

A cross-sectional survey: The “Saudi guidelines for the prevention and management of obesity”: Awareness and adaptation in Al-Qassim province

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ABSTRACT

Background: Obesity and overweight are major health problems in Saudi Arabia. In response, with reference to studies both local and from abroad, the Saudi Ministry of Health and the Saudi Arabian Society of Metabolic and Bariatric Surgery recently published the “Saudi Guidelines for the Prevention and Management of Obesity.” **Aims:** We sought to investigate the awareness of and adherence to the “Guidelines” among health care professionals (HCPs) specializing in obesity in Al-Qassim province, Saudi Arabia. **Settings and Design:** Al-Qassim province, cross-sectional survey. **Methods and Materials:** In a cross-sectional survey, a three-part questionnaire (i.e., demographic background, information about obesity, and information about the “Guidelines”) was distributed among HCPs in Al-Qassim province from January to April 2019. Data analysis was performed in Microsoft Excel. **Statistical Analysis Used:** Data analysis was performed in Microsoft Excel. **Results:** Among the 72 HCPs who completed and returned the survey, knowledge of the “Guidelines” was low (40.3%). Most were not even aware of the document’s existence (59.7%), and most had not received any training regarding the Saudi obesity control program (55%). **Conclusions:** The survey’s findings suggest that HCPs in Al-Qassim province have limited knowledge about the “Saudi Guidelines for the Prevention and Management of Obesity” and are mostly unaware of the document’s existence. Even so, the overwhelming majority (82.8%) of HCPs who were aware have implemented the “Guidelines” in their clinical practice.

Keywords: Obesity, overweight, Saudi Arabia guidelines on the prevention and management of obesity

Introduction

Overweight and obesity, defined as the abnormal or excessive accumulation of fat, are metabolic disorders that present a risk to health and have together become a global burden of epidemic proportions. The World Health Organization (WHO) has declared obesity among adults to be a worldwide

health problem that represents a more serious burden than malnutrition.^[1] Obesity is an especially potent threat for individuals with non-communicable comorbidities such as type 2 diabetes, hypertension, cerebrovascular disease, dyslipidemia, osteoarthritis, and some cancers. As a result, the health and economic burden of obesity, given its association with the high consumption of health services, continues to significantly influence health care systems worldwide.^[2]

Obesity is the outcome of a prolonged imbalance between daily energy intake and energy expenditure that results in

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Received: 16-03-2022

Revised: 22-05-2022

Accepted: 01-06-2022

Published: 31-10-2022

Access this article online

Quick Response Code:



Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_631_22

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How to cite this article: Altowayan WM, Albidah AM, Mohana AI, Alharbi KS. A cross-sectional survey: The “Saudi guidelines for the prevention and management of obesity”: Awareness and adaptation in Al-Qassim province. J Family Med Prim Care 2022;11:6291-6.

excessive weight gain.^[3,4] That imbalance initiates a complex process involving the hyperplasia of adipocytes, the secretion of adipokines, tissue inflammation, and the hypertrophy of adipose tissue.^[5,6] In clinical practice, body fatness is usually assessed in terms of body mass index (BMI), calculated as a person’s weight in kilograms divided by the square of height in meters. In adults, a BMI greater than 25 is considered to indicate overweight and one greater than 30 to indicate obesity, although lower BMI cutoff values may be applied for individuals of certain ethnicities (e.g., Southeast Asian).

Obesity and overweight are complex diseases caused by a myriad of genetic, cultural, biological, and societal factors.^[7,8] Some risk factors can be altered, including an unhealthy and/or sedentary lifestyle, low physical activity, and eating disorders. Although other risk factors cannot be changed—age, race, genetics, and family history, for example, the rapid increase in the prevalence of obesity over the past 30 years is primarily due to cultural and environmental factors, not biological ones.^[9]

Guidelines and support for changing obesity practice

Continuous screening for overweight and obesity and the establishment of guidelines and rationales for preventing and treating obesity have become of crucial concern worldwide.^[10] In the United States, the U.S. Preventive Services Task Force recommends screening all adults for obesity, and ones with BMIs of 30 or more should be referred for counseling and interventions to promote weight loss.^[11] In 2006, the National Institute for Health and Clinical Excellence’s guidelines recommended that all primary care settings should provide competent services for the management of obesity among children and adults.^[12]

In Saudi Arabia, obesity presents an alarming threat to public health regardless of age group and sex.^[13] Even so, the Saudi Health Interview Survey (2013) identified important differences in health trends across different areas of Saudi Arabia, where obesity is defined as a BMI of at least 30 kg/m² and overweight as a BMI of 25.0–29.9 kg/m². According to its results, obesity and overweight were highly prevalent in the studied population (59.4%) and respectively affected 28.7% and 30.7% of individuals aged 15 years or older. The prevalence of obesity among adult males and females was 24.1% and 33.5%, respectively, whereas 33.4% of adult males and 28.0% of adult females were overweight.^[14]

Reducing obesity has become a significant public health concern in Saudi Arabia, one that urges national planning to control obesity as well as overweight across the country. In response, the General Directorate for the Control of Genetic and Chronic Diseases assembled a team to develop the “Saudi Guidelines for the Prevention and Management of Obesity,” or the “Guidelines” for short. For that purpose, the Saudi Arabian Society of Metabolic and Bariatric Surgery conducted a massive literature review of global, evidence-based data regarding obesity. Various guidelines were adopted from Australian and Canadian clinical

practice guidelines, the National Institute for Health and Care Excellence’s guidelines, and the Institute for Clinical Systems Improvement’s health care guideline for the “Prevention and Management of Obesity in Children and Adolescents” [13].

The “Saudi Guidelines for the Prevention and Management of Obesity,” issued by the Saudi Ministry of Health (MOH) in 2016, aim to ensure the screening, counseling, education, and recommendations for the prevention and management of overweight and obesity in children and adults according to best practices based on current evidence and the resources available. The “Guidelines” consider a wide range of lifestyle-oriented, pharmacological, and surgical management approaches to establish a broad national strategy to combat obesity.^[13] In parallel, the Saudi obesity control program has been accountable for implementing the “Guidelines” by training various categories of health professionals, including nurses and physicians, in ongoing training sessions organized at a national level. The feedback obtained from health professionals and their concerns is crucial for updating the “Guidelines,” which are supposed to occur every 5 years.^[13]

Objectives

To the best of our knowledge, no study has focused on auditing the “Saudi Guidelines for the Prevention and Management of Obesity.” Therefore, we aimed to investigate the awareness of and adherence to the “Guidelines” among health care professionals (HCPs) in Al-Qassim province, Saudi Arabia.

Ethical approval and consent to participate

The ethical approval of the study was obtained from the Qassim Region Research Ethics Committee (No. 1440-1412056). Each respondent was informed about the objective of the study before receiving the questionnaire and provided their informed consent. The Committee has agreed that completing the questionnaire implies consent.

Subjects and Methods

Study area

The study was conducted among HCPs working in Al-Qassim province, specifically in Buraydah Central Hospital “Prince Faisal Bin Mishaal Centre”; King Fahad Specialized Hospital, Buraydah; Al Hayat National Hospital, Unaizah; the Primary Health Care Center in Al’akhdar Neighbourhood, Buraydah; and The Diabetes and Endocrines Centre, Buraydah.

In a cross-sectional survey, a three-part questionnaire (i.e., demographic background, information about obesity, and information about the “Guidelines”) was distributed among HCPs in Al-Qassim province from January to August 2019.

Inclusion criteria

To participate, HCPs at the above-mentioned facilities had to be physicians, dietitians, nurses, physiotherapists, psychologists, or pharmacists who provide health services to obese patients.

Design

The study was a cross-sectional questionnaire-based study.

Sample

Seventy-two HCPs formed the study’s sample.

Validity and reliability

The questionnaire was developed by the principal investigator in light of the study’s objectives and after a literature review of similar studies. A panel of three physicians and two pharmacists, all of whom provided clinical care for patients familiar with the survey’s development, assessed the questionnaire for its appropriateness, accuracy, and relevance as well as critiqued its content. To ensure the questionnaire’s face validity, the instrument was presented to a sample of six HCPs selected from different clinics in Al-Qassim province.

Procedure

The study was conducted among HCPs working in either public or private hospitals in Al-Qassim province, Saudi Arabia, who were recruited via convenience sampling and given hard copies of the questionnaire.

Data collection

Data were collected with a questionnaire consisting of three parts: demographic data, information about obesity, and information about the “Guidelines.” The expected time needed to finish the questionnaire was approximately 2 min.

Results

Seventy-two HCPs in Al-Qassim province completed and returned the questionnaire.

Respondents’ demographics

By nationality, 50% of the HCPs were Saudi and 50% were non-Saudis [Table 1]. More than half were men (68.1%), and a slight majority was physicians (51.4%), followed by pharmacists (23.6%), dietitians (19.4%), nurses (4.2%), and laboratory specialists (1.4%). Nearly half of the respondents were specialists (48.6%), and a few had earned a master’s or doctoral degree (2.8%). Most of the respondents worked at a public hospital (52.8%) at the time of the study. Last, the age of the respondents ranged from 22 to 62 years, with a mean of 35.7 years [Table 1].

Awareness of the “Guidelines”

The number of obese patients seen by the HCPs each week ranged from 1 to 26 [Table 2].

The cornerstone of the questionnaire was the question, “Have you heard about the ‘Saudi Guidelines for the Prevention and Management of Obesity?’” According to their answers (i.e., “Yes” or “No”), the respondents were classified into two subgroups,

Table 1: Characteristics of participating health care professionals (n=72)

Demographic variable	Group	n	%
Nationality	Saudi	36	50.0
	Non-Saudi	36	50.0
Gender	Man	49	68.1
	Woman	23	31.9
Specialty	Physician	37	51.4
	Dietitian	14	19.4
	Pharmacist	17	23.6
	Nurse	4	5.6
Level of education	Bachelor’s	10	13.9
	Master’s	2	2.8
	Doctoral	2	2.8
	General practitioner	4	5.6
	Resident	9	12.5
	Specialist	35	48.6
	Consultant	10	13.9
Workplace	Public hospital	38	52.8
	Military hospital	5	6.9
	Private hospital	6	8.3
	Primary health care	23	31.9

Age (in years): Mean (35.71), Std. deviation (9.896)

Table 2: Number of obese patients seen by the respondents each week (n=72)

	n	%
<5	20	27.7
5-10	37	51.3
11-15	11	15.2
16-20	3	4.1
>20	1	3.2
Total	72	100

Mean (7.65), Std. deviation (4.768)

each of whom proceeded to answer a different set of questions. Among the group of respondents who answered “Yes” that they were aware of the “Guidelines,” amounting to less than half of the sample (40.3%), more than half of them (55.2%) had received training in using the “Guidelines,” and the majority of those HCPs (82.8%) had applied the “Guidelines” among their patients [Table 3].

The top source of awareness about the “Guidelines” among the HCPs was their hospital department (37.9%), followed by colleagues and the Internet (20.7% each), the primary health care department, conferences, and a Saudi diploma program in family medicine [Figure 1].

Among the respondents who had heard about the “Guidelines,” 48.3% reported having partly implemented the “Guidelines,” with a rating of 3 on a scale from 1 to 6. However, none reported having fully implemented the “Guidelines” [Table 4].

The most applicable parts of the “Guidelines” from the respondents’ perspective on practice was the chapter on weight management in adults (82.76%), followed by the chapter

on primary prevention of obesity in children, adolescents, and adults (48.28%), the chapter on weight management in children (37.93%), and, last, the nonpharmacological treatment of obesity (10.34%) [Figure 2].

Respondents also reported the extent (i.e., on a scale from 1 to 6) to which they would recommend using the “Guidelines” to other HCPs, the results of which appear in Table 5.

Concerning the effectiveness of the “Guidelines” in reducing BMI, the most common score on a scale from 1 to 6 was 5 (41.4%), as shown in Table 6.

By contrast, among respondents who were not aware of the “Guidelines,” amounting to 59.7% of all respondents, the majority of them were using the U.S. guidelines, followed by the European guidelines (13.6%), and the Scottish Intercollegiate Guidelines Network guidelines (14%) (1, 15), as shown in [Figure 3].

When that group of respondents was asked why they preferred guidelines other than the Saudi “Guidelines,” 32 of them replied that they were unaware that the Saudi “Guidelines” existed. Other respondents had had a positive experience with following the alternative guidelines (18.6%) or followed guidelines determined by their institution (7%), as shown in Table 7.

General and additional questions

The questionnaire ended with two optional questions:

1. What are the most critical obstacles facing the “Saudi Guidelines for the Prevention and Management of Obesity”?
2. What are your suggestions or ideas for increasing the adoption and implementation of the “Saudi Guidelines for the Prevention and Management of Obesity”?

For those two questions, 20 and 26 responses were received, respectively. Most of the respondents reported the insufficient rollout of the “Guidelines,” which explains why six HCPs did not know when the “Guidelines” had been released. In

addition, two respondents explained that the major obstacle facing the “Guidelines” is obese patients’ noncompliance with pharmacological and nonpharmacological treatments.

Of the 26 respondents who answered the second optional question, 10 recommended offering courses on how to adopt the “Guidelines” and HCPs in using the protocol. Five other respondents suggested using social media to facilitate the delivery and spread of the “Guidelines,” and four others recommended

Table 3: Awareness of, training in, and implementation of the “Saudi Guidelines for the prevention and management of obesity” among respondents

	n	%
Have you heard about the “Saudi Guidelines on the prevention and management of obesity?” (n=72)		
Yes	29	40.3
No	43	59.7
Did you receive any training on using the “Guidelines?” (n=29)		
Yes	13	44.8
No	16	55.2
Did you implement the “Guidelines” in your practice? (n=29)		
Yes	24	82.8
No	5	17.2

Table 4: Self-reported degree of implementation of the “Guidelines for the prevention and management of obesity” among respondents (n=29)

	n	%
1: No implementation	4	13.8
2	3	10.3
3	14	48.3
4	1	3.4
5	7	24.1
6: Full implementation	0	0.0
Total	29	100.0

Mean (3.14), Std. deviation (1.302)

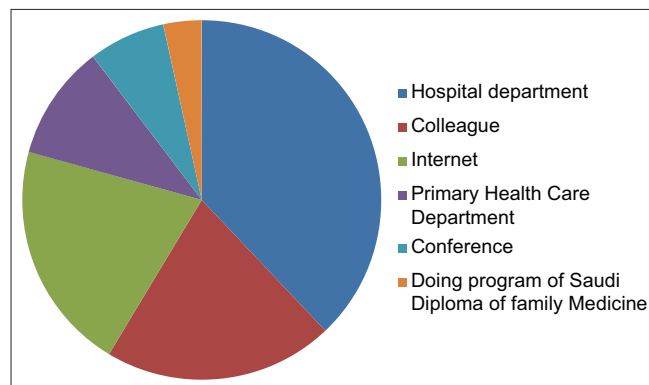


Figure 1: Source of respondents’ awareness of the “Saudi guidelines on the prevention and management of obesity” (n = 29)

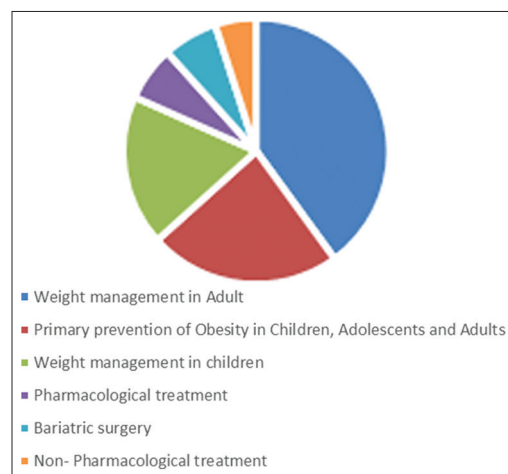


Figure 2: Most applicable parts of the “Saudi Guidelines for the prevention and management of obesity” according to respondents

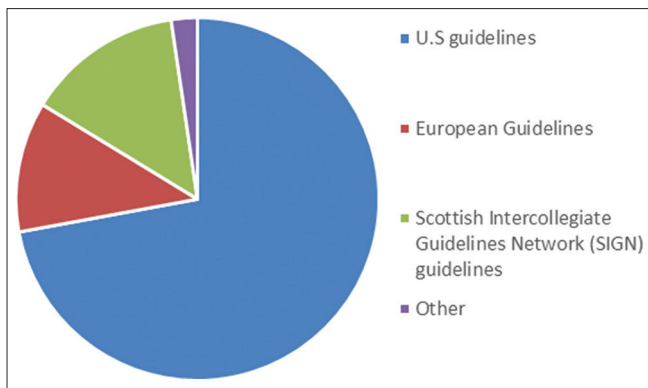


Figure 3: Guidelines used by respondents in their practice instead of the “Saudi Guidelines for the prevention and management of obesity”

the direct distribution of the “Guidelines” by the Saudi MOH to the targeted HCPs and regular follow-up.

Discussion

Obesity prevalence has been increasing worldwide. The Arab Gulf States are no exception.^[15] The Kingdom of Saudi Arabia has a reported obesity prevalence greater than the global average.^[16] Overweight and obesity rates have nearly tripled in the gulf cooperation council (GCC) countries over the past four decades. Rapid economic growth in the GCC states over the last half century has been associated with a rise in obesity and mortality.^[15] This public health crisis is drawing the attention of policymakers. Therefore, one of the main objectives of our research is to reach this target that establishing and following the approved medical guideline for the prevention and management of obesity.

This research presents the first questionnaire-based study on the awareness and extent of the implementation of the “Saudi Guidelines for the Prevention and Management of Obesity” among HCPs working in public and private hospitals in Al-Qassim province, Saudi Arabia. The 72 HCPs who completed and returned the questionnaire formed the study’s sample.

Remarkably, although the document containing the “Guidelines” was released in 2016, only 40% of the participating HCPs were aware of the “Guidelines,” and only half of them had received training on using the “Guidelines.” Those results do not meet the expectations of the genetic and chronic diseases team that developed the “Guidelines.” A positive outcome, however, is that 82.8% of the professionals who are aware of the document implement the “Guidelines” in their clinical practice. Overall, half of the HCPs considered themselves to be implementing and adopting the “Guidelines.”

Although the “Guidelines” were recommended to be delivered and distributed through the Bureau of Health Affairs in every region of Saudi Arabia and, from there, to each specialized hospital, not even half of the respondents had heard about the “Guidelines” from their department. The remaining respondents had heard about it from a colleague, on the Internet, or at a

Table 5: The extent to which respondents would recommend using the “Saudi Guidelines on the prevention and management of obesity” to other health care professionals

	n	%
1: Not likely	4	13.8
2	1	3.4
3	2	6.9
4	10	34.5
5	12	41.4
6: Most likely	0	0.0
Total	29	100.0

Mean (3.86), Std. deviation (1.382)

Table 6: Agreement of respondents regarding the effectiveness of the “Saudi guidelines for the prevention and management of obesity” in reducing BMI

	n	%
1: Not effective	3	10.3
2	4	13.8
3	0	0.0
4	10	34.5
5	12	41.4
6: Fully effective	0	0.0
Total	29	100.0

Mean (3.83), Std. deviation (1.391)

Table 7: Reason for preferring the use of guidelines other than the “Saudi “Guidelines for the prevention and management of obesity”

	n	%
I was not aware that the Saudi “Guidelines” existed	32	74.4
Positive experience and results from the selected guidelines	8	18.6
I follow the guidelines selected by my institution	3	7.0
Total	43	100

conference. The limited number of workshops and conferences to introduce the “Guidelines” could explain the low percentage of HCPs who are aware of the “Guidelines.”

A high percentage of the HCPs who were aware of the “Guidelines” consider the chapter on weight management in adults to be the most applicable part. Those results are understandable because all HCPs in the study serve adult patients. In addition, more than 80% of the HCPs thought that the “Guidelines” were effective in decreasing the BMI of obese patients. Those outcomes have driven them to recommend using the “Guidelines” for the prevention and management of obesity to their colleagues.

Among the nearly half of respondents who had not heard about the “Guidelines,” most preferred to use the U.S. guidelines based on positive experiences with those guidelines. A smaller percentage of those respondents simply followed the selected guidelines selected by their institution.

Last, most respondents mentioned a lack of communication about the “Guidelines.” To be sure, our results show the flawed

rollout of the “Guidelines” to the Qassim Health Affairs in Al-Qassim province, even to the extent that no one could blame the HCPs for not following the “Guidelines” in their practice. In response, we recommend informing the MOH of our study’s results and encouraging the team responsible to find an effective way to disseminate the “Guidelines” and follow up on their implementation in Al-Qassim province.

The continuous establishment of workshops and conferences is also recommended to allow more awareness and training on the “Guidelines” in Saudi Arabia. We additionally recommend continuous monitoring via feedback and the resolution of obstacles faced by the specialized HCPs in implementing the “Saudi Guidelines for the Prevention and Management of Obesity.”

A limitation of our study was the use of a survey tool that has not undergone testing for reliability or validity. Another was the small sample size, which reflects the small number of specialized HCPs in Al-Qassim province.

Ethical approval and consent to participate

The ethical approval of the study was obtained from the Qassim Region Research Ethics Committee (No. 1440-1412056). Each respondent was informed about the objective of the study before receiving the questionnaire and provided their informed consent. The Committee has agreed that completing the questionnaire implies consent.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors’ contributions

Albidah Abdulaziz M, Dr. Mohana Abdulrhman I, Dr. Alharbi Khalid S., and Dr. Waleed Mohammad Al-Towayan were responsible for the conception of the research idea and the study design, data collection, analysis, interpretation, and drafting of the manuscript.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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