

Awareness, Attitudes And Background Information about The Surgical Options in The Treatment of Obesity Among The General Adult Population in Riyadh City, Saudi Arabia

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ABSTRACT

Objectives: To assess the awareness, attitudes and background information about the surgical options in the treatment of obesity among the general adult population in Riyadh city, Saudi Arabia

Methods: In this cross-sectional study 420 adult residents from Riyadh from both genders were interviewed and given specifically designed questionnaire to assess their awareness about weight loss surgery and the attitude toward it as a method used in the treatment of obesity. Data were collected between September 2017 and December 2017. The questions highlighted 3 health status scales; 4 aspects including subject's demographics characteristic, personal weight, height and BMI, and their understanding about obesity and its causes and beliefs about weight loss surgery. Scores were analysed using SPSS.

Results: More than 90% of the participant in this research identified at least three risk factors of obesity, and more than 90% of the participants had good knowledge about the lifestyle modification to prevent or reduce obesity, regarding the knowledge about bariatric surgery. Although (79%) of them knew the effectiveness of bariatric surgery as a method of reduction of weight; only (37.6%) thought that it will reduce mortality among obese people, (21.4%) knew that weight loss surgeries can result in complications but on the other hand (42.9%) of subjects thought that bariatric surgery can result in death.

The overall beliefs among the participants regarding the use of bariatric surgery as a method in the treatment of obesity was poor and only 38% had favourable beliefs about the surgery.

Conclusion: the knowledge of subjects about obesity and its preventive measures were high but the favourable perceptions about Bariatric surgeries were low. These results indicated that efficient educational programs about obesity and bariatric surgeries are needed for control of obesity and its complications as well as increasing the availability of weight loss surgeries.

Keywords: Bariatric, surgery, awareness, attitude, background information, knowledge

INTRODUCTION

Obesity has become an enormous problem both worldwide and in Saudi Arabia. More than 20 % of the world population is obese according to the WHO and according to some studies done to evaluate obesity in Saudi Arabia the percentage is much higher than this. For example, a study was done in Saudi Arabia in 2013 by Habib and his aim was to assess the obesity prevalence in Saudi adult population according to the international standards of body mass index (BMI) and body fat percentage (BF%). The results showed the prevalence of obesity in Saudi adults according to the BMI criteria (30 kg/m² and above) to be 33.8%, whereas the obesity prevalence was 60% in Saudi adults according to the BF% criteria. Many other studies demonstrated an approximate prevalence rate ^[1].

The treatment of obesity can be classified into 3 steps. In the first one the patient grows throw to reduce his weight is lifestyle approaches that include diet, physical activity and behaviour change therapies. The second step is the pharmacological agents which can be used as

adjuncts to lifestyle modification. The third step, and the most invasive one is bariatric surgery ^[2]. Many studies have evaluated these three types of treatments; most of which have demonstrated that diet & lifestyle modifications and pharmaceutical methods are relatively ineffective in treating morbid obesity in the long term and that bariatric surgery is the only effective therapy for sustained weight loss in the morbidly obese. Furthermore it will results in greater improvement in weight loss outcomes and obesity-related comorbidities when compared with nonsurgical interventions, and that most patients with diabetes, hyperlipidaemia, hypertension, and obstructive sleep apnoea experience complete resolution or improvement of obesity-related comorbidities after undergoing bariatric surgery regardless of the type of surgical procedure used ^[3].

Although weight loss surgery has been proven to be the most effective method in the treatment of obesity; less than 1 % of eligible patients undergo bariatric surgery worldwide and it can be due to the

financial and economic limitations^[1], but we think that there is lacking in the knowledge and proper information about the surgery in the public and among the general physicians. One study for example have been done in 2007 by Avidor showed that primary care physicians and subspecialists see a high proportion of morbidly obese patients; however, many are unfamiliar with morbid obesity management and surgical referral guidelines. Even though the perception of surgical effectiveness was quite high, the referrals for surgery were relatively low^[4]. In another study was done in 2012 by Sikorski, the aim was to investigate perceived effectiveness of bariatric surgery and willingness to recommend bariatric surgery to affected individuals compared with other treatment methods, and correlates of perceived effectiveness and willingness to recommend bariatric surgery. Compared with conventional treatment methods, the results showed lifestyle-based interventions were viewed as most effective in terms of weight loss. About 50 % of the population stated that weight loss surgery (WLS) is “very effective” while still a quarter of respondents did not ascribe effectiveness to WLS. Higher age was associated with lower expectations of effectiveness while higher stigmatizing attitudes and genetic attributes for obesity were associated with higher expectations of effectiveness. Seventy-two percent would not recommend WLS or undergo it, if applicable, themselves.

Higher educated respondents and those that viewed WLS as effective were more likely to recommend WLS. This study showed how the German public had incorrect knowledge about weight loss surgery which in turn was reflected on the small percentage of people who would recommend it as a method of treatment to affected person^[5], so in our research we want to assess the awareness, attitudes and background information about the surgical options in the treatment of obesity among the general adult population in Riyadh city, in Saudi Arabia.

METHODS

The data were gathered by an interviewer using a specially designed questionnaire with close-ended questions, and few open-ended questions to assess awareness, attitudes and background information about the surgical options in the treatment of obesity among adult Riyadh residents, The Socio-demographic characteristics of each participant will be recorded during the interview including age, sex, education level, occupation, nationality, race, marital status, personal weight and height, presence of an overweight family member, and history of

previous weight-loss attempts, personal weight, height, five questions about the beliefs about the importance, efficiency, and bariatric surgery, knowledge and causes related to obesity. After that data was entered the Statistical Package for Social Sciences (SPSS) and descriptive analysis was conducted.

Research Methodology

In order to achieve the objectives of the study, the researcher used the descriptive analytical method.

Research population and sample

The current research population was adult residents from Riyadh from both genders. The sample of the study includes (420) individuals of them.

Characteristics of the research sample

The frequencies and percentages of the research sample were calculated according to (gender, weight, height, highest educational level, marital status, monthly income).

Statistical Methods

Frequencies and percentages: To describe the study sample and to calculate the respondents' responses towards the items included in the study instrument.

Means: To arrange the respondents' responses.

Pearson correlation coefficient: To verify the internal consistency of the study instrument.

Cronbach's alpha coefficient: To measure the stability of the study instrument.

Range Equation: To describe the Mean of the responses to every item:

- From 1 to less than 2.33 represents a (low) degree of response.

- From 2.34 to less than 2.67 represents a (medium) degree of response.

- From 2.68 to less than 3.00 represents a (high) degree of response.

The study was done after approval of ethical board of King Saud university.

RESULTS

Presentation and discussion of the research question about obesity:

To answer this question, means and standard deviations for each item of the questionnaire were calculated, then they were arranged in a descending order according to the mean, as shown next in table⁽⁸⁾.

Distribution of the sample according to gender

Table (1): Distribution of the sample according to gender

S	Gender	frequencies	percentages
1	Male	316	75.2%
2	Female	104	24.8%
Total		420	100.0%

Table (1) shows that (75.2%) of the respondents are males, while (24.8%) of the respondents are female

Distribution of the sample according to BMI:

According to the BMI; criteria of the participants were underweight (1.7%), normal weight (30.5%), overweight (33.6%) and the prevalence of obesity was 34.3% among the subject.

Table (2): Distribution of the sample according to BMI

S	the highest level of education	frequencies	percentages
1	Underweight	7	1.7 %
2	Normal underweight	128	30.5%
3	Overweight	141	33.6%
4	Obese	144	34.3%
Total		420	100.0%

Distribution of the sample according to the highest level of education:

Table (3): Distribution of the sample according to the highest level of education

S	the highest level of education	frequencies	percentages
1	Primary school	4	1.0%
2	Middle school	22	5.2%
3	High school	128	30.5%
4	University	266	63.3%
Total		420	100.0%

Table (3) shows that (1.0%) of the respondents had a primary qualification, (5.2%) of the respondents had a middle qualification, while (30.5%) of the respondents had a secondary qualification, and (63.3%) of the respondents had a university degree.

Distribution of the sample according to marital status

Table (4): Distribution of the sample according to marital status

S	Marital status	Frequencies	Percentages
1	Single	222	52.9%
2	Married	190	45.2%
3	Widower	2	0.5%
4	Separate	6	1.4%
Total		420	100.0%

Table (4) shows that (52.9%) of the respondents were single, while (45.2%) of the respondents were married, and (0.5%) of the respondents were widowed, while (1.4%) of the respondents were separated.

Distribution of the sample according to monthly income

Table (5) Distribution of the sample according to monthly income

S	monthly income	frequencies	percentage s
1	Unemployed	182	43.3%
2	From 2000-6000 SR	66	15.7%
3	From 6000-10000 SR	70	16.7%
4	From 10000-15000 SR	48	11.4%
5	More than 15000 SR	54	12.9%
Total		420	100.0%

Table (5) shows that (43.3%) of the respondents were unemployed, and (15.7%) of the respondents gained from 2000-6000 SR monthly, while (16.7%) of the respondents gained from 6000-10000 SR monthly, while (11.4%) of the respondents gained from 10000-15000 SR monthly, and (12.9%) of the respondents gained more than 15000 SR monthly.

Research instrument

After studying and reviewing the literature related to the subject of the research, the researcher built and developed a questionnaire aiming to assess the awareness, attitudes and background information about the surgical options in the treatment of obesity among the general adult population in Riyadh city, in Saudi Arabia.

Description of the research instrument (the questionnaire):

The final version of the questionnaire contained two main parts:

Part 1: It included the primary data of the sample (gender, weight, height, highest level of education, marital status, and monthly income).

Part 2: It included the questionnaire items. The questionnaire consisted in the final version of (15) items, and a triple Likert Scale was used (no-do not know-yes), to assess the awareness, attitudes and background information about the surgical options

in the treatment of obesity among the general adult population in Riyadh city, in Saudi Arabia.

The research instrument validity

Face Validity:

After the completion of the questionnaire and the construction of its items, and presenting it to the research supervisor’s Excellency, the questionnaire was presented in its preliminary form to a group of arbitrators, and after retrieving the arbitrated version; their notes were discussed with the supervisor’s Excellency of the thesis. In the light of the suggestions of some arbitrators, the researcher reworded the questionnaire, where some of the

items in the questionnaire were deleted and reworded, as agreed by more than (80%) of the arbitrators. Thus, the questionnaire became in its final form after confirming its Face Validity consisting of (15) items.

Internal consistency validity for the questionnaire axes:

The validity of internal consistency was calculated according to respondent’s responses by calculating Pearson correlation coefficient between the score of each item and the overall score of the questionnaire, the results were as shown next in table (6):

Table (6): Pearson correlation coefficient between the score of each item and the overall score of the questionnaire

Item name	correlation coefficient	Item number	correlation coefficient	Item number	correlation coefficient
Is obesity a disease?	0.157*	Do you expect that bad habits such as smoking and eating fast food result in obesity?	0.575**	Do you think that weight loss surgery is effective for weight loss?	0.275**
Obesity is an Increase in Body Fat?	0.570**	Do you think that motor activity reduces obesity?	0.555**	There are no complications from weight loss surgery?	0.357**
Lack of motor activity and too much sleeping are of the factors causing obesity?	0.578**	Do you think drinking water reduces the risk of obesity?	0.555**	Do you consider that weight loss surgery is the first way to lose weight regardless of diet or exercise?	0.592**
Do you think genetic factors cause obesity?	0.254**	Do you think that anyone has obesity has a susceptibility to have diabetes or high blood pressure?	0.575**	Do you think that weight loss surgery reduces mortality?	0.568**
Is there a member of your family obese?	0.269**	Is weight loss surgery is the only way to get rid of obesity?	0.489**	Do you think that weight loss surgery causes death?	0.576**

** Statistically significant at the significance level of (0.01)

* Statistically significant at the significance level of (0.05)

It is evident from table (6) that the items correlation coefficient with the overall score of the questionnaire, all came statistically significant at the significance level of (0.01). And all the correlation

coefficient values were high, as they ranged (0.157**,-0.578**). This indicates the availability of a high degree of internal consistency validity for the questionnaire's items.

Table (7): Questionnaire's items Cronbach's alpha coefficient

Items name	Reliability coefficient	Items number	Reliability coefficient	Items number	Reliability coefficient
Is obesity a disease?	0.838	Do you expect that bad habits such as smoking and eating fast food result in obesity?	0.795	Do you think that weight loss surgery is effective for weight loss?	0.841
Obesity is an Increase in Body Fat?	0.802	Do you think that motor activity reduces obesity?	0.796	There are no complications from weight loss surgery?	0.835
Lack of motor activity and too much sleeping are of the factors causing obesity?	0.801	Do you think drinking water reduces the risk of obesity?	0.796	Do you consider that weight loss surgery is the first way to lose weight regardless of diet or exercise?	0.799
Do you think genetic factors cause obesity?	0.839	Do you think that anyone has obesity has a susceptibility to have diabetes or high blood pressure?	0.795	Do you think that weight loss surgery reduces mortality?	0.831
Is there a member of your family obese?	0.850	Is weight loss surgery is the only way to get rid of obesity?	0.821	Do you think that weight loss surgery causes death?	0.830
Total score		0.816			

It is evident from table (7) that reliability correlation coefficient values of the questionnaire's items were high, as they ranged (0.795-0.850), and the total reliability coefficient for the questionnaire

valued (0.816), which indicates the validity of the questionnaire to be applied, and the reliability and credibility of its results.

Table (8): Frequencies, percentages, means and standard deviations of the responses of the sample about the questionnaire items

items		Response degree				mean	standard deviation	Response degree	Item order
			No	Do not know	Yes				
1	Is obesity a disease?	F	26	6	388	2.86	0.494	high	1
		%	6.2	1.4	92.4				
2	Do you think that weight loss surgery is effective for weight loss?	F	54	34	332	2.66	0.695	Medium	2
		%	12.9	8.1	79.0				
3	Do you think genetic factors cause obesity?	F	58	30	332	2.65	0.711	high	3
		%	13.8	7.1	79.0				
4	Is there a member of your family obese?	F	144	8	268	2.30	0.948	medium	4
		%	34.3	1.9	268				
5	Do you think that weight loss surgery reduces mortality?	F	172	90	158	1.97	0.888	medium	5
		%	41.0	21.4	37.6				
6	Do you think that weight loss surgery causes death?	F	122	118	180	1.96	0.882	medium	6
		%	29.0	28.1	42.9				
7	There are no complications from weight loss surgery?	F	234	96	90	1.66	0.811	low	7
		%	55.7	22.9	21.4				
8	Do you think drinking water reduces the risk of obesity?	F	56	40	324	1.62	0.766	low	8
		%	13.3	9.5	77.1				
9	Obesity is an Increase in Body Fat?	F	10	6	406	1.62	0.891	low	9
		%	2.4	1.4	96.7				
10	Do you think that anyone has obesity has a susceptibility to have diabetes or high blood pressure?	F	6	10	404	1.43	0.774	low	10
		%	1.4	2.4	96.2				
11	Do you expect that bad habits such as smoking and eating fast food result in obesity?	F	22	18	380	1.43	0.775	low	11
		%	5.2	4.3	90.5				
12	Do you think drinking water reduces the risk of obesity?	F	56	40	324	1.42	0.766	low	12
		%	13.3	9.5	77.1				
13	Do you think that motor activity reduces obesity?	F	14	2	404	1.42	0.768	low	13
		%	3.3	.5	96.2				
14	Do you consider that weight loss surgery is the first way to lose weight regardless of diet or exercise?	F	326	34	60	1.37	0.721	low	14
		%	77.6	8.1	14.3				
15	Is weight loss surgery is the only way to get rid of obesity?	F	374	8	38	1.20	0.585	low	15
		%	89.0	1.9	9.0				
The total mean of the questionnaire's items						2.21	0.260	medium	

Table (9): Beliefs about Bariatric surgeries

Beliefs about Bariatric surgeries	Frequency	Percentage (%)
Favourable beliefs	160	38
Non-favourable beliefs	260	62

Perception about obesity causes and risk factors leading to it among the public

The awareness of obesity among the participant showed that most of participants (92.4%) saw obesity as a disease and (96.7 %) of them defined it as an increase in the percentage of body fat .The most common perceived risk for obesity were lack of motor activity and too much sleeping (96.2%), regarding bad eating habits (90.5%) of the participants thought it has a risk in the development of obesity also (79%) of the participant thought that there is a hereditary link to the development of obesity.

Most of subjects showed excellent knowledge regarding the risk of bad habits such as smoking and eating fast food can result in the development of obesity (90.5%) regarding the perceived methods and lifestyle practices in the prevention of obesity (96.2%) of the participants thought that motor activity will reduce the risk of becoming obese and (77.1%) of the participants thought that drinking adequate portions of water will reduce the risk of obesity. Also, most of the subjects showed excellent knowledge of the most common complications of obesity and around (96.2%) knew that obese people are at high risk of having diabetes and hypertension.

Knowledge about Bariatric surgery

The results of this study showed that around (63%) of the participants had an obese family member. (77.6%) of the participant didn't consider surgery as the first choice for reduction of body weight without diet or exercise. Although (79%) of them knew the effectiveness of bariatric surgery as a method of reduction of weight only (37.6%) thought that it will reduce mortality among obese people. (21.4%) knew that weight loss surgeries can result in complications but on the other hand (42.9%) of subjects thought that bariatric surgery can result in death.

Beliefs about Bariatric surgeries

About (62%) of the participants had non-favourable beliefs about the Bariatric surgery and (38%) have favourable beliefs about the surgery it shown in table (9).

DISCUSSION AND CONCLUSION

Our participants showed a good knowledge about the risk factors and causes leading to the development of obesity. More than (90%) of them identified bad life style habits, genetic factors, lack of exercise and adoption to fast foods as a major factor contributing to obesity (21-23).

Furthermore, subjective perception and beliefs of efficacy of each method used in the treatment of obesity didn't correlate to the willingness to recommend it as strategy for weigh loss. More than 2 thirds of the participants in this study saw bariatric surgery as effective but still would not recommend it, this is properly due to the wrong beliefs and perception of the complication of weight loss surgery. The results showed that there was a good knowledge about obesity but low favourable beliefs about bariatric surgery.

CONCLUSION

The knowledge of subjects about obesity and its preventive measures were high but the favourable perceptions about Bariatric surgeries were low. These results indicated that efficient educational programs about obesity and Bariatric surgeries are needed for control of obesity and its complications as well as increasing the availability of weight loss surgeries.

RECOMMENDATIONS

- The physician or surgeon should inform obese patients of all available surgical options, which are appropriate to the patient's health and physical condition, and make sure that the patient is aware of the procedures followed in surgery, and the following health consequences.
- Further studies should be conducted in the future to assess the awareness, attitudes and background information about the surgical options in the treatment of obesity, using a sample of a different demographic nature from the sample of the current study; and using a different methodology.
- More research should be conducted on the various types of obesity surgery available to obese Saudi citizens, as well as individuals with obesity who are suitable for obesity surgery.

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