



Prevalence of Obesity and Physical Activity among Individuals at Umm Al-Qura University

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Abstract

To assess the prevalence of obesity and physical activity among individuals at Umm Al-Qura University, a cross-sectional study design was applied from January to August 2024. Data collection was conducted through a questionnaire titled "Prevalence of Body Mass Index and Physical Activity in University Individuals" administered at Umm Al-Qura University. Participants completed an online, self-administered questionnaire that gathered information on sports participation, age, height, and weight. The results of this study showed that 23.2% of the participants were overweight and 16.7% were obese. Specifically, 11.59% of male were obese and 14.21% were overweight. Among females, 8.9% were overweight, and 5.10% were obese. Regarding physical activity 47.2% did not engage in any form of physical activity. Among those inactive, 21.10% were male, and 26.7% were female. Additionally, 12% of overweight and 8.55% of obese individuals reported no participation in any physical activity. This study will help in creating awareness among university people to adopt a healthy lifestyle.

Keywords: prevalence, obesity, physical activity, Umm Al-Qura University

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Introduction

Obesity is recognized as a global health issue (Arman Shafiee et al., 2024). Both obesity and lack of physical activity (PA) are significant risk factors contributing to the rising incidence and progression of various chronic diseases, such as cardiovascular diseases, diabetes, hypertension, dyslipidaemia, and certain cancers (Oguoma et al., 2021). These conditions, in turn, reduce quality of life and elevate the risk of premature mortality (Altowerqi et al., 2020; Chen et al., 2023; Okati-Aliabad et al., 2022; Shafiee et al., 2024).

The rising prevalence of obesity has prompted the World Health Organization (WHO) to identify it as a major global health issue (World Health Organization, 2024a, b; WHO, 2024). According to WHO data, in 2022 about two and half billion adults worldwide were reported to be overweight, of whom more than 890 million people were obese (the World Health Organization, 2024a). Globally speaking, 37% of men and 38% of women are overweight with a body mass index (BMI) greater than 25 kg/m² (Shafiee et al., 2024).

Unfortunately, obesity, a prominent disease of the twenty-first century, is becoming increasingly prevalent globally and in the Eastern Mediterranean region. El-Sahli (2023) reported alarming obesity rates in Gulf Cooperation Council countries, including Kuwait, Qatar, and Saudi Arabia (SA). According to the WHO, the prevalence of overweight and obesity in SA is 68.2% (males 67.5% and females 69.2%), and 33.7% (males 29.5% and females 39.5%). A recent comprehensive survey collecting data from all areas of SA indicated that the prevalence of obesity is 24.7%. (Salhah Alsulami, 2023).

Conversely, extensive evidence indicates that maintaining an appropriate level of PA can enhance health and prevent chronic diseases (Altowerqi et al., 2020; Altowerqi & Bin Zainuddin, 2022; Okati-Aliabad et al., 2022). According to the WHO, PA is any body movement that requires energy and is performed by skeletal muscles (the World Health Organization, 2024b).

Low levels of PA contribute to obesity, thereby increasing the risk of type 2 diabetes (Altowerqi & Bin Zainuddin, 2022). However, integrating PA into daily routines can reduce



the likelihood of obesity and improve psychological well-being (Sayyd et al., 2021). Participation in sports during adolescence often continues into adulthood (Altowerqi & Bin Zainuddin, 2022). Access to PA opportunities is also influenced by social, economic, and cultural factors, as well as the physical environment (Drenowatz et al., 2010).

The university student age range (18–25 years) represents a transitional phase between late adolescence and early adulthood, marked by independent living and a heightened vulnerability to weight gain. During this period, a decrease in PA, shifts in dietary habits, and increased social interactions contribute significantly to weight gain (Deforche et al., 2015; Ilić et al., 2024; Winpenny et al., 2018). The great growth in wealth and consequent development of SA has resulted in major lifestyle changes. Fast food chains, easy access to vehicles, growing popularity of processed foods, lack of PA, and other factors have contributed to an increase in obesity in South Africa (Mahfouz et al., 2024).

There is limited study on health risk behaviours among university students in SA, particularly concerning physical inactivity and obesity among undergraduate students. This study aimed to assist university students in enhancing their health behaviours and to develop their awareness about health. It is conducted to evaluate the prevalence of obesity and the level of PA among individuals at Umm Al Qura University.



Methods

This is a descriptive study aimed at evaluating the prevalence of body mass index (BMI) and PA levels among university students. Data collection was conducted through a questionnaire titled "Prevalence of Obesity and Physical Activity Level" administered at Umm Al-Qura University. The study received approval from the Ethics Committee of the Faculty of Education. Participants were recruited via university email and WhatsApp, with the study's objectives and details thoroughly explained to them. A total of 725 individuals, including 502 students, 127 lecturers, and 96 staff members – all Saudi nationality – consented to participate. The study was conducted between January and August 2024. Participants completed an online, self-administered questionnaire that gathered information on sports participation, age, height, and weight. BMI was calculated as weight in kilogrammes divided by height in metres squared. For comparisons with World Health Organization (WHO) data, overweight was classified as a BMI of 25–29.9, while obesity was defined as a BMI of 30 kg/m² or higher (the World Health Organization, 2024a).

Data Analysis

All collected data were numerically coded and managed using Microsoft Excel 2016 before being analysed with SPSS version 23. Statistical significance was set at p-values of <0.05. Descriptive statistics were applied to summarize the study variables, utilizing percentages and frequencies for categorical data and means and standard deviations for numerical data. The chi-square test was employed to examine associations between categorical variables.

Results

Among the 725 individuals who participated in the study, 69.2% (n = 502) were students, 17.5% (n = 127) were lecturers, and 13.2% (n = 96) were staff members (Table 1). The gender distribution included 51.7% (n = 375) females and 48.3% (n = 350) males.

Regarding BMI classifications, 23.2% (n = 168) of the participants were categorized as overweight, and 16.7% (n = 182) as obese (Figure 1). Specifically, 14.21% of males were overweight, and 11.59% were obese. Among females, 8.9% were overweight, and 5.10% were obese.

PA levels were also assessed, revealing that 342 participants (47.2%) did not engage in any form of PA such as exercise, walking, or jogging (Figure 2). Among those inactive, 21.10% were male, and 26.7% were female. Additionally, 12% of overweight and 8.55% of obese individuals reported no participation in physical activity.

Table 1 Study characteristics of participants

Gender	Male 48.3% Female 51.7%
Age	18–23 81.1% (72 male, 121 female) 24–27 18.9 (18 male, 27 female)
Engage in physical activity	Yes 52.8% No 47.2%
Type of participants	Students 69.2 % (n = 502) Lecturers 17.5% (n = 127) Staff 13.2 % (n = 96)
Mean Weight	68.12 kg
Mean Height	164.85 cm

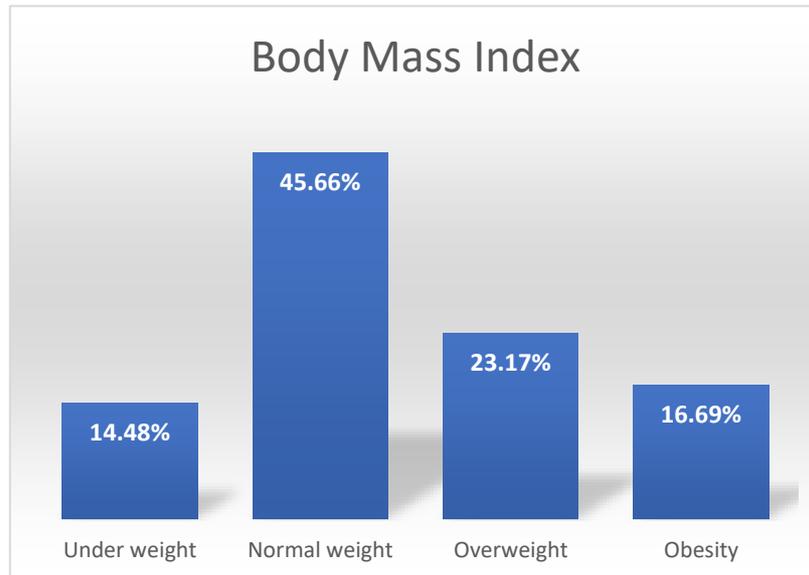


Figure 1 Prevalence of overweight and obesity.

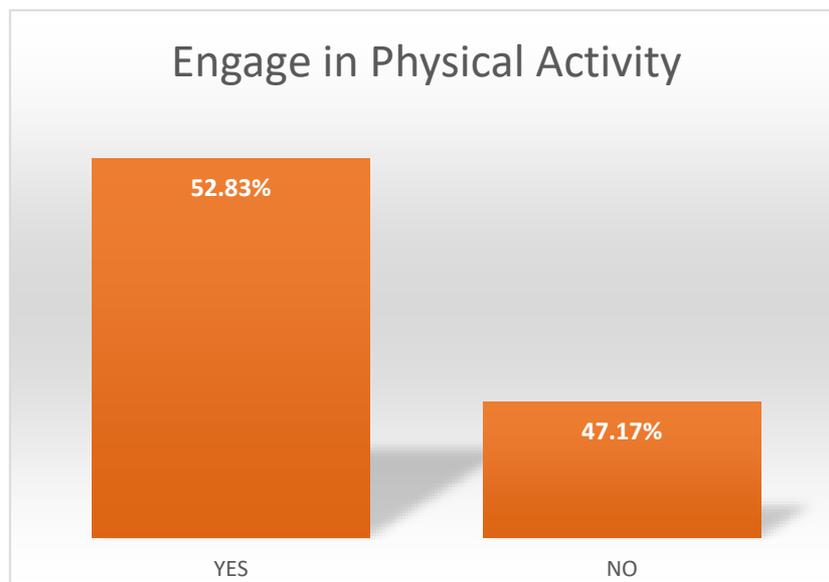


Figure 2 Prevalence of engaging in PA.



Discussion

Overweight and obesity are increasing at an alarming rate in both industrialized and developing countries, affecting practically every element of social and economic life, regardless of age, gender, or ethnicity. This study assessed the prevalence of obesity and PA levels among individuals at Umm Al Qura University.

In the present study, results indicated that about 39% of participants had a BMI above 25 kg/m². Overweight and obesity together accounted for 23.2% and 16.7% of the population, respectively. Males are more likely than females to be overweight or obese, according to the study's findings. The result for this study is in concordance with Salhah Alsulami's study (2023) conducted in Makkah, where there was higher prevalence of overweight among males than females. They revealed that the prevalence of overweight was 41% among males and 28.9 among females. Similar results have been reported by Ahmed Mahfouz et al., 2024, who indicated that the prevalence of overweight and obesity in men was higher than in women.

The prevalence rates in the current study were similar to those published by Makkawy et al., (2021), which indicated that 11% of people were obese and 23.2% of participants were overweight. Additionally, the frequency of obesity was 8.4% and overweight was 21.7% at Northern Border University in SA.

The prevalence of obesity (23.2%) in this study is concerning. All these overweight persons are at risk of becoming obese, thus action must be taken right away. These people must adjust their eating habits and lead healthier lifestyles. We hypothesized that healthy nutrition and high- to moderate-intensity physical activity could help reduce the risk of obesity.

Regarding PA, the Saudi Health Interview Survey (n = 10,735) revealed that 50% of participants watched television for more than three hours a day and 46.5% of individuals did not engage in any regular physical activity at all (Salem et al., 2022). According to this study, men who were active had a lower risk of obesity than men who were not active. (Salem et al., 2022). The result of their study is like the result of this present study, which revealed that 47.2% of participants did not engage in any form of PA. The General Authority for Statistics of SA



issued a recent report about sports practice, which showed that more than 50% of Saudi people do less than 30 minutes per week of PA (The General Authority for Statistics, 2022). According to the report's results, the percentages of adults who did not practise PA for at least 30 minutes per week in Hail Region is over 50%, while in the Eastern Region is about 50%. All these data indicated that the PA level did not reach the recommended level set by the World Health Organization, the majority of people should practise moderate-intensity physical activity for at least 150 minutes per week, high-intensity physical activity for at least 75 minutes per week, or a combination of both.

Conclusion

Since obesity is a major risk factor for several comorbidities, it is critical to prevent and manage it with the appropriate measures. The current study concluded that men were more likely than women to be overweight. Of the individuals, almost 39% were obese or overweight. One of the pillars of the Saudi Vision 2030 is adopting a healthy lifestyle, and it is hoped this study will raise awareness of the importance of this among university students. One of the indications of the Quality-of-Life Programme of the Vision Programme, which attempts to encourage the practice of sports in the community, is engaging in physical activity for at least 30 minutes a week. Umm Al Qura University need to address their obesogenic environment and the need for their administration to promote healthy lifestyles as proposed by the the WHO Global Strategy on Diet, Physical Activity, and Health.

In the future, other tests, such as lipid profile, glucose intolerance, hypertension, and fatty liver can be performed. More study is needed to find the best effective health promotion and chronic illness reduction techniques that can be implemented at Umm Al Qura University and throughout Saudi Arabia.



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