

Risk Factors Associated with the Prevalence of Obesity among University Teachers

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Abstract

Background: Obesity is now a global epidemic. There is strong link between physical inactivity and obesity. Similarly, unhealthy eating habits are also associated with obesity. The menace of overweight and obesity has been moving on fast pace in educated communities including university teachers.

Objectives: The present study was conducted with the following three different objectives: to find out risk factors associated with the obesity among university teachers; to determine the age at onset of the obesity among university teachers; and to determine the prevalence of obesity among the university teachers.

Methodology: It was an epidemiological study, which evaluated the risk factor and prevalence of the obesity in university teachers. The study was conducted using a cross-sectional research design, in which university teachers of different universities of District Abbott Abad participated. The questionnaire used in this study consisted of 5 demographic questions and other questions were divided into two parts to measure food habits and sedentary lifestyle.

Results: A total number of 385 university teachers, with an average age of 38.25 participated in the study. Of the 385 participants, only 27.5% reported taking part in a moderate level of physical activity and only 16.9% participated in the physical activities on daily basis. However, 72.5% of university teachers who participated in this study were living a sedentary lifestyle and 84.7% of university teachers reported having unhealthy eating habits. In the present study, the prevalence of overweight and obesity was 26.5% and 64.2% respectively. Statistically significant difference ($p = 0.000, < 0.05$) between prevalence of obesity among university teachers was found.

Key words: Lifestyle, Diet, Risk Factor, University, Teachers, Overweight, Obesity

Introduction

Obesity rates have been steadily rising among university students, professionals, and the general population. As obesity rates continue to climb, effects on health and productivity are becoming more apparent. One of the most significant risk factors for obesity is genetics. About 40% of obesity is genetic, meaning it is due to a person's genes and cannot be changed. Other significant risk factors for obesity include: diet, sleep, activity, and genetics. The effects of obesity on health and productivity are wide-ranging and can be significant. Obesity can lead to heart disease, type II diabetes, high blood pressure, stroke, and several types of cancer. It can also reduce life expectancy, increase the risk of serious injuries, and lead to decreased job productivity. The impacts of obesity on university teachers are complex and multi-layered. On the one hand, obesity can lead to increased health risks and decreased productivity. On the other hand, obesity can also lead to stigmatization, discrimination, social isolation, and stress. All ages and both genders have equally been prone to the menace of obesity and entire world has widely been confronted to this issue. As concluded by Kausar et al. (2022) occurrence of obesity among the adolescents has been in the shape of epidemic in the modern world.

The incidents of obesity and overweight have been on rapid rise during the recent years and the volume of its occurrence has been growing on a very fast pace irrespective of the age, gender and other social discrimination. Literature has confirmed that obesity has been serving as the root cause of a number of fatal ailment like diabetes, hypertension, cardiac abnormalities (Wang et al., 2021). In addition to diet, obesity has its roots in the inactive the sedentary lifestyle. Confirm association between lack and no physical activity (PA) and obesity has been established. Absence of PA and undesirable food deteriorate health and leads to the onset of obesity. Being overweight, including obesity, implies unusual fat collection. In this way, every day PA is unavoidable and indispensable. This was an epidemiological study, which measured the risk factors and prevalence of obesity among the university teachers. The study was conducted using a cross-sectional research design, in which university teachers of four different universities of District Abbott Abad participated.

Various social, cultural and natural elements decide the nature of food utilization and the level of idleness or sedentary lifestyle. Regardless of the reason behind the ill habit responsible for promoting the sedentary lifestyle, serves as the calamity in terms of deteriorating the health and output of the manpower. Need of the hour is to take all sorts of preventive steps on war footing bases to pause the rapid growth of the calamity of obesity

Given the widespread impacts of obesity and the complex factors that contribute to it, universities need to take action to address the problem. To identify and address risk factors in accordance with the American University Health Association's Guidelines for Community Preventive Health Services, consolidated efforts are required to put an end to this deadly situation. The existing situation needs to develop and implement policy and program initiatives that focus on promoting healthy behaviors and reducing the prevalence of obesity in their communities. This research study was conducted with the objective to provide clear understanding of the issue of obesity and its effects on health and productivity. Universities in collaboration with the health authorities can play an important role in addressing this public health concern through efforts to identify and address risk factors, promote healthy behaviors, and to prevent the cases at the early stage of the onset of the obesity.

Expansion in the volume of overweight presents wellbeing challenges and the unexpected infirmity outcomes of being overweight and obese. Obesity is a significant medical issue that outcomes in

lessening proficiency of the body in the future, particularly in more youthful individuals. Being overweight significantly affects the wellbeing and quality of life of the people. From the social point of view, obesity is somewhat a type of disgrace, and leads to psychological issues. Logical proof has confirmed low confidence, state of mind issues, nervousness issues, dietary issues, relational issues and state of body influencing personal satisfaction (Carroll, 2017).

Literature Review

The epidemic of overweight and obesity poses a major challenge to the prevention and control of chronic diseases around the world. Over the past 30 years, due to economic growth, industrial, mechanized transport, urbanization and nutritional changes in processed foods and high-calorie foods, many countries have doubled their citizens' obesity rates (Parkes et al., 2020). Relying primarily on evidence of epidemics published over the past decade, the study discusses the extent of the obesity epidemic, the novel, the class, and the risk factors for its economic impact around the world.

Being overweight is the term for having more muscle versus fat than what is seen as strong. It is used to recognize people who are in danger for clinical issues from having an unnecessary measure of muscle versus fat. Obesity infers to significantly higher proportion of fats than muscle (Salvo et al., 2019). Overweight individuals are not fundamentally "fat" since body weight can't be achieved by estimating most extreme muscle, bone or body water (Liberali et al., 2020). As indicated by Bawaked et al. (2020) shockingly the absence of diet plans and the absence of physical development is a danger to general wellbeing, health, output and productivity of the manpower around the world.

Prevalence of Obesity: A Global Picture

Generally speaking, the issue of being overweight has fundamentally expanded since 1975 and by 2016, "more than 1.9 billion adults, 18 years and above were overweight. Of these in excess of 650 million were obese (Dong et al., 2019). This isn't only an issue in industrialized countries, developing as well as under-developed countries have also been confronted to this menace. In 2014, "practically half of the children in Asia under five years old were overweight (Panda et al., 2018). Regarding sexual direction contrasts, men are slated to be more overweight than women, notwithstanding the way that women have a higher movement of being fat.

Research studies have confirmed that on account of different factors, Asian peoples have more elevated level of muscle to fat proportion and BMI than European masses (Ojeda-Rodriguez et al., 2018). As figures shown by Dong et al. (2017) about overall people of the developed nations, around 20% to 30% were overweight and about 12% were obese. In Pakistan, one out of every four individuals was overweight due to urbanization, high capability rate, and high monetary status were by and large associated with overweight (Betran et al., 2021). Weight is related with a noteworthy increment in mortality, with future declining by 5-10 years (Wang et al., 2018).

Objectives

1. To find out risk factors associated with obesity among university teachers.
2. To determine the age at onset of obesity among university teachers
3. To determine the prevalence of obesity among university teachers.

Hypotheses

1. H_0 : There will be no significant difference between risk factors associated with obesity among university teachers
2. H_0 : There will be no significant difference between ages at onset of obesity among university teachers
3. H_0 : There will be no significant difference between the prevalence of obesity among university teachers.

Material and Methods

The study was conducted using a cross-sectional research design, in which university teachers of different of District Abbott Abad participated. Data were collected from the male teachers of different universities situated in the vicinity of District Abbott Abad (KPK). According to the data taken from the four different universities, 1400 teachers were working therein and following the multi-stage sampling technique, a sample of 385 teachers was finalized for the study. Adopted questionnaire from (Falso et al. (2017) was employed in the study. The questionnaire consisted of a few demographic background questions and other questions were divided into two groups; food habits and PA. The questions 1-8 were about food habits and from 9-12 were about PA. The data were collected over a period of two weeks by going to different universities. This was followed by

measuring weight and height of the respondents and their BMI was calculated. The data analyses were performed using two main approaches; descriptive statistical analysis and inferential statistical analysis. The descriptive analysis involved the computation of frequency distributions of the responses. Inferential analysis involved ANOVA to compare differences in the prevalence level. Cramer's V Coefficients was also used to measure the associations between a pair of categorical variables including like prevalence of obesity etc.

Results

Table 1: Volume of the involvement in physical activity

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	106	27.5	27.5	27.5
No	279	72.5	72.5	100.0
Total	385	100.0	100.0	

Out of 385 participants, only 27.5% were involved in PA and 72.5% were not taking part in any type of PA or sports activity.

Table 2: Frequency of the involvement in physical activity

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Daily	65	16.9	16.9	16.9
Thrice	42	10.9	10.9	27.8
Not At All	278	72.2	72.2	100.0
Total	385	100.0	100.0	

Out of 385 participants, only 16.9% were taking part in PA on daily basis and 10.9% were participating in PA for three times a week. Whereas 72.2% were completely inactive.

Table 3: Duration of involvement in physical activity

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 30 Min	92	23.9	23.9	23.9
40 Min	3	.8	.8	24.7
45 Min	11	2.9	2.9	27.5
Never	279	72.5	72.5	100.0
Total	385	100.0	100.0	

Only 23.9% of the respondents reported taking part in PA for 30 minutes a day. Whereas, 0.8% reported 40 minutes a day and 2.9% of the respondents reported for 45 minutes a day.

Table 4: Time duration spent in front of TV screen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2 Hours	137	35.6	35.6	35.6
	2-3 Hours	225	58.4	58.4	94.0
	3-4 Hours	23	6.0	6.0	100.0
	Total	385	100.0	100.0	

Watching TV represents a sedentary life-style. In this study, 35.6% of the respondents reported watching TV for 1-2 hours a day, 58.4% reported it to be for 2-3 hours a day, and 6.0% reported it to be for 3-4 hours a day.

Table 5: Time duration spent on using Social Media

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-3 Hours	335	87.0	87.0	87.0
	3-4 Hours	50	13.0	13.0	100.0
	Total	385	100.0	100.0	

Using social media channels is another factor responsible for sedentary life-style. In this study, 87.0% participants reported using different social media channels for 2-3 hours a day and 13.0% reported using it for 3-4 hours a day.

Table 6: Prevalence rate of obesity and overweight

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	36	9.4	9.4	9.4
	Overweight	102	26.5	26.5	35.8
	Obesity	247	64.2	64.2	100.0
	Total	385	100.0	100.0	

The descriptive analysis revealed the prevalence of overweight 26.5% and obesity 64.02% among the respondents.

Inferential Analysis

The following statistical analysis were done for hypotheses testing

Table 7: Showing Risk Factors associated with the obesity

		Sum of Squares	df	Mean Square	F	Sig.
Sedentary Life Style	Between Groups	2.964	1	2.964	1.708	.192
	Within Groups	664.854	383	1.736		
	Total	667.818	384			
Food Habits	Between Groups	2.964	1	2.964	1.708	.192
	Within Groups	664.854	383	1.736		
	Total	667.818	384			

The first null hypothesis was stated as “there will be no significant difference between risk factors associated with obesity among university teachers”, was not rejected as ANOVA showed no significant differences ($p = 0.192, >0.05$) between high risk behavior of teachers.

Table 8: Showing difference of Age at the time of Onset of obesity

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	96.390	1	96.390	35.207	.000
Within Groups	1048.581	383	2.738		
Total	1144.971	384			

The second null hypothesis was stated as “there will be no significant difference between age at onset of obesity among senior and junior university teachers”, which was rejected as ANOVA revealed significant differences ($p = 0.000, <0.05$) among teachers for onset of obesity.

Table 9: Showing Comparison of the Prevalence of obesity

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.184	1	8.184	19.692	.000
Within Groups	159.177	383	.416		
Total	167.361	384			

The third null hypothesis was stated as “there will be no significant difference between the prevalence of obesity among university teachers,” which was rejected as results revealed a statistically significant difference ($p = 0.000, \leq 0.05$) between prevalence of obesity.

Discussion

Obesity is a multifactorial problem brought about by various variables, for example, an inactive way of life, unfortunate food tendencies, expanded calorie admission with an elevated level of sugar utilization, certain prescriptions. In addition to the above, natural factors like hereditary, age and sex also play role in this regard. Out of the 385 members, just 27.5% claimed participation in moderate degree of PA and just 16.9% took part in the PA on everyday schedule. Research has

concluded that sedentary lifestyle and onset of the obesity have close links (Wang et al., 2018). Respondents have also confirmed sitting for two hours or more in front of the TV and visiting online media for in any event three to four hours per day. The results show that the majority of the respondents (61.3%) remain inactive in sedentary style in front of TV and watching social media for five hours a day consistently. These findings corroborate with the findings of Ojeda-Rodriguez et al. (2018) who found that elderly daily spend three to five hours in front of TV or remain busy in using social media. In the present study, the prevalence of overweight and obese was 26.5% and 64.2% respectively. Respondents in the age above 40 years and more demonstrated higher weight rate (34%) than the respondents below 40 years (27%). This result is in conformity with the work of Bawaked et al. (2020) who concluded that increase in the age among the overweight leads the individual towards the onset of the obesity. Various studies have confirmed that the amount of overweight and obesity have co-relational association with the level of PA and excess of caloric intake. Betran et al. (2021) found that the commonness of overweight was higher among the individuals who used more than required amount of calories.

In contrast to the findings of Panda et al. (2018) who had found that the rate of prevalence of overweight has always been in excess in comparison to the obese, this study has shown the prevalence of overweight 26.5% and obesity 64.02% among the respondents. In the current examination, it was confirmed that the prevalence of obesity was more in those teachers who had family history of obesity. Findings of Dong et al. (2019) also correspond with the same findings who found that there were more incidents of overweight and obesity among those having family history of obesity.

Conclusion:

S. No.	Null Hypotheses	Status
1.	There will be no significant difference between risk factors associated with obesity among university teachers.	Not Rejected
2.	There will be no significant difference between age at onset of obesity among university teachers.	Rejected
3.	There will be no significant difference between the prevalence of obesity among university teachers.	Rejected

Medical care approaches or healthcare policies may impact people with obesity and therefore, they may cause an immediate impact on the living settings, for example, home condition, work

environment, and community at large. In a similar respect, strategies influence the dietary patterns and PA practices of people. The final conclusion of this study is that obesity were predominant among a large portion of the university teachers who took part in this investigation. At last, so as to forestall and decrease weight, individuals need to change their way of life and dietary patterns. Further examinations are then needed to inspire individuals with respect to conduct changes in managing overweight and obesity.

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