Prevalence and risk factors for overweight and obesity among primary care physicians

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Abstract

Background: Primary health care (PHC) physicians play a major role in delivering weight management programs through their close contact with patients and the public. However, obese physicians may have negative attitudes toward obesity management.

Aim of Study: To assess prevalence of obesity among PHC physicians and to explore their attitudes and practices regarding obesity management.

Subjects and Methods: A cross-sectional study design was followed at PHC centers in Abha City. It included 120 PHC physicians. A data collection sheet was developed. It comprised participants' sociodemographic characteristics, their attitude and practices toward obesity management and their body mass index (BMI).

Results: Most participants (83.3%) had a positive attitude toward obesity management and 79.2% provide counseling for obese patients. About one-third of PHC physicians (32.5%) were overweight, and 25% were obese. Overweight and obesity were significantly more prevalent among male than female physicians (p=0.026). PHC physicians' attitude toward obesity management differed significantly according to their classes of body mass index (p=0.014). Counseling of obese patients differed significantly according to their classes of body mass index (p=0.035).

Conclusions: Prevalence of overweight and obesity among PHC physicians in Abha City is quite high, especially among male physicians. Physicians' attitude toward management of obesity is mainly positive. Positive attitude and provision of counseling regarding obesity management are less common among overweight and obese PHC physicians.

Recommendations: Urgent actions are required to motivate PHC physicians, especially males, to achieve a healthy normal body weight. They should be encouraged to provide counseling on obesity management.

Key words: Body mass index, Primary Health Care, Overweight, Obesity, Attitude, Counselling

Introduction

Obesity is a major public health issue in developed countries and is emerging as a cause for concern in developing countries (1-2). Obesity has become a global epidemic over the last few decades (3). The prevalence rates for childhood and adolescence obesity have increased by more than 75% (4).

The main contributing factor is the obesogenic environment where increased urbanization fatty foods become increasingly accessible and physical activity decreases. Cardiovascular disease–related deaths in developing countries is 46.7% when compared with 26.5% in developed countries as a result of lifestyle changes related to urbanization and industrialization (5).

Approximately 2.5 million deaths globally are attributable to obesity, of which one third occurs in developing countries (6). It has been estimated that 2% to 7% of the total health care costs in developed countries are due to obesity (7).

It has been realized that health professionals worldwide are vulnerable to overweight and obesity. It has been reported that 8% of Canadian physicians were obese (8). Moreover, a survey of 11 European national colleges of general practitioners revealed that 31.76% were overweight and 7.13% were obese (9). Zhu and Norman (10) stated that the UK Department of Health found that of the 1.2 million staff in the National Health Service, 300,000 would be classified obese and a further 400,000 as overweight.

Zhu and Norman (10) stated that health professionals with healthy habits are more committed to promoting related healthy behaviors than those with unhealthy habits. Therefore, a central question has been considered regarding whether overweight doctors are less likely than those who are not overweight to practice weight management counseling with their patients and the public.

Often known as the “Battle of the Bulge”, obesity has assumed epidemic properties in the Arab countries. The numbers are especially bad in the Gulf countries, because of the rapid pace of social and economic changes over the last few decades. Obesity rates of 25-30% and even higher are typical in Bahrain, Kuwait and the United Arab of Emirates (UAE). High levels of obesity exist particularly among women in many Arab countries including Saudi Arabia (11-12).

In the Kingdom of Saudi Arabia, Al-Hazzaa (13) and Al-Almaie (14) stated that obesity has increased in the last three decades, and become a major health problem.

Zhu and Norman (10) noted that health professionals are well placed and expected to play a major role in implementing these health policies and delivering weight management programs through their close contact with patients and the public.

That health professionals’ own health and health habits may influence their attitudes toward relevant professional behaviors has been demonstrated by many studies. Health professionals who smoke have less favorable attitudes toward smoking cessation (15-18), less confidence in their efficacy to help the patients to quit smoking (5) and less intention to counsel their patients (19), and are less likely to perceive themselves as role models for their patients or the general population, when compared with non-smoking health professionals (16; 20).

Similar findings have been reported with respect to obesity and physical activity with unfit health professionals being less likely to hold positive attitudes towards promoting physical activity than physically fit health professionals (21-23). Therefore, it seems possible that overweight or obese health professionals will hold less positive attitudes towards weight management than their non-overweight counterparts (24).

Aim of study

To assess prevalence of obesity among primary care physicians in Abha City and to explore their attitudes and practices regarding obesity management.

Subjects and Methods

Following a cross-sectional design, the study was conducted at PHC centers in Abha City, Aseer Region at the southwestern part of Saudi Arabia. The study population included all PHC physicians in Abha City, Aseer Region in the southwestern part of Saudi Arabia (N=135). A total of 120 PHC physicians participated in this study (i.e., response rate of 88.9%). A data collection sheet was developed by the researchers, based on thorough review of relevant literature. It comprised participants’ sociodemographic characteristics, their attitude and practices toward obesity management and their body mass index (BMI).

Participants’ data on their weight and height were measured and their body mass index (BMI) was calculated (weight in kg)/(height in m2) and participants’ BMI was classified into either normal (<25 kg/m2), overweight (25-29.9 kg/m2) or obese (>30 kg/m2) (25).

A five-point Likert-type scale (i.e., 1, strongly disagree; 2, disagree; 3, neutral; 4, agree; 5, strongly agree) was used to determine attitudes toward obesity treatment. Scores for each participant’s responses were added up. Therefore, the total score ranged from 20 to 100. Participants’ who obtained total attitude scores <50 were considered as having a “negative” attitude, while those who obtained total attitude scores >50 were considered to have a “positive” attitude.

Before start of data collection, it was clearly emphasized to each PHC physician that he/she is completely free to accept or to refuse to participate in this study. They were all advised to keep their identity anonymous, as collected data are for research purposes only. This study was carried out at the full expense of the researchers.

Collected data were verified prior to computerized data entry. The Statistical Package for Social Sciences (SPSS ver 22.0) was used for data entry and analysis. Descriptive statistics were calculated, (e.g., frequency and percentage). Testing hypothesis was carried out by the application of the chi square ($X2$) test. A significant level was considered when a p-value is less than 0.05.

Results

Table 1 shows that the age of about half of participant PHC physicians (50.8%) was 30-40 years, 43.3% were <30 years old and only 5.8% were >40 years old. More than half of participants (53.3%) were males, while 77.5% were married. Most participants (81.7%) were Saudi, residents (80%), while 10% had Diploma/MSc or Doctorate/Fellowship (10.8%). Most participants (80%) were residents, 11.7% were specialists and 8.3 were consultants. About two-thirds of participants (61.7%) had <5 years' experience in PHC, while 28.3% had 5-10 years' experience and 10% had >10 years' experience. More than half of participants (54.2%) did not attend any CME activity on obesity management.

Table 2 shows that the majority of participants (83.3%) had a positive attitude toward obesity management (Figure 1). About one third of participants (36.7%) see 10-20 obese patients weekly, 18.3% see 20-30 obese patients weekly, while 45% see less than 10 obese patients weekly. Most participants (79.2%) provide counseling for obese patients (Figure 2).

Figure 3 shows that about one third of PHC physicians (32.5%) were overweight, 25% were obese, while the BMI of 42.5% was normal.

Table 3 shows that overweight and obesity were significantly more prevalent among male than female PHC physicians (37.5% vs. 26.8% and 31.3% vs. 17.9%, respectively, p=0.026). However, BMI classes did not differ among participant PHC physicians according to their age groups, marital status, nationality, qualification, position, duration of experience in PHC, or attending CME activity on obesity management.

Table 4 shows that prevalence of positive attitude among PHC physicians toward obesity management was highest among those with normal body mass index (94.1%), while the highest prevalence of negative attitude was highest among obese PHC physicians (30%). PHC physicians' attitude toward obesity management differed significantly according to their classes of body mass index (p=0.014). Moreover, counseling of obese patients by PHC physicians regarding obesity management was highest among those with normal body mass index (90.2%). Counseling of obese patients differed significantly according to their classes of body mass index (p=0.035). However, BMI classes did not differ significantly among participant PHC physicians according to the number of obese patients seen weekly.

Figure 1: Attitude of PHC physicians toward obesity management

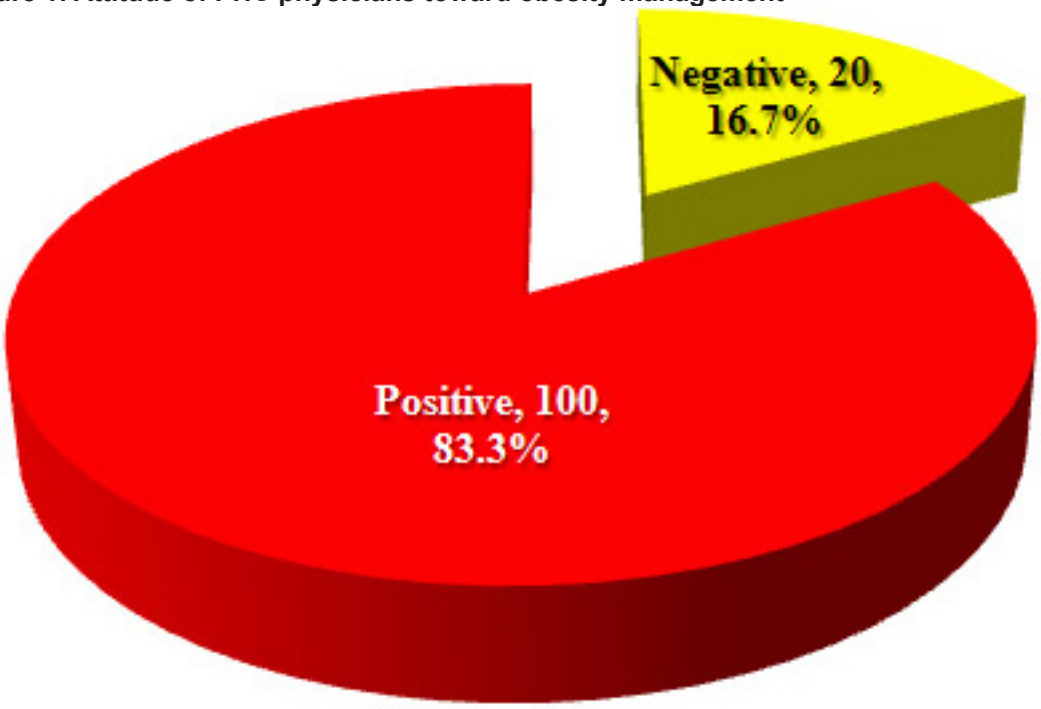


Table 1: Personal characteristics of primary health care physicians in Abha City

Personal characteristics	No.	%
Age groups		
• <30 years	52	43.3
• 30-40 years	61	50.8
• >40 years	7	5.8
Gender		
• Male	64	53.3
• Female	56	46.7
Marital status		
• Single	27	22.5
• Married	93	77.5
Nationality		
• Saudi	98	81.7
• Non-Saudi	22	18.3
Qualification		
• MBBS	95	79.2
• Diploma/MSc	12	10.0
• Doctorate/Fellowship	13	10.8
Position		
• Resident	96	80.0
• Specialist	14	11.7
• Consultant	10	8.3
Years of experience in PHC		
• <5 years	74	61.7
• 5-10 years	34	28.3
• >10 years	12	10.0
Attending CME activity on obesity management		
• Yes	55	45.8
• No	65	54.2

Table 2: Participants' attitude and practices regarding obesity management

Attitude and Practice	No.	%
Attitude toward obesity management		
• Negative	20	16.7
• Positive	100	83.3
No. of obese patients seen		
• <10/week	54	45.0
• 10-20/week	44	36.7
• 20-30/week	22	18.3
Counseling for obese patients		
• Yes	95	79.2
• No	25	20.8

Table 3: Participant primary care physicians' body mass index classes according to their personal characteristics

Personal characteristics	Normal		Overweight		Obese		P Value
	No.	%	No.	%	No.	%	
Age groups							
• <30 years	27	51.9	17	32.7	8	15.4	
• 30-40 years	23	37.7	19	31.1	19	31.1	
• >40 years	1	14.3	3	42.9	3	42.9	0.126
Gender							
• Male	20	31.3	24	37.5	20	31.3	
• Female	31	55.4	15	26.8	10	17.9	0.026
Marital status							
• Single	14	51.9	11	40.7	2	7.4	
• Married	37	39.8	28	30.1	28	30.1	0.056
Nationality							
• Saudi	39	39.8	33	33.7	26	26.5	
• Non-Saudi	12	54.5	6	27.3	4	18.2	0.439
Qualification							
• MBBS	42	44.2	29	30.5	24	25.3	
• Diploma/MSc	5	41.7	3	25.0	4	33.3	
• Doctorate/Fellowship	4	30.8	7	53.8	2	15.4	0.516
Position							
• Resident	42	43.8	31	32.3	23	24.0	
• Specialist	6	42.9	3	21.4	5	35.7	
• Consultant	3	30.0	5	50.0	2	20.0	0.632
Years of experience in PHC							
• <5 years	34	45.9	26	35.1	14	18.9	
• 5-10 years	14	41.2	8	23.5	12	35.3	
• >10 years	3	25.0	5	41.7	4	33.3	0.261
Attending CME activity on obesity management							
• Yes	28	50.9	16	29.1	11	20.0	
• No	23	35.4	23	35.4	19	29.2	0.216

Table 4: Primary care physicians' attitude and practice regarding obesity management according to their body mass index classes

Attitude and Practice	Normal		Overweight		Obese		P Value
	No.	%	No.	%	No.	%	
Attitude toward obesity management							
• Negative	3	5.9	8	20.5	9	30.0	
• Positive	48	94.1	31	79.5	21	70.0	0.014
No. of obese patients seen							
• <10/week	17	33.3	19	48.7	18	60.0	
• 10-20/week	20	39.2	16	41.0	8	26.7	
• 20-30/week	14	27.5	4	10.3	4	13.3	0.079
Counseling obese patients							
• Yes	46	90.2	27	69.2	22	73.3	
• No	5	9.8	12	30.8	8	26.7	0.035

Figure 2: Provision of counseling on obesity management by PHC physicians

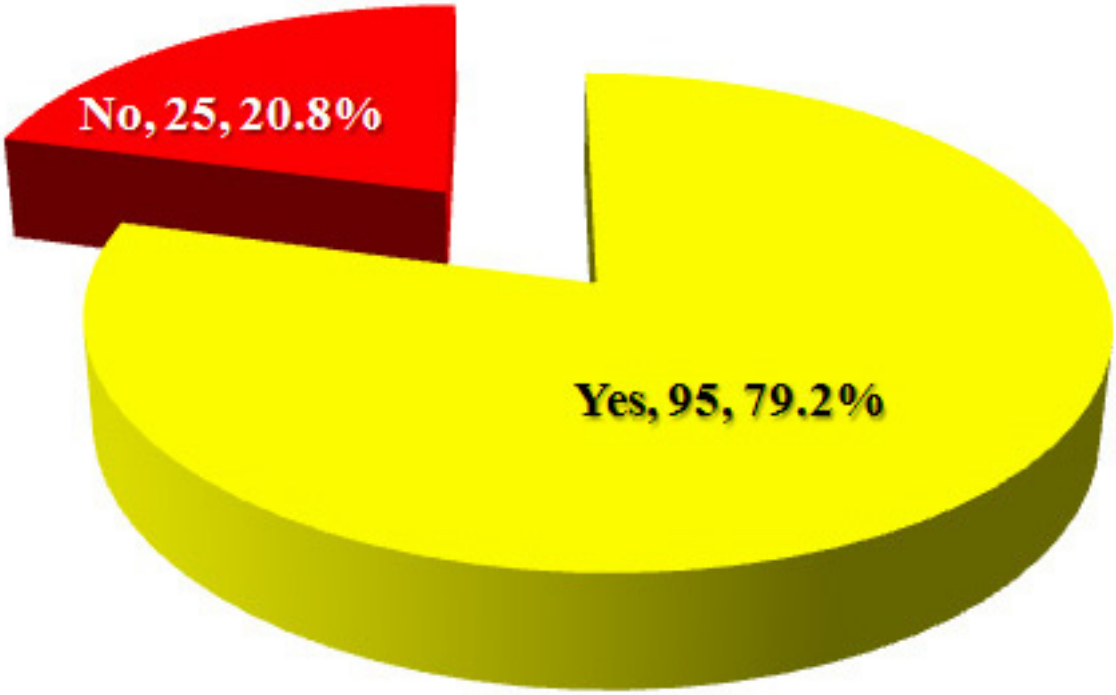
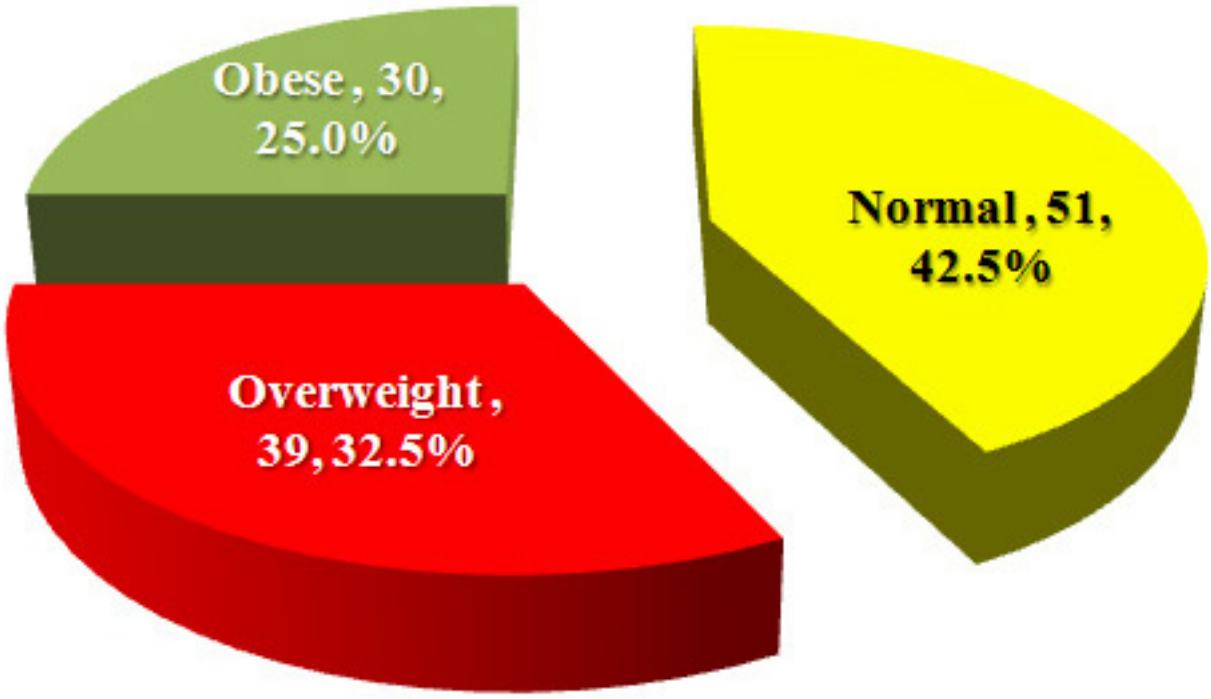


Figure 3: Distribution of body mass index of PHC physicians



Discussion

Results of the present study showed that about one-third of PHC physicians in Abha City, Aseer Region, Saudi Arabia, were overweight, while one quarter were obese.

This is in agreement with data reported by several studies. In Saudi Arabia, in Aseer Region, Saudi Arabia, Al-Zahrani et al. (26) found that overweight and obesity were present among 36% and 23.2% of the Saudi Board residents, respectively. In Bahrain, Al-Ghawi and Uauy (27) reported that 44% of PHC physicians were overweight, while 16% were obese. In the USA, 40% of physicians were overweight while 23% were obese (28).

It is to be noted that, in our study, the observed high prevalence of overweight and obesity among PHC physicians is in accordance with those reported by several studies among the adult general population in Saudi Arabia. In the community-based study of Al-Nozha et al. (25), it was found that 38.3% were overweight, while 29.9% were obese in the southern region of Saudi Arabia. In Al-Kharj City, Al-Ghamdi et al. (29) reported that 54.3% were either overweight or obese.

These findings indicate that physicians are not immune to being overweight or obese, and those prevalence rates among physicians in Saudi Arabia closely reflect those among the general population.

Overweight and obesity among PHC physicians in the present study were significantly more prevalent among male than female participants. However, physicians' BMI classes did not differ significantly according to their age groups, marital status, nationality, qualification, position, attending CME activity on obesity management, or experience in PHC.

These findings are in harmony with those of Al-Zahrani et al. (26) in KSA, who found that obesity was significantly higher among male than female resident physicians (31.9% vs. 7.1%, respectively, $p<0.001$). However, body mass index of participants did not differ significantly according to their age groups, nationality, or marital status. Similarly, Al-Ghawi and Uauy (27), in Bahrain, reported that overweight and obesity were more prevalent among male than female PHC physicians (60.9% vs. 38.1% and 26.1% vs. 12.7%, respectively).

The repeated observation reported by several studies regarding better body mass index among female physicians has been explained by Al-Zahrani et al. (26), who stated that the lower rate of obesity among female Saudi residents could be attributed to social factors, which usually motivate females to be more watchful toward their body weight than males. Furthermore, Warner et al. (31) noted that, being a female is an independent positive predictor of weight management practices.

Results of this study revealed that the majority of PHC physicians (83.3%) had a positive attitude toward obesity management. Moreover, physicians with normal body mass index had significantly more positive attitude toward obesity management and tended to provide significantly more counseling to obese patients than those with overweight or obesity.

These findings are in accordance with those of Foster et al. (30), who reported that physicians with BMI <25 kg/m2 were significantly more likely to feel obligated to provide counseling to obese patients on risks of obesity than those with BMI >25 kg/m2. Similarly, Warner et al. (31) indicated that normal weight physicians were 12 times more likely to believe that they were a role model for patients than physicians who were overweight or obese. Moreover, Bleich et al. (32) noted that physicians with normal BMI were more likely to be significantly more engaged with obese patients in weight-loss counselling than overweight or obese physicians.

Several studies have documented that obese physicians are less motivated toward their patients' obesity management, have less confidence that counseling will have an effect on their obese patients' behavior, and are more convinced that obesity management is mainly the responsibility of their patients (33-34). Moreover, the systematic review of Zhu et al. (24) concluded that overweight/obese health professionals hold less positive attitude toward weight management than their non-overweight counterparts.

Therefore, physicians' own health habits may influence their attitudes toward relevant professional behaviors. Unfit physicians are usually less likely to have positive attitudes toward promoting physical activity (8). Physicians' increased body weight, may constitute a critical barrier against obesity management, given the important role physicians can play in helping patients manage or lose weight (32).

Study limitations

Data in the present study were drawn only from PHC physicians in Abha City. This may limit the generalizability of its results.

Conclusions

In conclusion, prevalence of overweight and obesity among PHC physicians in Abha City is quite high. Most PHC physicians do not attend CME activities on obesity management, despite most of them seeing more than 10 obese patients weekly. Physicians' attitude toward management of obesity is mainly positive, although about one fifth do not provide counseling to their obese patients. Therefore, it is recommended that CME activities on obesity management should be organized and provided to PHC physicians. The Ministry of Health should design professional websites to provide up-to-date information on obesity management for physicians. Moreover, urgent action is required to support healthcare professionals to achieve and maintain a healthy weight.

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