



PREVALENCE OF OBESITY AMONG ALAHSA PRIMARY HEALTH CARE CENTERS' VISITORS IN 2023

Primary Care Medicine

Mustafa H. Alfayez*	Family Medicine, Alshubah Primary Health Care Center-Alahsa Health Cluster, Alahsa, SAU *Corresponding Author
Ahmed A. Alhaddad	Home Health Care, Ministry of Health in Saudi Arabia, Alahsa, SAU
Ali A. Alali	Family Medicine, Alshubah Primary Health Care Center-Alahsa Health Cluster, Alahsa, SAU
Essa A. Alahmad	Family Medicine, Alshubah Primary Health Care Center-Alahsa Health Cluster, Alahsa, SAU
Adnan S. Albrahim	Emergency, Health Emergency Operation Center, Alahsa, SAU
Morad K. Albu Hassan	Family Medicine, Alqurain primary health care center - Alahsa health cluster, Alahsa, SAU
Abdullah H. Alkhalil	Family Medicine, Alfodhol primary health care center - Alahsa Health Cluster, Alahsa, SAU

ABSTRACT

Objective: This study aims to determine the prevalence of overweight and obesity among visitors attending primary health care centers in Alahsa City in the eastern region of the Kingdom of Saudi Arabia. **Methodology:** It is a cross-sectional study. Data is secondary from Raaqem Health Information System for visitors to Alahsa primary health care centers between 1st April 2023 and 31st October 2023. **Results:** A total of 151555 visitors of Alahsa primary health care centers were included. About 36% (54765 participants) are obese. The majority of the obese visitors are aged 36-59 years. We found 45574 visitors (30.1%) are overweight. The majority of the overweight visitors (15.1% of the total sample) are in the age group 36-59 years. About 30% (45170 visitors) have a normal BMI. The majority of those having normal BMI are in the age group 18-35 years (18.6% of the total sample). Lastly, 6042 participants (4%) are underweight. Most of them (3.4% of the total sample) were in the age group 18-35 years. **Conclusion:** The prevalence of overweight and obesity among Alahsa primary health care centers' visitors were 30.1% and 36.1% respectively. This survey shows that obesity and overweight are more common among females and in the age group 35-59 years.

KEYWORDS

INTRODUCTION

Obesity is a chronic disease and a significant public health issue due to the increased risk of morbidity and mortality. The global prevalence of obesity is increasing worldwide [1]. Obesity has become one of the most common health problems of the 21st century [2]. It is associated with a lot of chronic diseases and health conditions such as type 2 diabetes, metabolic syndrome, hypertension, dyslipidemia, coronary heart disease, certain types of cancer, and has recently been associated with worse outcomes in COVID-19 [5-8]. The WHO claims that obesity has more than doubled worldwide since 1980. About 39% of the adults were overweight and 14% were obese. [6]. The current research paper focuses on obesity in Saudi Arabia, which has now one of the highest obesity and overweight prevalence rates. Obesity is associated with multiple factors, not only genetic but physiological factors, psychological issues, and environmental variables, both physical and social, affecting individuals of all ages and regions. The global status of obesity has shown an epidemic trend in many developed and developing countries. This trend has been recently noticed in Saudi Arabia due to the lifestyle change [3]. The recent rapid and extensive changes in the lifestyle in the Gulf region led to major epidemiological changes including the alarming increase in the prevalence of non-communicable diseases [10-11]. Previous studies related to the prevalence of obesity in the Kingdom of Saudi Arabia (KSA) indicate an increasing trend in obesity and overweight [4].

The Aim

This study aims to determine the prevalence of overweight and obesity among visitors attending primary health care centers, in Alahsa City in the eastern region of the Kingdom of Saudi Arabia.

Literature review

During reviewing the literature, we found many studies about the prevalence of obesity.

--2023 Public Health and Nutrition, a section of the journal Frontiers in Public Health, cross-sectional study of Obesity prevalence, physical activity, and dietary practices among adults in Saudi Arabia Being overweight and obese were prevalent in 32.8% and 23% of the population, respectively [13].

--2015 Saudi Journal of Obesity | Published by Wolters Kluwer – Medknow. A cross-sectional study was conducted in a major family practice center in Riyadh, Saudi Arabia among patients attending the center between 1st September and 30th November 2013. They found that obesity significantly affects the participants within the age group from 40 to 60 more than other age groups $P < 0.001$. Obesity was significantly associated with female gender, and married individuals were more likely to be obese compared with other categories. P values were 0.018 and 0.006 respectively [14].

– Healthcare 2021, 9 a cross-sectional survey conducted over phone interviews in June 2020. Participants in this study were stratified by age and gender across the 13 regions of Saudi Arabia. Weight and height were self-reported, and obesity was determined as $BMI \geq 30$. They found that, Of the 6239 participants contacted, 4709 participants responded and completed the interview with a response rate of 75.48%. Of them, 50.1% were female. The mean age was 36.4 ± 13.5 (Range: 18–90), and the median age was 36. The national weighted prevalence of obesity ($BMI \geq 30$) was 24.7% [15].

-- Department of Family and Community Medicine, College of Medicine, Najran University, Najran, Saudi Arabia. It was published on March 5, 2019. A cross-sectional study was carried out on a representative sample of 1681 adult patients. Body mass index (BMI) measurement was recorded for 1649 out of 1681 participants (98.1%). The overall mean weight was 74.1 ± 15.81 kg, and that for men was 77.69 ± 16.14 kg vs. 69.37 ± 14.02 kg for women with a significant statistical difference of $p < 0.001$. The overall prevalence of

overweight and obesity among men and women was 38.3% and 27.6% respectively [16].

--2005 May;26(5):824-9. Obesity in Saudi Arabia study is a community-based national epidemiological health survey. Data were obtained by examining 17,232 Saudi subjects from selected households who participated in the study. The prevalence of overweight was 36.9%. Overweight is significantly more prevalent in males (42.4%) compared to 31.8% of females while obesity was 3.2%. Females are significantly more obese with a prevalence of 44% than males at 26.4% ($p < 0.0001$). Obesity and overweight are increasing in KSA with an overall obesity prevalence of 35.5% [17].

--2008 Sep;29(9):1319-25. Overweight and obesity in the eastern province of Saudi Arabia In the year 2004. All Saudi residents in the Eastern province aged 30 years and above were invited to participate in a community screening campaign. Out of 195,874 participants, the overall prevalence of obesity was 43.8%, while 35.1% were overweight [18].

METHODOLOGY

This study is a cross-sectional study. Data is secondary from Raqeem Health Information System for visitors to Alahsa PHCs between 1st April 2023 and 31st October 2023.

Approximately Alahsa has a population of 1100000 in 2022.

Sample size is 151551 participants.

For data analysis, we used SPSS Statistics 21.

Inclusion Criteria

- Age group less than 18 years
- both male and female
- Saudi or non saudu

Exclusion Criteria

- Age group less than 18 years
- Age group above than 75 years.
- Pregnant ladies

Data analysis and results

Demographic Characteristics of participant

We included 151555 participants (table 1) in the study. The mean age of the participants was 39.29 years. The minimum age was 18 years old, while the maximum age was 75 years old.

As shown in (Table 1) and (Figure 1) We put those aged 18-35 years in one category. The second category included those aged 36-59 years. Those aged 60 years and more are in the third category. The majority (44.2% of participants) were in the first age group (18-35 years) followed by 45.5% of participants who belonged to the second category (36-59 years of age) and 10.3% of participants were in the third category (60-75 years).

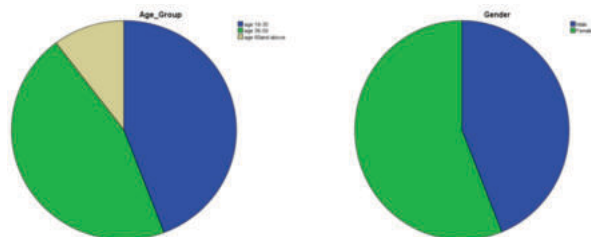


Figure 1

Table		Frequency	Percent (%)
Gender	Male	66580	43.9
	Female	84975	56.1
Age group	age 18-35	66979	44.2
	age 36-59	68912	45.5
	age 60& above	15664	10.3
Total		151555	100.0

RESULTS

Out of 151555 participants, 56.1% (84971 participants) were females, and 43.9% (66575 participants) were males.

As shown in Tables (2 & 3) and Figures (2 & 3), we found 54765

participants (36.1%) are obese. Of them, 21490 participants (14.2% of the total sample) are males, and 33271 participants (22% of the total sample) are females. The majority of the obese visitors (20.6% of the total sample) are aged 36-59 years followed by the age group 18-35 years (10.6% of the total sample). We found 45574 visitors (30.1%) are overweight. Of them, 22364 participants (14.8% of the total sample) are males, and 23210 participants (15.3% of the total sample) are females. The majority of the overweight visitors (15.1% of the total sample) are in the age group 36-59 years. About 30% (45170 visitors) have a normal BMI. Of them, 20459 (13.5% of the total sample) are males and 24711 (16.3% of the total sample) are females. The majority of those having normal BMI are in the age group 18-35 years (18.6% of the total sample). lastly, 6042 participants (4%) are underweight. Of them, 2267 participants (1.5% of the total sample) are males, and 3775 participants (2.5% of the total sample) are females. Most of them (3.4% of the total sample) were in the age group 18-35 years.

By looking at (table 2) we found most of the female visitors (39.2%) are obese and most of the male visitors (33.6%) are overweight.

By looking at (table 3) we found 57% of obese visitors are in the age group 35-59 years, about 50% of overweight visitors are in the age group 35-59 years, 62% of those having normal healthy weight are in the age group 18-35 years, and 85.7% of underweight visitors are in the age group 18-35 years.

By looking at (Table 3) we found most of the visitors in the age group 18-35 years (42.2%) have normal BMI. Most of the visitors in the age group 36-59 years (50.1%) are overweight. Most of the visitors in the age group 60 years and above (57.1%) are obese.

Table2					
BMI1			Gender		Total
			Male	Female	
	Underweight	Count	2267	3775	6042
		% within Gender	3.4%	4.4%	4.0%
		% of Total	1.5%	2.5%	4.0%
	Normal	Count	20459	24711	45170
		% within Gender	30.7%	29.1%	29.8%
		% of Total	13.5%	16.3%	29.8%
	Overweight	Count	22364	23210	45574
		% within Gender	33.6%	27.3%	30.1%
		% of Total	14.8%	15.3%	30.1%
	Obese	Count	21490	33275	54765
		% within Gender	32.3%	39.2%	36.1%
		% of Total	14.2%	22.0%	36.1%
Total		Count	66580	84971	151551
		% of Total	43.9%	56.1%	100.0%

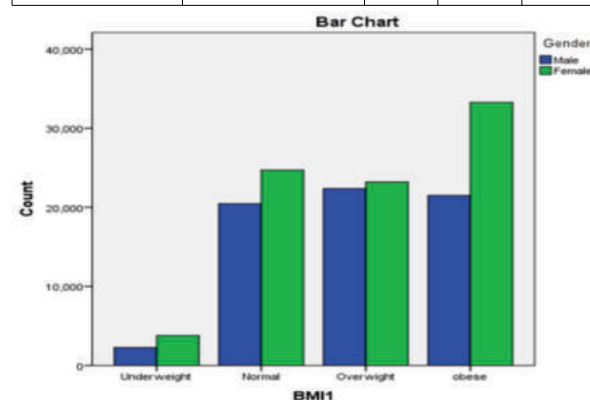


Figure 2

Table 3		Age Group			Total
BMI		age 18-35	age 36-59	age 60and above	
Underw eight	Count	5175	740	127	6042
	% within BMI	85.7%	12.2%	2.1%	100.0%
	% within Age Group	7.7%	1.1%	0.8%	4.0%
Normal	% of Total	3.4%	0.5%	0.1%	4.0%
	Count	28250	14064	2856	45170

Total	Overweight	% within BMI	62.5%	31.1%	6.3%	100.0%
		% within Age Group	42.2%	20.4%	18.2%	29.8%
		% of Total	18.6%	9.3%	1.9%	29.8%
		Count	17462	22855	5257	45574
		% within BMI	38.3%	50.1%	11.5%	100.0%
		% within Age Group	26.1%	33.2%	33.6%	30.1%
		% of Total	11.5%	15.1%	3.5%	30.1%
	obese	Count	16091	31252	7422	54765
		% within BMI	29.4%	57.1%	13.6%	100.0%
		% within Age Group	24.0%	45.4%	47.4%	36.1%
		% of Total	10.6%	20.6%	4.9%	36.1%
		Count	66978	68911	15662	151551
		% of Total	44.2%	45.5%	10.3%	100.0%

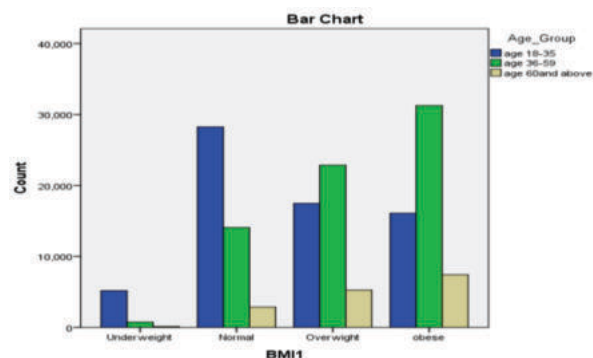


Figure 3

DISCUSSION:

Overweight and obesity are continuously increasing worldwide. Obesity is a growing concern in terms of public health due to the increased risk of morbidity and mortality [2]. Over the last decade, the prevalence of obesity has increased significantly in several developed and developing countries [7]. The current research paper focuses on obesity in Saudi Arabia, which has now one of the highest obesity and overweight prevalence rates [3].

The Global Burden of Diseases (GBD) 2015 collaborators estimate that the prevalence of obesity in adults in the Eastern Mediterranean Region (EMR) increased from 15% in 1980 to 21% in 2015, which is far higher than the global average of 12% in 2015 [2]. A national survey conducted between 1995 and 2000 found that the overall prevalence of obesity among Saudi adults was 35.6%. According to the World Health Organization (WHO), in the Kingdom of Saudi Arabia (KSA), the overall prevalence of obesity was estimated to be 33.7% [12].

To our knowledge and search, this is the first study to determine the prevalence of Overweight and obesity in Al Ahsa City in Saudi Arabia. A strength point of this study is that we included large number of participants (151551 visitors to primary health care centers). In our study, the prevalence of obesity is 36.1% while in literature we found the prevalence of obesity in different regions of Saudi Arabia ranged from 21.7% to 50%. The prevalence of overweight in this study is 30.1% while in the literature the prevalence of overweight in Saudi Arabia ranged from 32% to 38.3%. Like other studies, obesity is more prevalent among females [14-18]. On the other hand, overweight is more prevalent among females unlike other studies conducted in Saudi Arabia [14, 17-18].

In conclusion, more attention is needed to prevent and treat obesity and its related comorbidities.

CONCLUSION

Obesity is a growing concern in terms of public health due to the increased risk of morbidity and mortality. The prevalence of overweight and obesity among Alahsa primary health care centers' visitors were 30.1% and 36.1% respectively. This survey shows that obesity and overweight are more common among females and in the age group 35- 59 years. In conclusion, more attention is needed to prevent and treat obesity and its related comorbidities.

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