

Life Experiences of Egyptian Women after bariatric surgery

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Abstract

Background: Obesity is a major worldwide health issue associated with multiple comorbidities. Gastric bypass, sleeve gastrectomy, and duodenal switch are all types of bariatric surgery that have been popular recently. Aim: This study aimed to explore the life experiences of Egyptian women after bariatric surgery. **Methods:** Mixed design, quantitative and qualitative design. Sample: A purposive sample of 30 women participants who have undergone bariatric surgery for one to three years. **Setting:** Bariatric surgery follow-up clinics in both governmental and private sectors located in Cairo, Giza, Alexandria, Monofia, and Assuit governorates in Egypt. **Results:** Participants' mean age was $34.8 \pm SD 7.06$. and 43.3% of them are university graduates. The mean BMI decreased over time among participants $31.9+2.8$, $28.4+2.9$ & $26.2+2.8$ after one, two, and 3 years respectively. Six main qualitative themes were detected; satisfaction regarding the operation decision, change of eating and hydration style, a greater sense of confidence and self-worth, weakness and fatigue, and a Positive social attitude and presence of unpleasant GIT symptoms and Dumping syndrome. **Conclusions:** Bariatric surgeries have the advantage of losing weight, treating or at least controlling chronic diseases such as type 2 diabetes, and having a positive societal attitude. On the other hand, most patients suffer from weakness and fatigue and unpleasant GIT symptoms like uncontrollable flatulence, loose stools, and gas pain. **Recommendations:** Further qualitative and quantitative studies about patients' perspectives on bariatric surgeries are recommended.

Keywords: Bariatric, postoperative, Nursing, qualitative, dumping syndrome.

Background

The prevalence of obesity has rapidly increased over the past few decades, especially in developed nations (World Health Organization, 2021). The Middle East and North Africa (MENA) are experiencing increased bariatric procedures, although the patient's experiences are not thoroughly understood. Providing care to patients with bariatric surgery should consider cultural differences to maximize outcomes (Inocian et al., 2021).

Public health experts agree that obesity has reached epidemic proportions around the world. The National Health and Nutrition Examination Survey's most recent findings show that persons aged 60 and older are more expected than younger adults to be obese. However, the problem also affects children and middle age adults (Angrisani, Santonicola, Iovino, et al., 2021, Vincent, Ben-David, Conrad, Lamb, 2021). Checking for other health problems maximizes the need for weight loss and determines eligibility for bariatric surgery. The doctor will examine patients for any further potential health issues, such as diabetes, high blood pressure, high cholesterol, an underactive thyroid, and issues with the liver. Getting this information will benefit patients, and physicians will choose the treatment type that will work best for patients. Getting and maintaining a healthy weight is the objective of treating obesity. This raises general health and lessens the possibility of obesity-related problems. Different lines of treatment for obesity include; dietary restriction, behavioral change,

exercises, physical activities, and bariatric surgery (Wu, Berri, 2022).

Not everyone who is extremely overweight should undergo bariatric surgery. The patient may need certain medical guidelines to qualify for weight-loss surgery. Although patients likely will have an extensive screening process, they must also be willing to make permanent changes to lead a healthier lifestyle. Bariatric surgery has possible long-term and short-term health hazards, much like any effective procedure. The risks of the surgery can include excessive bleeding, infection, bad anesthesia reactions, blood clots, lung or breathing issues, leaks in the gastrointestinal system, and even death (Zhao, Duan, Sun, 2020; Taylor, Ramachandran, Yancy, et al., 2021).

A laparoscopic sleeve gastrectomy, a Roux-en-Y gastric bypass, and gastric band surgery are the three most popular types of bariatric surgery. Bariatric surgery is an umbrella function by decreasing stomach capacity, encouraging early satiety, or restricting the absorption and metabolism of certain nutrients to eliminate fat storage and uses body fat for fuel (Vasilevski et al., 2023).

In the MENA region, a body mass index "BMI" of 40 kg/m² or a BMI of 35 kg/m² plus obesity-related comorbidities has been the criteria for bariatric surgery. Moreover, bariatric surgery is now more frequently considered a therapy option for people with uncontrolled diabetes with a BMI as low as 30 kg/m² (Aly et al., 2020).

The most clinically successful treatment for persons with severe and complex obesity is bariatric surgery, but the results on the later psychosocial effects are less certain. Although it is commonly established that post-bariatric surgery care is crucial, there is little information on what this should comprise, particularly regarding psychological and social well-being. Patients' perspectives are important when designing follow-up care (Coulman et al., 2020).

Significance of the study

Worldwide, over nine hundred fifty million adults, 27 % of men and 46% of women suffer from obesity (WHO 2021). According to (IFSO) the International Federation for the Surgery of Obesity and Metabolic Disorders (2021) and Wu, Berri (2022), Worldwide Survey 2021, about 11934,897 bariatric operations were performed. In the (MENA) Middle East and North Africa region, there has been an increasing performance of surgeries to treat obesity and metabolic disorders (Inocian et al., 2021)

Exploring the patient's perspective can provide valuable information for this field. Qualitative investigation is useful for exploring Egyptian women's perspectives as it aims to obtain an insider's thoughts on how women in Egypt experience and make sense of their social world within the unique cultural and economic context. Hence, the current study is sought to provide valuable data to be incorporated into nursing care and follow-up for Egyptian women undergoing bariatric surgeries.

Aim of the study

This study aims to explore the life experiences of Egyptian women after bariatric surgery

Research question:

Q1: What are the lived experiences of Egyptian women after bariatric surgery?

Q2: What are the perspectives of Egyptian women after bariatric surgery?

Methods

Research design

This study will conduct Mixed design quantitative and qualitative design with a phenomenological approach to explore post-bariatric patients' stories of their personal life experiences and challenges after the surgery. The phenomenology method involves studying a small number of participants through deep and prolonged interaction to identify themes and relationships of meaning within the experience. This phenomenological approach sets aside biases and preconceived assumptions about feelings, human

experiences, and responses to certain patient scenarios. Instead, these enable researchers to delve into the viewpoints, perceptions, feelings, and understanding of those in this position (Ueland & Stigmatisation, 2020).

Setting

The participants for this study were recruited upon referral of five surgeons who perform bariatric surgeries in both governmental and private sectors located in Cairo, Giza, Alexandria, Monofia, and Assuit governorates in Egypt. In addition, participants were contacted in the bariatric surgery follow-up clinics. Surgeons' and hospitals' names are not disclosed in the research paper for confidentiality maintenance.

Study sample

A purposive sample of 30 participants was recruited one to three years post-bariatric surgery. Participants who had fully returned to normal life after bariatric surgery were selected according to the following inclusion criteria: Adult Egyptian female patients were able to communicate through talking and had no mental/psychological disorders that interfered with their abilities to express their feelings, and they agree to participate in the study.

Data collection

Data were collected through semi-structured, one-on-one in-depth interviews with all participants at times and locations most suitable for them (e.g., clinic rooms, places of work, or homes) and lasted roughly one hour. All interviews were audio-recorded and subsequently transcribed. Two researchers with doctoral degrees in science and expertise in a qualitative study conducted interviews. The interview was guided by a list of predetermined, open-ended questions based on the study's aim to ensure consistency across interviews. Examples of open-ended questions include the following: "Describe in detail whether you are satisfied with the decision to have this surgery? and What are the reasons for satisfaction or dissatisfaction?", "What is your experience with weight loss after surgery? Mention all changes such as decrease, stability, or increase and the causes from your point of view", "Explain in detail the changes that occurred in your life after the operation, whether positive or negative," and "Describe in detail the reaction and attitude of the family, relatives, and friends towards the changes that occurred to you after the operation." The researcher conducted the interviews and maintained a receptive attitude, asking participants to elaborate on their unique experiences and perspectives. The demographic and health data were collected during the interviews.

Validity and Reliability:

A panel of five experts in the field of medical-surgical nursing from the faculty of nursing at Cairo University determined the face and content validity of the study tool. The experts thoroughly examined the tool for content coverage, phrasing, length, format, and overall presentation. On the other hand, Cronbach's alpha was used to analyze the internal consistency to statistically establish the quantitative data's reliability.

Trustworthiness of qualitative data

Triangulation as a strategy to ensure trustworthiness was applied through (credibility, transferability, dependability, and conformability).

Ethical considerations

The study followed the ethical principles of informed consent, privacy, secrecy, and voluntary participation. The ethics review for the construction work was approved by the Ethical Committee affiliated with the faculty of nursing (IORG0006883 Cairo University/RHDIRB2019041701/FWA 00026458). Before each interview, participants received information about the aims and nature of the study and relevant ethical considerations.

Procedure:

Firstly, ethical approval was obtained from the Ethical committee affiliated with the faculty of nursing Cairo University; then, participants with inclusion criteria were contacted individually by the researcher, who discussed the study aim and participation ethics. Patients were reassured that participation is voluntary. Finally, the patient who agreed and showed interest in participating in the study were interviewed individually. Participants were given an information sheet to read and the consent form to sign at the beginning of the interview. The information sheet drew the purpose of the research and the nature of participation in detail. Both

the information sheet and consent form was prepared in the Arabic language. As some participants could not read, the researcher verbally went through the information sheet and informed consent with them. On understanding the information sheet, participants were allowed to ask any questions. They were reminded of the study's rationale and their right to withdraw. Also emphasized was the secrecy of their responses.

All the interviews were conducted in a setting which comfortable for participants. All the interviews were audio-recorded and lasted around 1 hour. In this qualitative phenomenological study, the researcher was considered an instrument. This means the researcher plays the data collection and interpretation role in the interviewing and audiotape recording process.

The interview was part of an observation approach that notes body language and facial countenances as the contributors reply to questions. Audio recordings of the session were employed to obtain the details of the answers correctly and only documented with the participant's permission. The researcher transcribed all interviews accurately, and personal proof of identity and private data were not included in the transcripts.

Data analysis:

SPSS 20 was used to calculate quantitative data. SPSS stands for statistical program for social sciences. Descriptive statistics, as frequency distribution, percentage, means, and standard deviations, were employed, along with comparison graphs. Qualitative Data were analyzed using Braun and Clarke's (2006) six steps of thematic data analysis: familiarization with the data, generation of initial codes, identification of themes, reviewing themes, definition and naming of themes, and finally, producing the report.

Results:**Quantitative results:****Table 1:** *The demographics and health data of the participants (No = 30)*

	Number	Percentage
Age groups Mean + SD	34.8 ± 7.06	
- 18 < 30 years	8	26.7%
- 30 < 40 years	16	53.3%
- 40 ≤ 50 years	6	20%
Education		
- Illiterate	1	3.3%
- Basic education	1	3.3%
- Technical diploma	11	36.7%
- University graduate	13	43.3%
- Postgraduate; Master, PhD	4	13.3%
Job		
- Not working	5	16.7%
- Technical job	8	26.7%
- Professional; doctor, engineer... etc	10	33.3%
- Academic/administrative	7	23.3%
Surgery location		
- Governmental hospital	10	33.3%
- Private hospital	20	66.7%
Time since surgery		
- One year	12	40%
- Two years	10	33.3%
- Three years	8	26.7%
Method of payment for the surgery		
- Myself	6	20%
- Family support	7	23.3%
- Insurance	8	26.7%
- Installment	6	20%
- Loan	3	10%
Co-morbidities:		
- Type 2 diabetes mellitus	15	50%
- Hypertension	11	36.7%
- Liver disease	8	26.7%
- Renal disease	8	26.7%

Table 1 represents the demography and health data among study participants. It shows that the mean age is $34.8 \pm$ SD 7.06. As for education, 43.3% are university graduates. Regarding their jobs, 16.7% are not working, and 23.3% are in academic or administrative positions. The rest of the participants have technical and professional jobs, with a percentage of 26.7% and 33.3%, respectively.

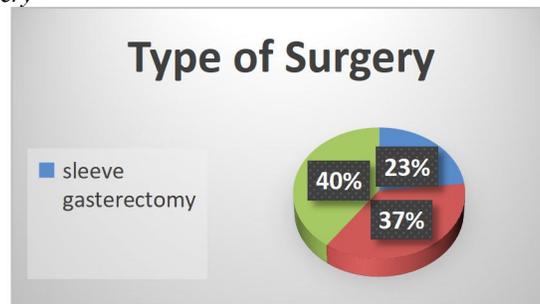
Figure 1: Type of Bariatric surgery

Figure One illustrates the type of surgery done among participants; less than a quarter of the participants, 23%, had undergone sleeve gastrectomy, about one-third 37% undergone Roux-en-Y (roo-en-wy) gastric bypass, and 40% of the study participants have made Biliopancreatic diversion with duodenal switch.

Figure 2: Mean Body Mass index among study participants (before, 1,2&3 years after bariatric surgery).

Figure two sketches the mean Body Mass Index (BMI) among study participants before and 1,2&3 years after bariatric surgery. The figure shows that the mean BMI before surgery was 34.6, with a standard deviation of 3.1.



The mean BMI decreased over time among participants $31.9 \pm \text{SD } 2.8$, $28.4 \pm \text{SD } 2.9$ & $26.2 \pm \text{SD } 2.8$ after one, two, and 3 years respectively. Noting that time since surgery differs among study participants.

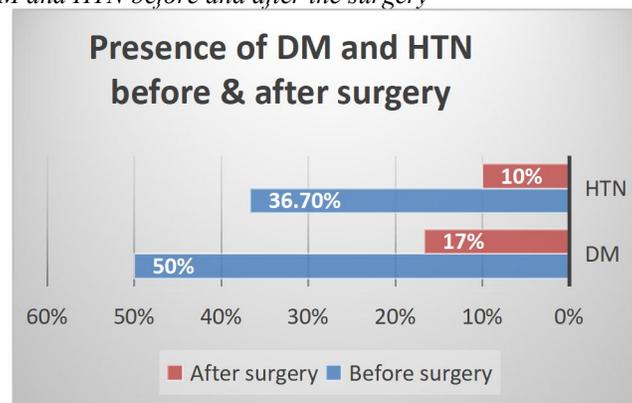
Figure 3: the presence of DM and HTN before and after the surgery

Figure three compares the presence of type 2 diabetes and hypertension before and one year after surgery. Again, 50% of the study sample had type 2 diabetes mellitus before surgery which decreased to 17% one year after surgery. As for hypertension, 36.7% of the participants had hypertension before surgery, which decreased to 10% after surgery.

Qualitative results:

Table 2: Themes detected from transcribed participant interviews (No = 30).

Theme	Sample of supported quotations
1) Satisfaction regarding operation decision	"I am totally satisfied with the surgery decision as it helped me lose weight and participate in sports." " It was the best decision I have made; it returned me to live with a minor commitment to diet." "I will never regret doing the surgery; I regret I delayed it." " The surgery is ok; the problem is me; I can't follow diet and exercise. If I could, I wouldn't do the surgery in the first place."
2) Change of eating and hydration style	"At the beginning, I was happy I could eat anything without gaining weight, but I realized it's not true; I must follow some instructions." "I am annoyed I can't commit to the doctor's instruction, which fixed my weight on balance." "I accept my surgery decision, but sometimes I feel sad that I still can't control my eating behavior."
3) Greater sense of confidence and self-worth	"I was very happy I could wear the clothes I like." "I loved myself more after having the body I always dreamed of" "Obesity is a very bad zone I was in for years. Now I feel great and confident." "I hated it when some people used to call me Haja or Mom. Now people give me younger age than I am," she said with a very satisfied smile and sigh. "I had emotional ups and downs, but generally, I feel more self-worth after losing weight."
4) Weakness and fatigue.	"My main problem is that I feel tired most of the time." "After surgery, I had fatigue, nausea, and vomiting; I couldn't sleep well and felt weak and lightheaded. All but the weakness and fatigue disappeared in three months, but I still feel very weak until now, a year and a half later." "I am getting tired from minor activities; I wasn't that tired when I was obese." "I can't do my household activities easily; I always feel tired." "I had a urinary tract infection one month after surgery, and I think the surgery decreased my immunity and made me weak."
5) Positive social attitude.	"My friends were happy about how my look changed, but my mother was very worried about my health." "It's a fact a lot of people evaluate us based on our looks; my world changed toward a positive attitude after losing weight due to surgery." "I've been married for 7 years & I have 3 kids; after losing weight, my husband became very happy, gave me more attention, and treated me like we're newly married."
6) Unpleasant GIT and Dumping syndrome.	"My big issue is gases that I can't control, although I also have palpitations, abdominal pain, nausea, vomiting, diarrhea, gasses are the most embarrassing." "I feel very upset when I pass gases in gatherings, I can't control gases, and I have gas pain." "What annoys me is that I go to make ablution (wash for prayer) many times; I also feel pass of drops of watery stool when I move a little extra."

Discussion:

Most of the study sample was between 30-40 years old (53.3%), and the mean age was 34.8 ± 7.06 . The research looked at demographic variations in outcomes following bariatric surgery in the USA by (Turner et al., 2011) reported that age, having an open Roux-en-Y gastric bypass, and having a higher body mass index were all linked to higher risks of postoperative problems. In addition, certain postoperative problems were seen to occur more frequently in Hispanic and African American patients.

The current study revealed an obvious decrease in body mass index one to three years post-surgery. Therefore, candidates for bariatric surgery who commit to a follow-up schedule after surgery may experience greater weight loss results after the procedure after one year. Furthermore, this effect was linearly associated with patients' education level according to a qualitative interpretive study on the experiences and information requirements of post-bariatric surgery pregnant women (Vasilevski et al., 2023).

More than half of the research participants who had type 2 diabetes before surgery in the current study have completely recovered within one year post-bariatric surgery. Moreover, one-third of the participants who had hypertension before surgery recovered or controlled it within one year post-bariatric surgery. These findings are consistent with research on patients' post-bariatric surgery experiences and follow-up care, demonstrating improvements for type 2 diabetes. A thorough study tracked 400 people with type 2 diabetes. Six years after having bariatric surgery, 62% of patients showed no signs of diabetes. Their blood pressure, cholesterol, and triglyceride levels were also better (Coulman et al., 2020).

The current study participants reported satisfaction regarding operation decision, a greater sense of confidence and self-worth, in addition to positive social attitude (themes 1, 3 & 5). These results may be at odds with an interpretative phenomenological examination of Saudi Arabian women's experiences with obesity and bariatric surgery by Alqout & Reynolds (2014), who reported only 32.3% and 42.6% of 108 Saudi Arabian participants were extremely satisfied with their general appearance and weight loss after surgery, respectively. Furthermore, 78% of Saudi Arabians desired another body-reshaping surgery after bariatric surgery.

The current study participants reported changes in eating and hydration style (theme 2), with participants focusing on the difficulty of compliance; This finding highlights the importance of support and follow-up, as mentioned by Kolotkin, Binks, and Crosby in 2020 when they assessed the quality of life associated to weight in obese people with type 2 diabetes. Moreover, a study by Romagna, Lopes, Mattos, et al. in 2021 on Physical activity level, sedentary time, and weight regain after bariatric surgery in patients without regular medical follow-up and a systematic review by Hajek, Kretzler & König, 2021 about the relationship between obesity and social isolation as well as loneliness in the adult population both highlighted the need for patients to work with a To address all physical and psychological demands of patients after bariatric surgeries, the nursing position also entails analyzing patients' issues and needs, creating individualized care plans for each patient, putting those plans into practice, and reviewing the success of those plans. Some frequent patients report fatigue and weakness post-bariatric surgery for up to one year or more, as confirmed in a study on Interdisciplinary European guidelines on metabolic and bariatric surgery by (Fried et al., 2013), which matches (theme 5) of the current study as the participants testified suffering

from weakness and fatigue as one of their major problems after bariatric surgery.

A comparison between laparoscopic Roux-en-Y gastric bypass and laparoscopic sleeve gastrectomy in terms of the prevalence of dumping syndrome by (Ahmad et al., 2019) concluded that dumping syndrome following LSG is common but is not frequently documented. The resultant finding has importance for postoperative education and care and may influence physicians' and patients' choice of procedure. That is compatible with (theme 6) of our thematic analysis, which confirmed the presence of unpleasant GIT symptoms and Dumping syndrome among study participants.

Conclusions:

Egyptian women in the current study experienced improved self-esteem and self-worth related to weight loss and reaching the ideal body weight. This sense was nurtured by a positive societal attitude. In addition, one major benefit of bariatric surgery is recovering or at least controlling chronic diseases such as diabetes and hypertension. On the other hand, most Egyptian women in our study reported weakness, fatigue, and unpleasant gastrointestinal symptoms as major drawbacks in their life experiences after bariatric surgery.

Recommendation

1. More qualitative and quantitative research on patients' opinions of bariatric surgery is recommended.
2. Future studies should look into follow-up care options that are suitable and efficient for those who have had bariatric surgery.
3. Follow-up after surgery is important to ensure patient compliance regarding post-surgery instructions.

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