290 participants enrolled, out of them 240 (82.76%) females and 50 (17.24%) males. Out of those, 153 (52.75%) were having habit of eating outside home at least once in a week. 80(27.5%)participants reported ,they never play outdoor games, while 18(6.21%) reported ,they never do exercise. 21 participants (7.24%) were having Body Mass Index (BMI) $\geqslant$ 25, from this, 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 was having WHR > 1. **Conclusion:** Eating habits and physical activity were good among medical students, BUT it's essential to promote healthy lifestyle practices.

Key words: Adolescent, Life Style Related Diseases, Risk Factors

Introduction:

Lifestyle diseases in adults have been related to the prevalence of risk factors in childhood and adolescents.[1] India is faced with double burden of communicable and non-communicable diseases. By 2020, 57% of disease burden of India will be due to non-communicable diseases. Adolescents between the ages of 10 to 19 years form about 30% of the population in the World and 35% in India. [2]

Changes in food processing, production and type of food (fast food) have affected health in the majority of countries in the Region.[3] Obesity and overweight are an increasingly prevalent nutritional disorder among children and adolescents in the world.[4,5]

Overweight and obesity are strongly associated with certain types of diets, such as those that include large amounts of fats, animal-based foods and processed food stuffs.[6] Sedentary lifestyle is also an important factor, including spending no time for outdoor sports and participating in little or no physical activity during leisure time.[7,8]

Medical students are future health care providers. Medical students are more prone to poor eating habits, lack of sleep or acquisition of new habits, such as smoking and alcohol. All these factors do not contribute positively to the development of healthy lifestyles. Research related to these risk factors among medical students is essential, considering their role as future physicians and as a model in public health intervention programmes.[4]

The study was conducted to know the dietary habits and other risk factors for acquiring life style related disorders among future health care providers and to compare the actual BMI with their perception about themselves. To correlate various anthropometry measurements with these risk factors.

Methodology:

A cross-sectional study was conducted in January 2013 among students from Medical, Physiotherapy and Nursing between age group of 17 to 19 years in Govt. Medical College and New civil hospital, Surat in Western India. Before starting of the study, permission was taken from the head of the institute as well as principal of Physiotherapy College. After giving the information regarding study objectives, informed consent was taken before filling up of the forms. Purposive sampling was done. Students who willing to participate were included in the study.

All the information was collected using predesigned pretested self-administered questionnaire. The questionnaire was validated by expert faculties. Confidentiality was maintained. The questionnaire consisted of information regarding socio-demographic factors as well as detailed history about their preference for food on weekly, monthly ,yearly and never basis, time spend in different physical activities in a week like computer/net, indoor game, outdoor game & exercise with actual hours included. Weight and height were measured and collected from the participants. Body Mass Index (BMI) was calculated as weight in kilograms divided by the square of height in meters. These BMI values were then categorized into four categories, that is, "underweight with BMI less than 18.5'," normal weight with BMI between 18.5 to 24.9', 'overweight with BMI from 25 to 29.9', and 'obese with BMI more than 30'.[9] After the BMI calculation it was compared with their perception. The Waist Hip Ratio also calculated. The data was collected from these adolescents under close observation of investigators.

Data collection & analysis:

After data collection it entered and analysed in M S Excel. Frequency and chi square test were used to analyse the data. A p-value <0.05 considered was accepted as statistically significant.

Result:

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 while 42.07% of them were having habit of outside meal at least once in a month. On asking about taking snacks outside, 17.24% adolescent reported that they were taking snacks outside daily, while 52.76% reported that they were taking it outside at least once in a week.

The table -1 shows the different food preferences by study participants mostly on weekly and monthly basis. Almost all the items preferred on weekly basis except bread & related items that constitute 30% (87). The items which were never preferred even include the healthy food items like milk in 32 (11.03%). The preference for monthly basis for cold drinks, farsan (fried Indian food) and bread related items indicate good control over fast foods. As per the table most of the students preferred vegetables 289 (99.66%), salads 277 (95.51%), pulses 270 (93.1%), fruits 258 (88.97%) & milk 233 (80, 34%) on weekly basis.

Table 2 shows the time spend on different activities in a week. As per this 80 (27.5%) participants reported that they never play outdoor games, while 18 (6.21%) reported they never do exercise. It was nice to know that 70 (24.14%) spend more than 14 hours in a week for exercise & 89 (30.69%) spend time between 7-14 hours in a week.

On asking about study related stress, 68.62% reported that they had a stress while 10% reported family related stress. Out of total 21(7.24%) were having BMI $\geqslant$ 25, from this participants, 17(5.86%) were females and 4 (1.38%) were males.

Table 1: Distribution of adolescent participants according to their preference for food and frequency of consumption

Food item	Frequency of Consumption			
	Never	Weekly	Monthly	Yearly
Bread & related items	13 (4.48%)	87 (30%)	174 (60%)	17 (5.86%)
Bakery items	4 (1.38%)	196 (67.59%)	86 (29.66%)	4 (1.38%)
Farsan (Fried Indian food)	2 (0.69%)	186 (64.14%)	99 (34.14%)	3 (1.03%)
Cold drinks	32 (11.03%)	111 (38.28%)	133 (46.86%)	14 (4.83%)
Vegetables	0	289 (99.66%)	1 (0.69%)	0
Salads	3 (1.03%)	277 (95.51%)	9 (3.1%)	1 (0.69%)
Pulses	4 (1.38%)	270 (93.1%)	16 (5.51%)	0
Fruits	3 (1.03%)	258 (88.97%)	29 (10%)	0
Milk	32 (11.03%)	233 (80.34%)	22 (7.59%)	2 (0.69%)

Table 2: Distribution of adolescents according to hours spend on different activity in week

Activity	Never	< 7 hrs	7 -14 hrs	> 14 hrs
Computer/Internet/Phone	8 (2.76%)	149 (51.38%)	83 (28.62%)	50 (17.24%)
Indoor game	150 (51.72%)	109 (37.59%)	26 (8.97%)	5 (1.72%)
Outdoor game	80 (27.59%)	191 (65.86%)	18 (6.55%)	1 (0.34%)
Exercise	18 (6.21%)	113 (38.97%)	89 (30.69%)	70 (24.14%)

Table 3: Comparison between actual weight and their perception regarding their built among adolescent

Perception about their built	Actual Built			
	Average	Thin	Overweight/ Obese	Total
Average	148 (70.81%)	51 (24.4%)	10 (4.78%)	209(100%)
Thin	6 (10.17%)	53(89.83%)	0	59(100%)
Overweight/Obese	11 (50%)	0	11 (50%)	22(100%)
Total	165 (56.9%)	104 (35.86%)	21 (7.24%)	290(100%)

Table 4: Relation between exercise and weight among adolescent

Exercise (Hrs in a week)	Overweight	Not overweight	Total
< 7 hrs	13 (61.9%)	204 (75.84%)	217(53.82%)
7 to 14 hrs	7 (33.33%)	52 (19.33%)	59 (20.34%)
> 14 hrs	1 (4.76%)	13 (4.83%)	14(4.82%)
Total	21 (100%)	269 (100%)	290 (100%)

Table 3 is illustrating relation between perception of their weight and actual weight among adolescent. Out of total, 21 (7.24%) were obese but, as per their perception, 11 (50%), they perceived themselves as obese, while 10 (4.78%) perceived themselves as averagely built. Out of 209 students having average built of body, only 148 (70.18%) were having true perception about their built. Out of 59 thin built student, 53 (89.83%) were having true perception. From 22 students, who were obese, 11 (50%) were having true perception about their built.

Table 4 is showing relation between hours spend on exercise and bodyweight. Those who spend 7-14 hrs in a week for exercise, 7 (33.33%) were still overweight, while the 1 (4.76%) was overweight still after spending more than 14 hours in a week for exercise. Out of total participants, 21 (7.24%) were overweight, while 269 (92.76%) were not overweight.

Out of total 240 females, 20 were having waist hip ratio (WHR) > 0.85, while no male was having WHR > 1. So, as per an anthropometric measurement the criteria of obesity can be applied & compare the results.

The chi square statistic is 2.3827. The p value is .303804. The result is not significant at p <0.05. The relation between physical activity and overweight (obesity) was not found to be significant.

Discussion:

More than Half adolescents (52.17 %) were having a habit of eating outside the home at least once in a week and from 10 % to 60 % were having habit of outside meal at least once in a month like bread related items, cold drinks, farsan and fruits. On asking about taking food on monthly basis included pulses 16 (5.51%), 29 (10%) and 22 (7.59%). Singh A K et al in a study found that about one-third of the adolescents (34.4% boys and 29.4% girls) ate fast food more than three times a week. [10] D Kumar et al documented that samosa, a deep fried Indian snack, was the most preferred (99.2%) fast food item and pizza (22.8%) came out to be the last preferred item. [11]

Four Fifth 80 (27.5%) participants reported that they never play outdoor games, 18 (6.21%) reported that they never do exercise. Nationwide 18.4% of students were physically active doing any kind of physical activity.[12] Outdoor activities , which is considered healthy, was preferred by very few of the college going (5.9%) and out of college (4.7%) adolescents.[13]

In our study, study related stress felt by 68.62% while in Eliza Omar Eva et al it was 54%. [14] Mean while10% reported family related stress. In this study 21 (7.24%) were having BMI $\geqslant$ 25, of this 21 participants, 17(5.86%) were females and 4 (1.38%) were males. In contrast to this study done by Zeeshan Nasir Khan et al found 30.5% males and 16% females had BMI $\geqslant$25.0. [15]

In our study 8.3% females (20 out of 240) were having waist hip ratio (WHR) > 0.85, while no male is having WHR >1, while according to Zeeshan et al. 46% (39 of 85) of males (WHR $\geqslant$ 0.90) and 31% (49 of 159) of female (WHR $\geqslant$ 0.85).[15] According to our study those who spend 7-14 hrs in a week for exercise, 7 (33.33%) are still overweight. So, there is no association between exercise & overweight. The study by SV Saranya et al.found the same results. [16]

Conclusion:

Childhood obesity along with its associated health related problems like lifestyle diseases can be attributed to the transformation in the lifestyles of young adolescents. Routine physical activities & consumption of homemade food should be encouraged.

Recommendation:

The eating habits of adolescents definitely affect their present as well as future health. In this age group they like outside food more compare to homemade food due to peer pressure and more occasions of outing which ultimately lead to further continuation of such unhealthy eating habits. To

prevent such life style disorders the group should be sensitized since childhood and more emphasis in adolescent age. With regular physical exercise, participation in household activities and involvement in outdoor games definitely prevent the overweight and its associated effects.

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Declaration:

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Conflict of Interest: Nil

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