

## Motives and Knowledge towards Bariatric Surgeries among Adults in Al-Madinah, Saudi Arabia, 2018

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### Abstract:

**Background:** recent studies have shown the effectiveness of bariatric surgery in improving severe obesity, it's associated with co-morbidities and the level of mortality. **Objective:** this study aimed to determine the motives of bariatric surgeries among Saudi adults in Al-Madinah and to assess their beliefs and knowledge toward surgical intervention in treating obesity. **Methods:** this was an observational analytical cross-sectional study and it was carried out in Al-Madinah, Kingdom of Saudi Arabia during 2018. **Results:** the data were collected from 406 participants. 61.8% of them were female. The mean age was  $33.5 \pm 9.12$  and the mean of BMI of the participants was  $29.89 \pm 8.22$ . The majority of the participants were married (62.6%). More than half of our respondents (80.3%) had a college-level education or higher. 51.5% were employed. 79.6% of participants tried to lose weight by traditional methods. The majority of the participants (77.6%) did not undergo weight loss surgery. 75% of the respondents who did the surgery reported that health problem was the most reason motivated them to do the surgery. 364 (90.8%) of the participants believed that bariatric surgeries were effective in treating of obesity. However, 67.8% of the participants didn't prefer the surgery over traditional methods to lose weight. The majority of the respondents (77.6%) believed that bariatric surgery was not the best choice to lose weight and 95% of the participants believed that bariatric surgeries had complications. **Conclusion:** health problem is the major motive for our population to do bariatric surgery.

**Keywords:** bariatric surgery, obesity, motives, beliefs.

### Introduction

Obesity is a physiological state that occurs through a chronic imbalance in whole-body energy metabolism in which caloric intake exceeds energy expenditure<sup>(1)</sup>. It is defined by a body-mass index (BMI) (The weight in kilograms divided by the square of the height in meters) of 30.0 or more according world health organization (WHO)<sup>(2)</sup>. Obesity is considered a worldwide epidemic and associated with an increased risk of death<sup>(3)</sup>. Globally, more than 1.9 billion adults aged  $\geq 18$  years were overweight in 2014, over 600 million of them were obese.<sup>(2)</sup> A study<sup>(4)</sup> reported that Saudi Arabia had a fast-growing obesity rate in which 70-75% of adults were overweight and about a third were obese. There were numbers of modifiable factors played a role in increasing the proportion of obesity and the risk of pre-mortality such as poor food quality, physical inactivity, hormonal problem...etc. And some were nonmodifiable such as genetics and race<sup>(1)</sup>. Several recent documents had outlined the health risks associated with obesity, which included an increased risk of type 2 diabetes, hypertension, coronary heart disease, dyslipidemia, some types of cancers and

premature mortality<sup>(4,5,6)</sup>. The traditional treatment of obesity focus on a diet, exercise, behavioral therapy program that has been individualized according to patient's needs. These methods had not been effective in long-term maintenance<sup>(5,6)</sup>. Pharmacological approaches had also little success in the maintenance of long-term weight loss<sup>(9)</sup>. Recent studies XXXحديثه مراجع ليست have shown the effectiveness of bariatric surgery in improving severe obesity, it was associated co-morbidities and the level of mortality<sup>(3,5,6)</sup>. Another study<sup>(11)</sup> showed that bariatric surgery was an appropriate option in the treatment of severe obesity. Gastric bypass was established as an effective and safe therapy for morbid obesity and it was associated morbidities according to some studies<sup>(10,5,6)</sup>. On the other hand, there were only a few studies reported the effect of noncompliance with post-surgical instructions on post-surgical weight loss<sup>(5-7)</sup>. In our study, we aimed to determine motives of bariatric surgeries among Saudi adults and to assess their beliefs and knowledge toward surgical intervention in treating obesity.

**Material and Methodology:**

This observational analytical cross-sectional study was carried out in Al- Madinah, Kingdom of Saudi Arabia during the year 2018. Subjects of this study were adults aged from 20 to 50 living in Al-Madinah, regardless of nationality with excluding adults who were below 20 years and above 50 and who live outside Al-Madinah. Data were collected by printed self-administered semi-structured questionnaire, which included 3 main sections: Socio-demographic data, the motives of bariatric surgeries and adults' beliefs and knowledge regarding bariatric surgeries.

**Statistical Analysis:**

Data were tabulated by using Microsoft Office Excel sheet, entered and analysed by using

(SPSS v.21). Ethical Committee approval was obtained before starting the study.

**Results:**

Data were collected from 406 adults by using printed questionnaires. The mean age of participant's was 33.5±9.121, the mean of BMI was 29.89 ±8.222. The majority of the respondents were female 251 (61.8%). According to marital status, most of the participants 254 (62.6%) were married, 134 (33%) were single, 9 (2.2%) were divorced and 9 (2.2%) werewidowed. Regarding educational level; 326 (80.3%) had a university/higher educational level and 71 (17.5%) had secondary school level. 209 (51.5%) of the participants were employed and 197 (48.5%) were unemployed/house wives (**Table 1**).

		Yes		No	
Age		#	%	#	%
<b>Body mass index</b>		mean ± SD			
		73	18.0	29.89 ± 8.222	333
<b>Hypertension</b>		36	8.9	<b>Frequency (n=406)</b>	<b>Percentage %</b>
<b>Hypercholesterolemia</b>	Female			251	61.8
	Male	51	12.6	155	38.2
<b>cardiac disease</b>	Single	9	2.2	134	33.0
	Married			254	62.6
<b>Marital status</b>	Divorced	16	3.9	9	2.2
	Widow			9	2.2
	None	224	55.2	9	2.2
<b>Educational level</b>	intermediate school			9	2.2
	secondary school	71	20.0	325	80.3
	university/ higher education			326	80.3
<b>Job</b>	Employed			209	51.5
	unemployed/ house wife			197	48.5

Regarding the participant's distribution according to chronic diseases, we noted that 18% of participants with type 2 diabetes, 8.9% with hypertension, 12.6% with hypercholesterolemia, 2.2% with cardiac disease, 3.9% with asthma and 20% had other chronic diseases. Also, we noted that 55.2% of the participants didn't have any chronic diseases (**Table 2**).

We noted that 79.6% of the participants tried to lose weight by traditional methods, while 20.4% did not. As for bariatric surgery, 22.4% of the participants did the surgery, while 77.6% did not undergo weight loss surgery (**Table 3**).

		Frequency	Percent
<b>If you tried to lose weight through traditional methods.</b>	Yes	323	79.6
	No	83	20.4
	Total	406	100.0
<b>If you had previously any surgery to lose weight.</b>	Yes	91	22.4
	No	315	77.6
	Total	406	100.0

As for motives of bariatric surgeries, (75%) of the participants who underwent bariatric surgery reported health problem as a major reason, followed by fitness improving 14% and 11% for body look embracement (Table 4).

Table 4: distribution of participant's who underwent bariatric surgery and the reason for their choice.		
	Frequency	Percentage
Health problem	68	75
Improve physical fitness	13	14
Body look embarrassment	10	11
Total	91	100.0

For the participants who didn't do the surgery yet, the majority 63% were not planning to do the surgery. The motives for the rest of them were 15% for a health problem, 13% to improve fitness and 9% for body look embracement (Table 5).

Table 5: shows the distribution of participant's who didn't undergo weight loss surgery, according to the reason for their choice to do the surgery.		
	Frequency	Percentage
Health problem	48	15
Improve physical fitness	41	13
Body look embarrassment	28	9
Not planning to do it	198	63
Total	315	100.0

Regarding the participant's beliefs and knowledge about bariatric surgeries, the majority of participants (98.8%) heard about bariatric surgeries, while 1.2% did not hear about it (Table 6).

Table 6: shows the participant's distribution according to their hearing about bariatric surgery.		
	Frequency	Percent
Yes	401	98.8
No	5	1.2
Total	406	100.0

Regarding the sources of knowledge through which participants heard about bariatric surgeries, the results of our study showed that 67.1% of the participants heard about bariatric surgeries through family and friends experiences, 17.2% through Google search, 29.2% through social media, 6.7% heard about bariatric surgeries through awareness campaigns and 28.2% get their knowledge by doctors and clinics (Table 7).

Table 7: the sources of knowledge through which participants heard about bariatric surgery				
	Yes		No	
	#	%	#	%
Google search	70	17.5	331	82.5
Social media	117	29.2	284	70.8
Family and friends	269	67.1	132	32.9
Awareness campaigns	27	6.7	374	93.3
Doctors/ clinics	113	28.2	288	71.8
Others	38	9.5	363	90.5

Regarding participants beliefs about bariatric surgery, 90.8% of participants believed that bariatric surgery was effective in treating obesity, while the minority of the respondents (9.2%) believed the

opposite.32.2% preferred the surgery over traditional methods to lose weight, while (67.8%) didn't prefer it. Most of the participants didn't believe that bariatric surgery was the best choice to lose weight (77.6%), while 22.4% believed it. 95% of the participants believed that bariatric surgery has complications, while 5% reported that they didn't believe it (**Table 8**).

Table 8: shows the participant's distribution according to respondent's beliefs regarding bariatric surgery (N=401)				
	Yes		No	
	#	%	#	%
<b>Bariatric surgery is effective in the treatment of obesity.</b>	364	90.8	37	9.2
<b>You prefer the surgery over traditional methods to lose weight.</b>	129	32.2	272	67.8
<b>Bariatric surgery is the best choice to lose weight.</b>	90	22.4	311	77.6
<b>Bariatric surgery has complications.</b>	381	95.0	20	5.0

**Discussion:**

Since bariatric surgery has shown the effectiveness in improving severe obesity, its associated co-morbidities and the level of mortality, we aimed in this study to determine the motives of bariatric surgeries among Saudi adults in Al-Madinah and to assess their beliefs and knowledge toward surgical intervention in treating obesity. The data were collected from 406 adults who aged 20 to 50 years old, the mean age of participant's was 33.5±9.121, the mean of BMI of participant's was 29.89±8.222. The majority of the participants 251 (61.8%) were female, 254 (62.6%) were married, more than half of our respondents 326 (80.3%) had university/higher educational level and 209 (51.5%) of the participants were employed. Regarding the motives of bariatric surgery, the analysis of our study results showed that 91 (22.4%) of the participants underwent bariatric surgery, while the majority 315 (77.6%) did not.

The participants who underwent the surgery reported that health problem were 75% , the most common reason to do the surgery followed by improving physical fitness was 14% and 11% due to body look embracement. For the participants who didn't do the surgery yet, the majority (63%) were not planning to do the surgery. The motives for the rest of them were 15% for a health problem, 13% to improve physical fitness and 9% for body look embracement. Our results showed health problem as the major motive for bariatric surgery in both participants who did or didn't do the surgery.

Regarding previous data, two similar studies (5,6) support the view that medical

conditions/health problem were ranked as the most common motive to seek bariatric surgery. The vast majority of the participants (98.8%) heard about bariatric surgeries and the most common source of their knowledge was 67.1% family and friends experiences, followed by 29.2% from social media, while 28.2% got their knowledge by doctors and clinics.

Regarding the beliefs towards bariatric surgeries:

- 364 (90.8%) of the respondents believed that bariatric surgeries are effective in treating obesity.
- The majority 272 (67.8%) didn't prefer the surgery over traditional methods to lose weight.
- Most of the participants didn't believe that bariatric surgery is the best choice to lose weight 311 (77.6%).
- 381 (95%) of the participants strongly believed that bariatric surgery has complications.

Our result regarding the beliefs is concordant to a study (7) conducted in Jeddah, Saudi Arabia, in which most of their respondents (77.4%) thought that bariatric surgery contributes to weight reduction (69.8%) and didn't prefer bariatric surgery to lose weight. 86.6% of the respondents didn't choose bariatric surgery as the first choice over traditional methods, also 71.0% thought that weight loss surgeries have complications.

**Conclusion:**

In summary, our study showed that health problem is the major motive for our population (Adults in AL-Madinah) to do bariatric surgery.

Also, since most of our participants got their knowledge from relative's experience. More reliable sources should be provided to make sure the population is getting the right information about bariatric surgery.

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