



ORIGINAL RESEARCH PAPER

Anaesthesiology

OBESITY AND OVERWEIGHT AMONG PG RESIDENTS IN GOVERNMENT MEDICAL COLLEGE, KOZHIKODE

KEY WORDS: BMI, Overweight, Obesity, Lifestyle

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ABSTRACT

The prevalence of overweight and obesity is still on the rise. The scenario is not different among the doctor population. Studies are being conducted among health professionals including medical students and the results are alarming. A cross sectional study of 356 post graduate students of government medical college, Kozhikode, under the Department of Family Medicine was undertaken. Participants were selected by simple random sampling technique from first, second- and third-year PG residents and were interviewed using a questionnaire to assess their life style, dietary practices, level of physical activity, level of stress and physical parameters. Overall prevalence of overweight and obesity together was found higher among males (75.2%) compared to females (52.5%). Inadequate sleep duration, addictions and increased gadget usage were significantly associated with development of overweight or obesity. The prevalence of overweight/obesity was comparatively higher among those with inadequate vegetables and fruit consumption and with decreased physical activity, though these were not statistically significant. Significant correlations between BMI and measurements of blood pressure and waist-hip ratio were found. The study concluded that majority of the upcoming doctors are overweight or obese, and the prevalence was higher among males. The study underscores the value of leading a healthy lifestyle that includes a balanced diet, enough sleep, increased physical activity and abstinence from alcohol. It also suggested medical practitioners to maintain a healthy work-life balance to avoid being overweight/obese and to prevent related comorbidities.

INTRODUCTION

Overweight and obesity are defined as abnormal or unnecessary fat accumulation in the body, that may impair health. Body mass index (BMI) is a simple index of weight for height that is commonly used in classifying overweight and obesity in adult population and individuals. Body mass index (BMI) equal to or more than 25 is taken as overweight, and BMI equal to or more than 30 is taken as obesity by WHO.¹ World Health Organization (WHO) has recommended lowering the BMI cut off levels for Asian people to 23.0 for overweight and 25 kg/m² for obesity.²

Over the past 50 years, obesity has become a global pandemic in terms of prevalence. Previously, obesity was considered as a problem of developed countries, but now in the last few decades its rising trend has been observed in developing countries as well. Obesity is a significant health risk since it greatly raises the likelihood that people will develop conditions like type 2 diabetes, fatty liver disease, hypertension, myocardial infarction, stroke, dementia, osteoarthritis, obstructive sleep apnea, fertility issues and several cancers, thereby contributing to a decline in both quality of life and life expectancy, also reduce socio-economic productivity thus increasingly creating an economic burden.³

Fundamental cause of obesity and overweight is an energy imbalance between calorie intake and expenditure. Changes in the global food system, lifestyle changes with increased sedentary behavior seem to be the main drivers of obesity. Stress is particularly important as stressful conditions lead to irregularity in diet, lack of exercise and addictions, each being an independent factor leading to obesity.

Data suggest that, if similar trends persist, in the world there will be 38% overweight and 20% obesity among adults by 2030.⁴

World Scenario Of Obesity/overweight

According to the WHO global estimate done in 2016, >1.9 billion adults aged 18 years and older were found to be overweight. Over 650 million of these were obese. It was also found that, approximately 2.8 million deaths were reported as a result of being overweight or obese. Between 1975 and 2016, the prevalence of obesity approximately tripled globally.⁵ This number is still increasing. WHO estimates that by 2025, approximately 167 million people will become less healthy,

including adults as well as children, because they are overweight or obese.⁶

Most of the countries, mainly under-developed and developing countries are facing double burden of undernutrition with increased chances of infection and obesity/overweight and related health issues.

Indian Scenario Of Obesity/overweight

The prevalence of obesity among Indians increased in 2019-21 compared to 2015-16, as per the latest National Family Health Survey (NFHS-5) data. Nearly one in every four persons is overweight compared to one in every five earlier. According to ICMR-INDIAB study 2015, prevalence rate of obesity and central obesity varies from 11.8% to 31.3% and 16.9%-36.3% respectively. Numerous studies have revealed that women were much more likely than men to be obese. As per the state-wise data in India, the highest ratio of obese men was in Delhi (38%) and Tamil Nadu (37%), followed by Kerala (36%). The survey found that, highest proportion of overweight women was from Puducherry (46%), Chandigarh (44%), New Delhi, Tamil Nadu, and Punjab (41% each) and Kerala and Andaman and Nicobar Islands (38% each).

We perceived that obesity mostly affects middle age people, but recently, there is an increase of obesity in young adults, mainly the college students, which is becoming evident⁷. The COVID-19 pandemic saw a significant increase in the national obesity average mainly due to inactivity, poor diet, anxiety, and mental stress resulting from a totally unfamiliar environmental situation.

Kerala

In Kerala, obesity is a real threat, which has increased the prevalence of non-communicable diseases. Now Kerala holds the second spot for obesity in the country, right next to Punjab, according to national health survey data.

Obesity-consequences

Obesity and overweight have impacts on various domains of life of an individual including physical, psychological, social. In a wider perspective, it largely affects the development of the society. Obesity and overweight increases the morbidity and mortality in the population. It is one of the major risk factors for the development of diabetes mellitus, hypertension and dyslipidemia, and can also lead to complications like ischemic heart disease, cerebrovascular accidents, various cancers like endometrial, esophageal

adenocarcinoma, colorectal, breast, prostate, and renal⁸. It also causes breathing problems like obstructive sleep apnea, bronchial asthma, joint problems like osteoarthritis and affects psychologically with development of anxiety, depression resulting in low quality of life. It remains as a stigma to many, especially among younger individuals and makes their life miserable with low self-esteem.

Health personnel are meant to be important promoters and role models for maintaining a healthy lifestyle for the general population; however, studies on medical students and health care personnel in many countries suggest that obesity is a problem in these population. The medical education is stressful throughout the whole course of training with the vast area to explore and memorize, social isolation, pressure of examinations, all can be anticipated to bring psychological stress and along with irregular and unhealthy diet and lack of exercise, contributing to the development of obesity among medical students.

This study was undertaken with the objective to find out obesity and overweight among PG residents of Govt. Medical College Kozhikode and to identify various correlates associated with it.

Study Methods

Study Type

Cross sectional study among 356 subjects, interviewed with questionnaire; BP and BMI were measured using standard techniques.

Study Subjects And Selection Criteria

First, second & third-year PG residents of Govt. Medical College, Kozhikode, irrespective of age and gender, and those who gave consent for the study.

RESULTS

1. BMI classification was done based on WHO Asian criteria for BMI.

The overall prevalence of overweight and obesity was 58.7% (209 subjects), in which the prevalence of overweight was 26.7% (95 subjects) and that of obesity was 32% (114 subjects). Among females, 5.4% were underweight, 136 (52.5%) were having a BMI of more than normal. 42.1% of females had normal BMI.

Among the males more than half of the participants were obese (51.5%). Only 23.7% were having normal BMI and this result was statistically significant on comparison with that of females (p-value <0.001).

2. Among those with decreased vegetable intake 67.9% were overweight/obese which was around two times that of people with adequate vegetable intake (32.1%). The prevalence of overweight/obesity was higher (56.1%) among those with inadequate fruits intake, even though they were not statistically significant. Similar trend observed with fast food intake.

3. 77.5% of the population fell into moderate stress category and 14.8% into high perceived stress category.

4. prevalence of overweight/obesity was higher in those taking alcohol (84.5%) on occasions. Most of the study subjects (52.5%) were getting a sleep duration of 6-8 hours per day and 45.2% were with <6 hours of sleep. These were statistically associated with obesity/overweight.

5. The prevalence of obesity/overweight was higher among those who used gadgets for >4hrs a day (30%). The association between duration of gadget usage and BMI was significant

6 Blood pressure (systolic and diastolic) recordings were

comparatively higher among overweight/obese individuals and the association between blood pressure and BMI was significant

7. Females' mean waist measurements were somewhat higher (82.2cm) than average (80cm). The same was true for men, whose mean waist size was 90.16 cm, somewhat larger than the normal average (90 cm).

CONCLUSIONS

1. The overall prevalence of obesity and overweight was 59% among the study subjects. Only 37 % had normal BMI
2. The mean BMI of the study population was 23.8 indicating very high prevalence among the PG residents.
3. The prevalence of overweight and obesity was higher among male doctors (75%) compared to female doctors (53%).
4. Prevalence of obesity and overweight was higher in those who did not consume adequate vegetables and fruits.
5. Duration of sleep and duration of gadget use with obesity showed significant relationship
6. Habit of occasional alcohol intake was significantly associated with development of overweight/obesity.
7. Blood pressure recording and waist-hip ratio had significant association with BMI.
8. prevalence of overweight/obesity was disproportionately higher among those with insufficient exercise hours (< 4hrs/week).
9. Majority of the study subjects were experiencing moderate stress

Limitations

1. small and restricted study community; hence the results may not be applicable to the entire population.
2. Complete data about the addictions/habits may not be available due to inhibitions and time limitations
3. Recall bias

Recommendations

1. Doctors also should follow a balanced diet and timely meals and good lifestyle habits. The diet should include a source of carbohydrate and protein with adequate vegetables, a seasonally available fruit in every meal along with 2- 2.5 L of water daily
2. maintain a healthy work – life balance
3. adequate sleep, in terms of quantity and quality.
4. Quitting addictions/habits should start with doctors
5. Government level interventions to achieve a preferable doctor patient ratio and to establish reasonable and standardized working hours for doctors
6. To strengthen the primary care which in turn reduce the unnecessary inpatient as well as outpatient load in a tertiary care center, thus reducing the workload.

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