



## Dietary habits and life style among Pre-university college students in Raichur, India

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### Abstract:

**Background:** Worldwide, obesity trends are causing serious public health concern and in many countries threatening the basic health care delivery. It is an independent risk factor for cardiovascular diseases. In recent decades we are witnessing increase in obesity prevalence even among children & adolescents. This changing trends is mainly been attributed to life style and dietary habits of our youngsters. So this study intends to know the dietary habits & life style of adolescents of Raichur town. **Methodology:** A cross sectional study was conducted at pre-university college; during August 2012 to October 2012. A total of 384 students from 1<sup>st</sup> and 2<sup>nd</sup> PUC participated in the study. A pre tested semi structured questionnaire was used for data collection. Variables collected were socio-demographic, lifestyle, exercise and dietary habits. The data was then analysed using SPSS 16. Results were presented as proportions and associations were tested using chi square test. **Results:** Out of 384 students, 45.6 % were male and 54.4% were females. The mean age was 16.75 yrs. 184(48%) students were predominantly vegetarians. 176 (45.8%) reported consumption of junk food more than once in a week while 338 (88%) reported to use fruits and vegetables occasionally in their diet. Only 147 (38.3%) students walked at least for 30 minutes and did exercise daily. **Conclusion:** Unhealthy dietary habits are still very much prevalent among adolescents. Obesity is also showing increasing trend among those having such poor dietary habits and life style.

**Key words:** Dietary habits, Life style, Adolescents, Raichur

### Introduction:

Eating frequent fast food meals is increasing rapidly among adolescents in developing countries [1]. This has caused teens and young adults to gain more weight and face an increased risk of developing insulin resistance according to the results of a study funded by the National Heart, Lung, and Blood [2].

After 15 years, those who ate at fast-food restaurants more than twice a week compared to less than once a week had gained an extra ten pounds and had a two-fold greater increase in insulin resistance which is a risk factor for type 2 diabetes.

Since children & adolescents are adopting such unhealthy dietary habits, problem of obesity & overweight is also increasing at an alarming rate. A marked increase in obesity generally has been noted among adolescents, ranging from 10% to 30% [3-13]. Change in lifestyle, dietary habits, and physical activity, social, cultural and environmental are

associated with the occurrence of obesity. Adding to this the prevalence of non-communicable disease is increasing very rapidly in developing countries than in industrialized countries. According to World Health Organization estimates, by the year 2020, non communicable diseases will account for approximately three quarters of all deaths in the developing world [14].

Increase of overweight and obesity due to inappropriate diet and inactive lifestyle, over-consumption of calories, especially fast food, snacks and soft drinks is leading to chronic diseases like diabetes mellitus, hypertension, heart disease, cancers, dyslipidaemia and overall increase in morbidity and mortality in later life. Approximately 80% heart disease, stroke, type 2 diabetes mellitus and 40% of cancer could be avoided through healthy diet, regular physical activity and avoidance tobacco use. If adolescents are well nourished, they can make

optimal use of their skills, talents and energies today and be healthy and responsible citizens.

This study was carried out to determine the diet pattern and life style among preuniversity students of a Lakshmi Venkateswara Desai college in Raichur.

## Materials and methods

This was a cross-sectional study carried out over a period of three months, from August to October 2012. The sample size was estimated for infinite population by using the formula  $4pq/d^2$  where prevalence was taken as 10% [15]. Absolute precision was fixed at 3%. Considering the above values, the sample size estimated was 384. A list of all pre university colleges was obtained from the concerned authorities of the district education office. By lottery method one college was selected.

There were total 612 students and students list was prepared by assigning numbers from 1 to 612. 384 students were selected by simple random technique. If a designated student could not be contacted or was not cooperative during the three separate visits, the subject was considered as a non-respondent. Trained investigators weighed all the students without shoes and heavy clothing, using an electronic weighing scale with an error of  $\pm 100$  g. The weighing scale was regularly checked with known standard weights. A portable anthropometric rod was used for measuring the height, with an error to the nearest of 0.1 cm, using standard procedures. BMI WHO classification was used to define overweight and obesity. Information was collected on physical activity, physical exercises, and frequency and duration of participation in household activities. Time spent in watching television and playing computer and video games were also noted. Diet preferences for chocolate, biscuits, chips, and colas were taken into consideration. Univariate and Multiple Logistic Regression analyses were carried out. For all statistical tests,  $P < 0.05$  was taken as the significant level.

## Results

Study sample consisted of 175 (45.5%) boys and 209 (54.5%) girls. The mean age was 16 yrs. 184 (48%) students were predominantly vegetarians. proportion of vegetarian girls was more compared to boys. 272 (70%) students told they skip breakfast frequently. 176 (45.8%) reported consumption of junk food more than once in a week while 338 (88%) reported to use fruits and vegetables occasionally in their diet. Only 147 (38.3%) students walked at least for 30 minutes and did exercise daily. 14 students

had used any form of tobacco. Only 11 (0.03%) students were overweight in the study sample (Table 1).

We also tested for association between body mass index (BMI) & other variables. Girls showed higher prevalence of overweight compared to boys. Vegetarians had lesser BMI than those who were taking mixed diet and this was statistically significant. Similarly those who consumed fruits & vegetables frequently had significantly lesser BMI (Table 2).

## Discussion:

Present study showed higher prevalence of unhealthy dietary habits among adolescents. Such transition in food habits among adolescents has been reported from many studies conducted in India. In present study 176 (45.8%) reported consumption of junk food more than once in a week and only 147 (38.3%) students walked at least for 30 minutes and did exercise daily. In a study conducted by Bachani et al, every third student reported to have taken fast foods on three or more days per week. Similarly intake of carbonated drinks was also very high [16]. Another study conducted by Singh AK et al showed that 34.4% of boys and 29.4% of girls had consumed fast foods more than three times a week [17].

Consumption of fruits and vegetables was very low which is comparable to the study conducted by Bachani et al which stresses the need for nutrition education about healthy and unhealthy foods. Another interesting finding is that 272 (70%) students told they skip breakfast frequently which is very high compared to a study conducted by Manijeh Alavi et al where only 48% of the girls skipped breakfast [18]. This may be because that study was conducted only among girls. Even in our study only 54% of girls skipped breakfast which is comparable to Manijeh Alavi et al study.

We also explored the relation between BMI and other variables. In our study, the prevalence of overweight was only 0.03% (11 students). Bachani et al study showed the prevalence of overweight as 1.4% among boys and 1.8% among girls. This difference may be because Raichur district is one of backward district and nutritional deficiencies are highly prevalent in this part of Northern Karnataka, so many adolescents are underweight rather than overweight.

BMI was significantly different among those who are pure vegetarians, those who consumed lots of fruits & vegetables and those who exercised regularly. These findings are similar to the study conducted by Nighat Nisar et al in Karachi [19]. This

clearly shows the importance of physical activity and low fat diet in reducing obesity.

### Recommendations:

Present study clearly shows the dietary habits of our adolescents are unhealthy so the need of hour is educate them properly about healthy food habits. Moreover developing countries have already plagued by communicable diseases and nutritional problems and it is very essential to prevent non-communicable diseases. This is possible only if we motivate our adolescents to cultivate healthy life style and dietary habits.

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**Table 1: Dietary and life style characteristics by sex of the study population**

	Male	Female	Odds Ratio	95% Confidence Interval (95% CI)
<b>Age (yrs)</b>				
<18	131 (41.6%)	184 (58.4%)	1.24	.64-2.37
>18	44 (63.8%)	25 (36.2%)		
<b>BMI</b>				
<25	169 (45.3%)	204 (54.7%)	1.11	.29-4.2
>25	6 (54.5%)	5 (45.5%)		
<b>Diet</b>				
Vegetarian	72 (39.1%)	112 (60.9%)	<b>1.88</b>	1.2-2.9
Mixed diet	103 (51.5%)	97 (48.5%)		
<b>Breakfast skip</b>				
Yes	125 (46%)	147 (54%)	.87	.39-1.9
No	50 (44.6%)	62 (55.4%)		
<b>Consumption of fruits</b>				
Frequently	149 (44.1%)	189 (55.9%)	<b>2.3</b>	1.2-4.7
Occasionally	26 (56.5%)	20 (43.5%)		
<b>Junk food</b>				
Frequently	88 (50%)	88 (50%)	.69	.43-1.1
Occasionally	87 (41.8%)	121 (58.2%)		
<b>Cold Drinks</b>				
Frequently	144 (44.6%)	179 (55.4%)	3.2	.25-40.3
Occasionally	31 (50.8%)	30 (49.2%)		
<b>Exercise</b>				
Yes	97 (66%)	50 (34%)	<b>.2</b>	.12-.32
No	78 (32.9%)	159 (67.1%)		
<b>Tobacco</b>				
Yes	11 (78.6%)	3 (21.4%)	.26	.06-1.1
No	164 (44.3%)	206 (55.7%)		
<b>TV watching</b>				
<8hrs/day	149 (45.3%)	180 (54.7%)	0.33	0.00-0.05
>8hrs/day	26 (46.3%)	29 (53.7%)		

**Table 2: Dietary and life style characteristics by BMI of the study population**

	BMI <25	BMI >25	Odds Ratio	95% Confidence Interval (95% CI)
<b>Age (yrs)</b>				
<18	307 (97.5%)	8 (2.5%)	1.24	.64-2.37
>18	66 (95.7%)	3 (4.3%)		
<b>Sex</b>				
Male	169 (96.6%)	6 (3.4%)	1.11	.29-4.2
Female	204 (97.6%)	5 (2.4%)		
<b>Diet</b>				
Vegetarian	181 (98.4%)	3 (1.6%)	<b>1.88</b>	1.2-2.9
Mixed diet	192 (96%)	8 (4%)		

<b>Breakfast skip</b>				
Frequently	265 (97.4%)	7 (2.6%)	.87	.39-1.9
Occasionally	108 (96.4%)	4(3.6%)		
<b>Consumption of fruits</b>				
Frequently	328 (97%)	10 (3%)	<b>2.3</b>	1.2-4.7
Occasionally	45 (97.8%)	1 (2.2%)		
<b>Junk food</b>				
Frequently	171 (97.2%)	5 (2.8%)	.69	.43-1.1
Occasionally	202 (97.1%)	6 (2.9%)		
<b>Cold Drinks</b>				
Frequently	312 (96.6%)	10 (3.4%)	3.2	.25-40.3
Occasionally	61 (98.3%)	1 (1.7%)		
<b>Exercise</b>				
Yes	142 (96.6%)	5 (3.4%)	<b>.2</b>	.12-.32
No	231 (97.5%)	6 (2.5%)		
<b>Tobacco</b>				
Yes	13 (92.9%)	1 (7.1%)	.26	.06-1.1
No	360 (97.3%)	10 (2.7%)		
<b>TV watching</b>				
<8hrs	322 (97.9%)	7 (2.1%)	0.34	.01-0.8
>8hrs	51 (92.6%)	4 (7.4%)		