Assessment of Overweight and Obesity and Their Contributing Riskfactors among Medical Consultants of Lahore

Hira Rafique¹, M. Abubakar sddique², Warda shafique3, Sana Shoukat4
1. DPT, University institute of Physical therapy, University of Lahore (hirazohaib8@gmail.com)
2. DPT, University institute of Physical therapy, University of Lahore (mabs310@gmial.com)
3. DPT, MSNPT*, University Institute of Physical Therapy, University of Lahore (warda.shafiq24@gmail.com)
4. MBBS, Ghulam Muhammad Mahar Medical College Sukkur (drsanashoukat@gmail.com)
Corresponding author: Hira Rafique, Student at University Institute of Physical Therapy
Address: house no 53-R block Margazar colony Multan road, Lahore Pakistan
Cell+92-306-4031142
E-mail hirazohaib8@gmail.com

ABSTRACT

Objective: The foremost ambition of our study was assessment of overweight and obesity and their contributing risk factors among medical consultants of Lahore.

Methods: A cross-sectional study was conducted among 120 Postgraduate doctors of Lahore among them 85 were males and 35 females. Data was composed by using a coherent self-reliant valid questionnaire. The data was analyzed and tabulated via SPSS software version 21.0

Results: The results showed that among males, 18.33% were normal 24.17% were overweight while 28.33% were obese, while among females, 7.50% were normal, 7.50 were overweight and 14.17% were found to be obese. The contributing factors for overweight and obesity were found as following; time of consumption of more food i.e. at dinner (p-value 0.000) , consumption of junk food on daily bases (p-value 0.000) , having snacks on daily basis (p-value 0.000) , watching television while eating (p-value 0.000) , going to bed immediately after having dinner (p-value 0.000) , no physical activity (p-value 0.000) and family history of obesity (p-value 0.000)

Conclusion: The study shows that there is high prevalence of overweight and obesity among postgraduate doctors of Lahore. A number of risk factors are involved which include consuming more junk food, having more food at night time, snacking on daily basis and having a sedentary life style. This study improved awareness among doctors about their weight and promoted importance of physical activity other than their routine work among medical practitioners.

Keywords: overweight, obesity, contributing risk factors, post graduate doctors, medical consultants

INTRODUCTION

Obesity is defined as a condition in which there is increased deposition of adipose (fat) tissue that results in reduced life expectancy and increased risk of other health disorders. (Aldossari and Al-Zahrani 2017) Obesity means a body mass index (BMI) of ≥30kg/m2 whereas overweight is defined as a BMI of ≥25.(Eveleth 1996, Iwuala, Ayankogbe et al. 2015) The incidence of obesity and overweight individuals has been increased in many countries and according to W.H.O there will be an uncertain increase in the level of obesity by the year 2025. (Aldossari and Al-Zahrani 2017)

Obesity is universal health issue for public, as one of every 10 adults suffers from obesity (Hawkes 2006) and its worldwide prevalent. Obesity and its accompanying disorders are increasing day-to-day particularly in developing countries together with among Health Service Providers (HSPs). There are number of other factors concomitant with obesity as premature superannuation, augmented mortality and morbidity. Hence, obesity is likely to reduce prolonged withholding doctors and other health care providers in incompetently staffed health systems of unindustrialized countries. (Iwuala, Ayankogbe et al. 2015)

A Doctor has a dynamic role in the health and wellbeing of a nation-state. Doctor's health is of great importance because they themselves should be fit and has sound health so that they could carry out their jobs efficiently under perplexing working situation. Furthermore, literature recommends a solid and steady association amongst health adoptions of doctors and what the doctors recommend to their patients (Frank 2004, Hegde, Sathiyanarayanan et al. 2015)

Worldwide, there is intensifying incidence of overweight and obesity in both emerging and established countries. (Haidar and Cosman 2011) The frequency of obesity has augmented in emerging countries in previous 20 years as they are hastily becoming developed, with consuming high caloric foods and adopting a more sedentary lifestyles (Popkin, Adair et al. 2012, Peltzer, Pengpid et al. 2014) Globally the proportion of

non-communicable diseases in association with obesity and overweight were for type 2 DM is 58%, for IHD is 21%, for heart disease due to HTN is 39%, for ischemic stroke is 23%, for cancer of colon is 12%, for post-menopausal breast cancer is 8%, for endometrial cancer in women is 32% and for osteoarthritis is 13% (World Health Organization [WHO], 2003).(Organization and Group 2003, Said and Ismail 2014)

Adult obesity includes a number of factors as improper diet, genetic factors, sedentary life styles physical activity and other interactive influences (Wilborn, Beckham et al. 2005, Selvaraj and Sivaprakasam 2013) other factors may include increased nutrients consumption as fast foods, high consumption of soda drinks, chocolates and having sedentary lifestyles(Padwal, Deshmukh et al. 2013) ease in transportation, watching television for long hours and using internet results in increased development of obesity (Aldossari and Al-Zahrani 2017)

The frequency of obesity is globally increasing and becoming a noteworthy risk to health. The incidence of obesity is reaching widespread magnitude in west including over about 25% population of United States and about 15% in Europe. (Selvaraj and Sivaprakasam 2013) As the occurrence of overweight and obesity in increasing including its concerns for wellbeing and nation's economy now and in future (Wang 2004) ,therefore it is required to evaluate the elements related with this condition, thus supporting in sustaining fit and healthy peers in future.(Said and Ismail 2014)

Although there are several studies on the prevalence of obesity and overweight and its associated risk factors in the general population, there are only few studies looking at the prevalence and risk factors among doctors in Lahore. Thus, the study is designed to conclude the extent of and factors accompanying with obesity among doctors of Lahore, Pakistan

METHODOLOGY:

A cross-sectional study with convenient sampling technique was conducted among postgraduate doctors of Lahore. The duration of study was 3 months (March-2018 to May-2018). A coherent self-reliant valid questionnaire was used among 120 postgraduate doctors of Lahore. The inclusion criteria of the study were only postgraduate doctors while other medical staff was not included in the study.

The participants were fully guaranteed for the privacy of the information they provided. The participants were not at any kind of risk as no intervention in the study was included. By the consent of the doctors, the data was collected from them. The sample size was calculated by using epitool sample size calculator at 90% confidence level and desired precision of 0.06, the sample size of atleast 96 participants was required to fulfill our aim. (Hegde, Sathiyanarayanan et al. 2015)

The outcome variable was defined according to WHO criteria as BMI of ≥30kg/m2 (WHO-NUT). The independent variables age, gender, marital status, meal mostly skipped, time of consumption of more food, consumption of junk food, snaking on daily basis, watching TV while eating, sleeping immediately after eating, physical status, duration of work and duration of sleep.

Statistical analysis was done using SPSS version 21.0. Mean and standard deviation was calculated for quantitative data while frequencies and percentages were calculated for qualitative data.

RESULTS:

120 postgraduate doctors participated in this study out of which 85(70.83%) were males and 35(29.17%) were females. The mean age of the participants was 47.53±10.579. About 80.83 participants were married while 17.50% were unmarried and 1.67% was widowed. About 51 participants worked for 12 -14 hours per day while 38 participants worked for 10-12 hours. The duration of sleep of most of the applicants (65) was less than 6 hours while 21 persons slept for about 6-8 hours daily. The study reveals that overall 38 participants were overweight (29 males and 9 females) and 51 were obese (34 males and 17 females).

Table I

Gender	BMI			Total	P value
	normal (>25)	Overweight (25-29)	Obesity (30 and above)		
Male	22 (18.33%)	29 (24.17%)	34 (28.33%)	85 (70.83%)	
female	9 (7.50%)	9 (7.50%)	17 (14.17%)	35 (29.17%)	0.612
Total	31 (25.83%)	38 (31.67%)	51 (42.5%)	120 (100%)	

Cross tabulation among gender and BMI revealed that in males, 18.33% were normal 24.17% were overweight while 28.33% were obese, while among females, 7.50% were normal, 7.50 were overweight and 14.17% were found to be obese. And there were no noteworthy association between gender and BMI as p-value was 0.612. (Table I)

Table II

		Frequency	Percent	p-values
Q1	**Are you**			
	vegetarian	16	13.3	
	non-vegetarian	25	20.8	0.336
	mixed	79	65.8	
Q2	**Meal mostly skipped**			
	Breakfast	24	20.0	
	lunch	10	8.3	0.015
	dinner	14	11.7	
	you don't skip	72	60.0	
Q3	**Time you consume more food**			
	breakfast	24	20.0	
	lunch	10	8.3	0.000
	dinner	14	11.7	
	you don't skip	72	60.0	
Q4	**Consumption of junk food**			
	no junk food	33	27.5	
	daily	39	32.5	0.000
	once or more in a week	21	17.5	
	once in a month	27	22.5	

Out of 120 applicants 13.3% were vegetarian, 20.8% were non vegetarian while 65.8% were mixed (omnivorous). About 60% of the applicants didn't skip any meal while 20% skipped breakfast. There was important association between obesity and time of consumption of more food as p value was 0.000 and most of the obese participants consumed more food at night time. There was also noteworthy association between obesity and consumption of junk food as many of the obese applicants consumed junk food on daily basis and p value was found to be 0.000. (Table II)

Table III

		Frequency	Percent	p-values
Q5	**Snacks on daily basis**			
	yes	54	45.0	0.000
	no	66	55.0	
Q6	**Watch TV while eating**			
	yes	51	42.5	0.001
	no	69	57.5	

		Frequency	Percent	p-values
Q7	**Go to bed immediately after having dinner**			
	yes	58	48.3	0.000
	no	62	51.7	
Q8	**Physical activity other then routine work**			
	yes	64	53.8	0.000
	no	55	46.2	

Out of 120 applicants 54 consumed snacks on daily basis on among them 34 were found to be obese hence there was important association between consumption of snacks on daily basis and obesity as p value was 0.000. Another important cause of obesity found was eating while watching TV as most of the obese persons do and there was also significant association between these two factors (p value 0.001). There was also important association between obesity and going to bed immediately after eating (p value 0.000); about 58 persons responded yes to this question among them 42 were obese. About 55 participants didn't performed any kind of physical activity other then routine work and out of them 40 were obese hence proved there was noteworthy relationship between obesity and physical activity as p value was 0.000. Among those who did physical activity other then routine work 53.8% did physical activity regularly while rest of them 3 days/ week while most of them (about 46.2%) were involved in light sort of activities as walking and 32.3% did moderate activity as jogging. (Table III

TABLE IV

		Frequency	Percent	p-values
Q11	**Do you smoke**			
	yes	61	50.8	0.081
	no	59	49.2	
Q12	**History of diabetes**			
	yes	38	31.7	0.905
	no	82	68.3	
Q13	**History of HTN**			
	yes	41	34.2	0.590
	no	79	65.8	
Q14	**History of cholesterol**			
	yes	36	30.0	0.000
	no	84	70.0	
Q15	**Family history of obesity**			
	yes	45	37.5	0.000
	no	75	62.5	

There was no significant association of obesity with smoking, history of diabetes and HTN as p value obtained was 0.081, 0.905 and 0.590 respectively while there was important relationship of history of cholesterol with overweight and obesity as p value was 0.000 and most of the overweight and obese participants also had a family history of obesity and there was noteworthy association found between two factors as p value obtained was 0.000. (Table IV)

DISCUSSION:

The purpose of the study was to find the prevalence of obesity and overweight and its factors among the postgraduate doctors of Lahore Pakistan. In this study overall 38 participants were overweight out of which 29 were males and 9 females whereas 51 were obese including 34 males and 17 females. The study reveals that the prevalence of overweight and obesity was 31.67% and 42.5% respectively but in contrast to this study, previous study conducted by Kumar B. Hegde et al in 2015 at Tamil Nadu, India shows that prevalence of overweight and obesity was 36.5% and 15.1% respectively which is much less then our study this might be because our study only included postgraduate doctors while this study included both doctors and nurses (Hegde, Sathiyanarayanan et al. 2015) while another study by Sajid Mahmood et al in 2010 at Karachi showed that the incidence of overweight and obesity among doctors was 31.6% and 28.2% correspondingly. (Mahmood, Najjad et al. 2010)

In our study about 70% of the obese individuals consumed more food at night, 53% consumed junk food daily and 68% consumed snacks on daily basis and 64% of obese watched television while eating. The study conducted by Manojan et al revealed that 27% of the obese individuals also consumed more food at night while 63% of obese takes junk food once in week while 3% consumed junk food daily. (Manojan, Benny et al. 2014) whereas the results of another study by Deolate and Akarte in 2015 showed that 69.3% of obese persons had their food while watching television and 51% took snacks occasionally and 30% took snacks daily. (Deotale, Ranganathan et al. 2015)

According to our study there was significant association among physical activity other then routine work as p-value was 0.000 among them 78% of the obese doctors didn't performed any kind of physical activity and 63% had history of smoking while previous study by Kabir, Said and Ismail showed that about 47.2% of obese individuals performed only low physical activity and 42.4% did smoking. (Said and Ismail 2014)

According to our study about 45% of the overweight and obese doctors also had family history of obesity which is similar to the results of study conducted in 2013 by Selvaraj and Sivaprakasam also shows that 65% of the overweight and obese individuals also had family history of obesity. (Selvaraj and Sivaprakasam 2013)

Our study showed that 51% of overweight and obese individuals had a short time span of sleep approximately less than 6 hours of sleep whereas preceding study also showed similar results in which obese participants had less duration of sleep then normal. (Guo, Zheng et al. 2012)

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