

Prevalence of Bariatric Surgeries in kingdom of Saudi Arabia

By: Dr. Khaled Mohammed Aldosary

College of Medicine - Majmaah University - Kingdom of Saudi Arabia

Email: Khaled.m.a2@outlook.com

Abstract:

obesity is becoming of a great importance and concern all over the world and especially in Saudi Arabia and become an endemic disease, several studies done in the last ten years approve that there is a great increase in the prevalence rate of obesity in Saudi Arabia more than other countries with the same circumstances, this increase is due to many risk factors abundant in the Saudi society.

obesity is associated with a lot of metabolic, cardiovascular and endocrine diseases which increases the risk of mortality in obese patients so the need for weigh reduction is a must and according to studies patients preferred to lose weight through bariatric surgeries which become well known and widely spread nowadays due to its significant results in weight reduction ,rapid method and mostly safe, and it is recommended for patients with body mass index more than 40 or 35 with comorbidities as set in the Saudi guidelines.

There are several types of bariatric surgeries which is categorized as restrictive, malabsorptive and combination operation of the two former operations, and every category includes a number of surgery techniques which is improved through years, the mostly used is sleeve gastrectomy and Roux-en-Y gastric bypass.

The ministry of health in Saudi Arabia give a great care to the bariatric surgeries as it is associated to decrease the comorbidity rate through increasing the budget for the insurance policy in the field of weight reduction and also through performing several studies in the Saudi community to put a hand on advantage and disadvantage of the bariatric surgery and what services we need to improve it and also increasing the acknowledgement of the Saudi people about the adverse effects of obesity and benefits of weight reduction through surgeries as well as the awareness about its complications to let the citizen make his own proper decision in weight reduction

Keywords: Prevalence, Bariatric surgeries, Saudi Arabia.

Introduction:

Obesity is an epidemic disease that increases in its prevalence all over the world in both adults and children , a huge systematic review has done in Saudi Arabia in 2013 showed that there is a great increase in prevalence of obesity as it was 28,8% in year 1980 and reached 36.9% in year 2013 in males and from 29.8% to 38% in females , the prevalence of obesity also increased among children and adolescents 23.8% in boys and 22.6% in girls although the percentage in other developing countries is 12.9% in boys and 13.4% in girls , the recent reports stated that prevalence of obesity will reach 41% in males and 78% in females by year 2022 in Saudi Arabia (1).

Risk factors that induce the increase of prevalence of obesity in Saudi Arabia includes:

- High economic growth
- Lack of physical activity
- Rapid urbanization
- High calorie unhealthy diet

- Sedentary life style

These risk factors leads to further complications in obesity which is directly related to various metabolic ,cardiovascular and endocrine diseases such as Diabetes mellitus , hypertension ,dyslipidemia, coronary artery disease ,heart failure , atrial fibrillation ,obstructive sleep apnea, stroke , Alzheimer disease ,pericardial fat, bronchial asthma ,kidney diseases, osteoarthritis, gynecological and obstetric complications, malignancy, psychological disorders and finally mortality as obesity is responsible for fifth number of deaths every year the higher the body mass index the higher the risk of obesity the higher the mortality rate which is due to cardiovascular disease(2).

With this increase in the prevalence of obesity, it is expected that more than five million Saudis will be diabetic by year 2030 , the recent reports about obesity in Saudi Arabia showed that more than 20% of obese Saudi adults have body mass index (BMI) more than 35 and that make obese patients think about weight loss through several ways and the response differ in each obese patient according to patient compliance and many other factors ,so bariatric surgeries is preferred in many obese patients as it is the easiest and fastest route for weight loss and also safe if performed correctly , as stated by the Swedish obese subjects (SOS) that the bariatric surgery is the most effective long term treatment for morbid obesity(1,2).

Bariatric surgeries:

It is a surgeries that is indicated for patients with body mass index more than 40 or 35 with complications associated with obesity like: hypertension, type2 Diabetes mellitus and obstructive sleep apnea and for those who is not improving with the conventional routes of weight loss (5)

Types of bariatric surgeries:

There are different types of surgeries which is both open or laproscopic techniques and can be categorized into:

1- restrictive operations:

That includes the adjustable gastric band and the sleeve gastrostomy

2- Malabsorptive operations:

That includes biliopancreatic diversions

3- Combination operations between restrictive and malabsorptive operations:

That includes the Roux-en-Y gastric bypass and biliopancreatic diversion-duodenal switch (5)

There are several types of bariatric surgeries used in the last decade but the most commonly used are:

1- Laparoscopic Roux-en-Y gastric bypass (RYGB)

2- Mini gastric bypass (MGB)

3- Vertical banded gastroplasty (VBG)

4- Laparoscopic adjustable gastric banding (LAGB)

The first two types of surgeries are the mostly preferred and that is due to :

- Durable weight loss
- Prolonged survival
- High rates of improvements of other elements of metabolic syndrome

In the last five years there is a new restrictive procedure is developed called vertical sleeve gastrectomy (SG) and being the most preferred one due to its lower complications and massive weight loss results which are long term results as it is not extensive as in bypass surgeries (1).

The ministry of health in Saudi Arabia conducted an expert panel to develop evidence based guideline in 2015 in collaboration with the McMaster university by using the grading of recommendations, assessments, development and evaluation (GRADE) , the strongest public recommendations is practicing physical activities with healthy diet rather than diet only , taking medicines like metformin and orlistat also bariatric surgeries is recommended for obesity management if BMI more than 40 or sometimes 35 kg/m² ,

so the Saudi health insurance council added new benefits to Saudi citizens standard insurance policy including weight loss surgeries like gastric bypass , the budget for this new addition is 500 million SAR (133 million dollar) 20.000 SAR for each person(4) .

In Saudi Arabia there is more than 20000 bariatric surgeries take place every year and over than 24 surgeries occur every week in the King Khaled university in Riyadh alone (1).

Questions of this research:

With the massive increase in the prevalence of obesity in Saudi Arabia and its effect on the public health we need to make approach to the bariatric surgeries in Saudi Arabia , what is the factors lead to increase in its prevalence and effectiveness , what we need to improve bariatric surgeries in Saudi Arabia , we need to assess the awareness of patient about the benefits of bariatric surgeries as well as its complications.

Previous study:

A study is conducted in the year 2016 through a survey sent by E- mail to all bariatric surgeons in Saudi Arabia (1).

Aim of study:

the study is aimed initially to make assessment of bariatric surgeries services in Saudi Arabia and the needs for more improvement but the questionnaire includes some questions that put a hand on the attitude towards performing obesity related operations and the preferred types of surgeries to the surgeons (1).

Results:

The results showed that the respondent surgeons feel confident with Roux-en-Y gastric bypass by 66% followed by gastric banding by 62% and finally sleeve gastrectomy by 58%

The surgeons feel less confident with biliopancreatic diversions by 71% and duodenal switch by 71%, the study showed that Saudi Arabia needs more surgeons as the number is not sufficient to cover the high need from obese patients so the surgeons are overworked which could affect the quality of operations and the ministry of health should fix this shortage to cover the high need (1).

Conclusion:

Surgeons are firstly confident in Roux-en-Y gastric bypass, and secondly in gastric bypass and finally sleeve gastrectomy and not confident in biliopancreatic diversion and duodenal switch.

Also there is a great shortage in surgeons as the number existing is not covering the great need for the bariatric surgeries in Saudi Arabia (1).

Complications of bariatric surgeries:

One of the most factors that affect the prevalence of bariatric surgeries in Saudi Arabia is the awareness of patients by its complications, the increase of the awareness the increase is the fear from the surgeries but the strong desire in some obese patients to reduce weight conquers this fear and the great concern that the risk of such complications might be overlooked (3).

The most common complications of the bariatric surgeries that occur in 0.3 to 8 % of operations are (5):

A-early complications:

High obese patients may be at risk of this complications such as thromboembolism, pulmonary or respiratory insufficiency, hemorrhage, peritonitis and wound infections

These complications are decreased in laparoscopic techniques

B-late or long term complications: include the following complications:

- Gastrointestinal obstruction
- Marginal ulceration which is a source of abdominal pain and anemia
- Incisional hernias which is developed mainly in open bariatric surgeries
- Device –related complications as in gastric band may occur malfunction of the band or reservoir part

- Hypoglycemia
- Steatorrhea, diarrhea and bacterial overgrowth
- Micronutrients deficiency
- Some neurological complications

C-operative mortality:

That happen within 30 days after operation and its rate is 0.1 to 2%, the mortality rate depends on several factors:

- Complexity of the operation
- Patient comorbidities
- The status of the patient body
- Experience of the surgeon and the services found in the hospital and services
- Restrictive operations have lower mortality rate than malabsorptive operations.

The laproscopic surgeries is better than open surgeries as laproscopic surgeries is more safe, associated to shorter operative time, less blood loss, less postoperative pain, less consumption of analgesics, earlier postoperative recovery, shorter stay in hospital, lesser degree of abdominal wall trauma, lesser rate of hernia and pulmonary embolism occurrence and finally better cosmetic results (5).

Although some laproscopic procedures as laproscopic converted colon which leads to high morbidity and more wound complications and more staying in hospital in comparison to the open surgeries (5).

Previous study:

A cross sectional study is performed between July and august 2017 in Jeddah in Saudi Arabia through a questionnaire distributed electronically consist of 26 item to answer (3)

Aim of the study:

To assess the public awareness about the acute complications of bariatric surgeries

Results:

- Awareness of the acute complications of bariatric surgery is 64% more than two thirds of the individuals
- The awareness is higher in individuals who had performed one of the bariatric surgeries or in their relatives or close friends more than individuals who never do it before (80% vs 61%)
- The awareness by the long term complications of the surgeries as micronutrients deficiency is not assessed in this study
- the awareness differs significantly between individuals according to their occupations as the highest awareness is recorded in health care providers but there is no difference in awareness between different levels of educations
- The study revealed that we need more awareness about the complications of bariatric surgeries to make a balance between potential risks vs. the known benefits of the surgery (3).

Conclusion:

The results from this cross sectional study showed that the awareness of public about the complications of bariatric surgeries is adequate but not optimal and the awareness differ according to occupation or the previous exposure to the surgeries, we need more awareness to make balance between risks and benefits to clear the whole picture of the bariatric surgeries and patients could choose their way to reduce their weight without any problems (3).

Conclusion of the research:

Bariatric surgeries are surgical procedures used to reduce the body weight in highly obese patients with body mass index more than 40 or 35 with comorbidities as stated in the Saudi guidelines or with patients who failed to reduce their weight with the conventional ways such as healthy diet and physical activity and also in patients with severe health problem and they have to reduce their weight for life saving and free motion such as diabetic patients, patients who suffers osteoarthritis and cardiovascular patients.

There are several types of bariatric surgeries each type has its advantage and disadvantage according to each case, the surgeon is responsible for the choice of the proper surgery type

Bariatric surgeries prevalence is increasing day after day and this increase require more services to be available in Saudi hospitals and centers, so the Saudi governorate gives a great care to increase the insurance budget to cover the need for weight reduction surgeries and also to increase the number of surgeons performing bariatric surgeries as the number existing is too small.

All public must be aware about the complications of the bariatric surgeries some of which appears early after operation and some appears later on long term and the appearance of these complications on several factors according to the case.

References:

(1)Article "A needs assessment of bariatric surgery services in Saudi Arabia", By Naif Al Enazi and Haitham Al Falah, prince Mohamed bin Abdul Aziz hospital, Al Riyadh, kingdom of Saudi Arabia

Published in the Saudi Journal of Obesity, on July 2014.

(2)Article "public perception of bariatric surgery" , By Abdul Malik Altaf and Mohamed Abbass.

Published in Saudi Medical Journal, on 2019.

(3)Article "Are patients aware of potential risks of weight reduction surgery? An internet based survey" By king Abdul Aziz university, Jeddah, kingdom of Saudi Arabia.

Published in The Saudi Journal of Gastroenterology, on November 2018.

(4)Article "Why is Saudi Arabia designating 133 million \$ to cover weight loss surgeries"

Published in www.alarabiya.net ,on February 2018.

(5)Review article "Obesity disease and surgery" By department of surgery , king Faisal university ,Hofuf, Saudi Arabia. Published in the International Journal of chronic diseases, on April 2014

Copyright © 2020 Dr. Khaled Mohammed Aldosary, AJRSP. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY NC).