Contents lists available at Thomson Reuters

The American Journal of Science and Medical Research

Journal homepage: http://globalsciencepg.org/ajsmr.html

Research Article

Prevalence of Overweight and Obesity among Post graduate students, Kakatiya University, Warangal

Swapna Gurrapu[1] and Estari Mamidala[2]*

[1,2] *Infectious Diseases and Metabolic Disorders Research Lab, Department of Zoology, Kakatiya University, Warangal – 506 009, TS, India*

*Corresponding author:
E-mail: swapnagurrapu@kakatiya.ac.in,

http://dx.doi.org/10.17812/ajsmr4103
Received : 18 December 2017
Accepted; 25 January 2018
Available online : 24 February 2018

ISSN: 2377-6196 © 2018 The Authors. Published by Global Science Publishing Group. USA

ABSTRACT

Throughout the world, obesity & underweight is emerging as a serious problem, not only among adults but also children, teenagers and young adults. Hence, this study was undertaken to find out the prevalence of underweight and overweight among University Hostels. The objective of this study is to assess the prevalence of overweight and obesity among Students of a University Hostels and also to find the relationship of the risk factors like Physical inactivity, sleeping habits, diet, stress and association with other diseases (thyroid disorders, menstrual disorders). A cross-sectional study was conducted in selected sample of 290 subjects. Anthropometric measurements including height and weight were taken as per WHO criteria. Body mass index were calculated and classified accordingly as normal, overweight and obese, normal weight. The study revealed overall a high prevalence of underweight (20%), and overweight (5.5%). In males 3.5% were overweight. While in females 7.3% were overweight and 0.6% were obese. Relation with increased frequency of meals, increased sleep duration and regular exercise were found to be significant.

Keywords: Overweight, Obesity, Kakatiya University, WHO

1. Introduction

Obesity is a multifaceted metabolic and genetic factors. The condition of obesity is chronic, relapsing and neurochemical and involves interaction between host and environment and the need for everlasting existence changes supersedes the person`s desire for quick weight loss. Genetics account for about 30-40% of the variations in weight between the individuals. Environmental causes of obesity are often related to overconsumption of high fat foods, decrease in activity and smoking cessation (Manojan et al, 2014). Obesity is an increase in body weight as the result of excessive accumulation of body fat and occurs when the calorie value of food intake multifactorial chronic disease that develops from an interaction of social, behavioral, culture, psychological, exceeds energy output. Overweight and obesity is one of the preventable causes of death. Morbidity linked with overweight and obesity is also enormous. The social allegation of obesity and overweight is a foremost problem that is often neglected. Obesity is emerging as a serious problem throughout the world, not only among adults but also children, teenagers and young adults (WHO, 1997). Of the factors paying to obesity, stress seems to be mainly significant as stressful conditions lead to irregularity in diet, lack of exercise and addiction, each being considered an independent factor leading to obesity and the prevalence of obesity is growing rapidly worldwide (WHO, 1993) the professional students, including medical students are in a side when obesity is concerned. This is mainly because medical education is demanding throughout the whole course of training. The amount of factual to be absorbed, social isolation, pressure of examination discrepancies between expectation and reality all can be estimated to bring psychological stress (Selvaraj et al, 2013).

Hence, this study was accepted to find out the prevalence of overweight and obesity among Students of a University Hostels. An effort was made to find out the consequence of presence or absence of factors influencing body weight. Obesity and overweight in university hostel students is progressively attractive a health problem in many developing countries, including India as obesity appears to increase the risk of subsequent morbidity. It is problematic to reduce excessive weight in adults once it becomes established. Hence, it would be more sensible to begin prevention and treatment of obesity and overweight right from childhood itself. As there are few studies in Warangal among university hostel students, the present study was taken up on this group who require early interference to prevent these diseases among future doctors.

2. Materials and Methods

University hostel students were selected based on systematic random sampling technique. Two hundred ninety

students were selected for the study. This was a expressive survey study design with postgraduate male and female students of Kakatiya University in Warangal city located at South of Telangana State, India. The survey sample is based on basic anthropometry data (height and weight) among postgraduate male and female university students.

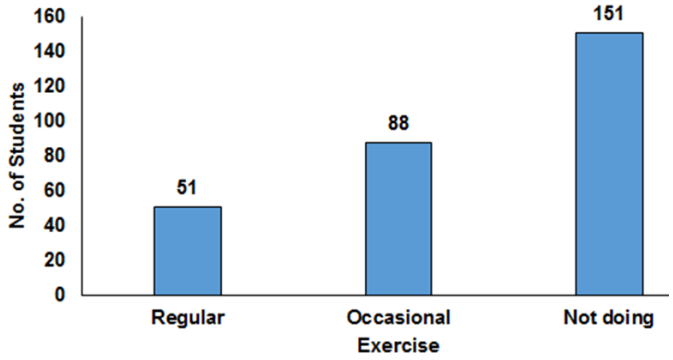
The study included self-administered questionnaire, which comprised their dietary habits, level of physical activity, sleeping habits, stress, junk food feeding and association with thyroid and menstrual disorders. Weight and height of the students were taken and body mass index (BMI) was calculated as: Weight (kilogram) divided by square of height (meters). Data collected was entered in Microsoft Excel and analysed. A measuring tape was used for finding height and weighing machine was used by correcting the zero error for weight and a self-administered questionnaire was used. A systematic random sampling technique was applied for selecting hostel students from each groups of university hostel students. Equal number of males and females could not be selected as there was no uniform composition of males and females in the campus.

3. Results and Discussion

We conducted the study on 290 students. Out of them, 140 (48.4%) were males and 150 (52.6%) were females. Out of 290 students, we found that underweight students were 58(20%), normal students were 215 (74.13%), overweight were 16 (5.5%) and obese were 1 (0.34%). We also found that, 21 (7.24%) were vegetarians, 9 (3.10%) were non-vegetarian and 260 (89.6%) were mixed.

We observed that, 139 (48.2%) were doing exercise and 151 (52.06%) were not doing exercise. Out of 290 students, 51 (17.5%) students did exercise regularly and 88 (30.3%) students did exercise only occasionally (Fig-1). Twenty four (8.27%) students had family history of obesity and 266 (91.7%) students had no family history of obesity, which was found relevant in our study (Fig-2).

Figure-1. Frequency of Exercise



We also found that 200 (68.4%) students had a habit of snacking and 90 (32.6%) students did not. Out of 290 students, 21 (7.5%) students slept for 9-10 hours, 239 (82.5%) students slept for 6-8 hours and 30 (10%) students slept for <6 hours (Fig-3). zero (0%) had a habit of taking junk food and 116 (40%)had a habit of taking normal food and 174had a habit of taking mixed food (60%) (Fig-5).

Figure-2. Family History of Obesity

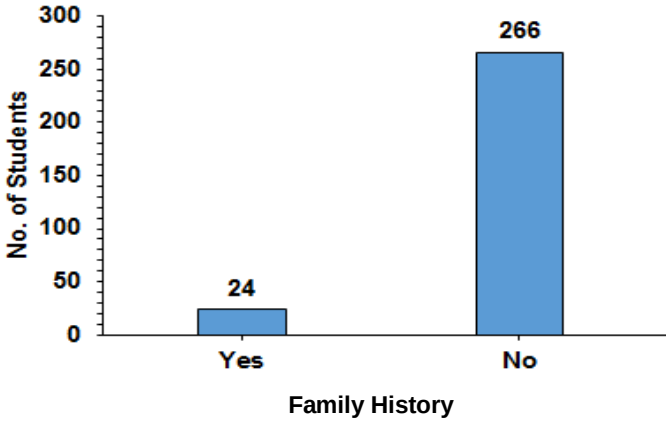
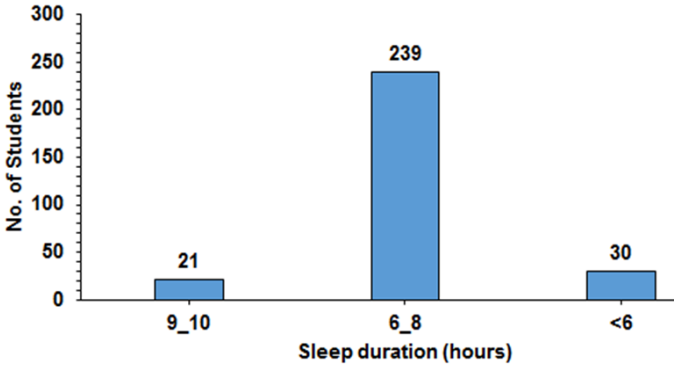
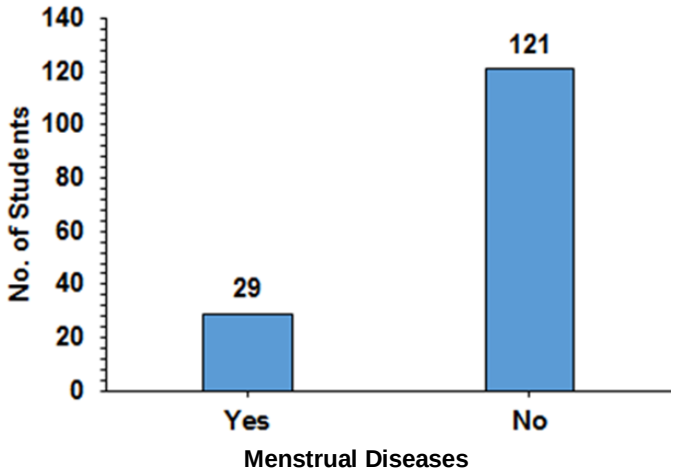


Figure-3. Duration of Sleep



Two hundred eighty (91.1%) students had no thyroid disorder and 10 (8.9%) students had thyroid disorder. We, in our study noticed that 121 (80.6%) students had no menstrual disorders and 29 (19.3%) students had menstrual disorders, which was found relevant in our study. From the study conducted to screen hostel students of Kakatiya University for overweight and obesity prevalence was found to be 5.5% and 0.34%, respectively. Overall prevalence was 20%.

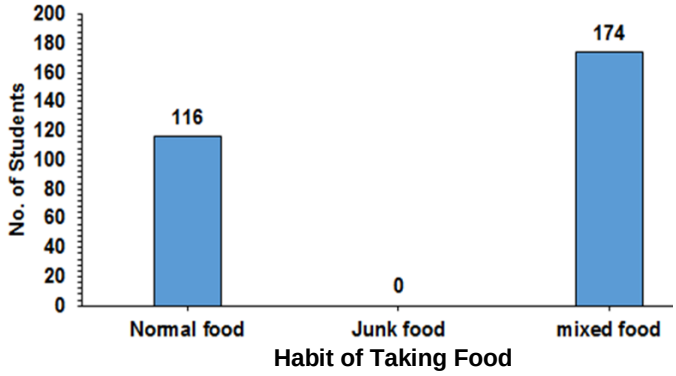
Figure-4. Menstrual disorders



In our study, we could establish a relationship between obesity and family history. This may because these students were from different socioeconomic classes some of who seen

environment offered an abundance of calorie rich food and few opportunities for physical activity. Although changes in the genetic makeup of genetic population occurs too slow to be responsible for this rapid rise in obesity, genes do play a role in development of obesity.

Figure-5. Habit of Taking Junk Food



We also found a significant relationship between obesity and menstrual disorders among girls. Girls who have too much fat on their body may find that their monthly cycle is disrupted. Fat seems to increase levels of a hormone called testosterone in the body. This may also cause menstrual disorders. Girls with condition called polycystic ovarian disease tend to put on weight easily. They may also have irregular periods. They may be sometimes on medication which in turn also results in fat accumulation (Fig-4).

We could not establish any significant association between obesity and junk food consumption (Fig-5). This may be because University College here in Warangal is a rural area, where there is less availability and accessibility of these food items. Most of the students took food in normal frequency. Being hostel students they may be more conscious about their health and dietary habits. We noticed that most of the students go in for less food intake when stressed. Due to emotional disturbances, they might be having reluctance of having food. Students from apartheid at college canteen are uncomfortable getting students to go and get food. Also the landscape of the campus was so designed that it was difficult for students to go easily to canteen from the hostel, as the mess facility was limited to very few students. We also observed that students had less frequent meals due to and lack of time and tasty food, inconvenience of climbing the uphill of stairs as it resulted in more fatigue.

On analysis of data obtained we could not find any relationship between duration of sitting idle in front of computer or TV and obesity. As there was no television in the hostel and the usage of computer was restricted, students resorted to indoor games and loose talks with peers. We could not establish relation between thyroid disorders and obesity. Their obesity may be due to family history and improper life style habits. Though most of the students do not do regular physical exercise we could not establish any relevant association between lack of physical exercise and obesity. Even if some of the students were in a habit of doing exercise, they did it only occasionally. We also could not establish any relationship between practicing out door games and obesity. This was because only very few students were in habit of regularly practicing out door games. One interesting fact is that due to the landscape, in a day nearly three or four times students had to climb the hill for their clinical posting, theory classes and to hostel which itself could be a contributor factor for no significant relationship with any factor other than family history and menstrual disorders for females.

Abdominal obesity is defend as an abdominal circumference >102 cm and >88 cm for men and women, respectively. However, abdominal obesity can be reduced by engaging in some physical activity. There are various options for the management of overweight and obese patients including dietary approaches, pharmacotherapy, surgery and combination of these techniques.

Studies show that small changes increase in physical activity and in weight can make significant improvement in health. It is more desirable to calculate basal energy requirement for the individual and determine a reason able energy intake accordingly. Along with India, many countries in Southeast Asia go through economic and nutrition changes. The nutrition transition is associated with a change in dietary habits and decreased physical activity, which leads to rising prevalence of obesity and overweight. Overweight and obesity are the major risk factors for a number of chronic diseases including cancer, cardiovascular diseases and diabetes. Risk factors for obesity and overweight include: Poor balanced diet, excess sleep, lack of physical activity, medical conditions and medication, age and consumption of alcohol.

Obesity is often expressed in terms of BMI. However, not only in the amount of excess fat that they store, but also in the regional distribution of the fat within the body .The distribution of fat induced by the weight gain affects the risk associated with obesity, and the kind of disease that results. It is useful therefore, to be able to distinguish between those at increased risk as a result of abnormal fat distribution or android obesity from those with the less serious ganoid fat distribution, in which fat is more evenly and peripherally distributed around the body.

Obesity is probably the most prevalent form of malnutrition. As a chronic disease, prevalent in both developed and developing countries, and affecting children as well as adults, it now so common that it is replacing the more traditional public health concerns including under nutrition .It is one of the most significant contributors to ill health. As obesity is a key risk factor in natural history of other non-communicable and chronic diseases, the typical time sequence of emergence of chronic diseases following the increased prevalence of obesity is important in public health planning. Its adverse effects are hypertension, hyperlipidaemia and glucose intolerance, while coronary heart disease and long-term complications of diabetics, such as renal failure beg into emerge several years later. The etiology of obesity is complex and is one of multiple causation.

The prevalence of obesity in our study was found out to be 0.34% and that of overweight was 5.5%. The overall prevalence is 20%. In the study conducted in Warangal University Hostel College was 74.13% and that of overweight was 5.5%. The prevalence of overweight in both studies were apparently similar, yet obesity patterns varied in the study population of boy's hostel and girls hostel in Warangal. A significant relation between obesity/overweight and consumption of junk food

was established in a study conducted among hostel students of Warangal.

In their study, the prevalence of obesity was 0.34%and that of overweight was 5.5%. This increased presence was attributed to their increased junk food consumption (Gopalakrishnan et al, 2012). This was attributed to lack of regular physical activity and family history of obesity (Bertsias et al, 2003). In our study, we could establish a significant relation between obesity and family history, but to our surprise, the relation between obesity and physical activity was not found to be significant.

4. Conclusion

Our study concluded with the fact that the prevalence of obesity and overweight is increasing at an alarming rate of 8.84% out of 290 hostel students of Kakatiya University, Warangal, Telangana. Prevalence of overweight is 5.5% and that of obesity is 0.34%. This fact is really distressing because the health status of future doctors of our country, who in turn should lead our country in to the light so beater health, is at risk. Students should be the role models, but when their health status itself is at stake it is really a matter of disappointment. We could establish a significant relationship between obesity/overweight and family history. Also relation between overweight/obesity and menstrual disorders was found to be significant. We could not establish any relevant relationship between other variables of study because of limitations of study population. In the present day, people find no time to care for their health. This negligence may lead to several serious diseases like diabetes, increased blood pressure, stroke, etc. It is high time to think about it and make changes in their life style to have a healthy future.

Competing interests

The authors have declared that no competing interests exist.

References

[1]. World Health Organization. Obesity: preventing and managing the global epidemic. Report of a WHO Consultation on Obesity, Geneva, 3-5 June 1997. Geneva: World Health Organization; 1998. WHO document WHO/ NUT/NCD/98.1?

[2]. Manojan KK, Benny PV, Anil Bindu. Prevalence of obesity and overweight among medical students based on New Asia-Pacifc BMI guideline. 2014, IPTM Volume 1.

[3]. Selvaraj K, Sivaprakasam P. A study on the prevalence of overweight and obesity among medical students of Kanchipuram district. NJRCM 2013; 2(2):140-4.

[4]. Gopalakrishnan S, Ganeshkumar P, Prakash MV, Christopher, Amalraj V. Prevalence of overweight/obesity among the medical students, Malaysia. Med J Malaysia. 2012; 67 (4):442-4.

[5]. Bertsias G, Mammas I, Linardakis M, Kafatos A. Overweight and obesity in relation to cardio-vascular disease risk factors among medical students in Crete. BMC Public Health 2003;3:3