Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr ICV 2018= 82.06

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

Quality Of Life Changes amongst Obese Subjects Undergoing Bariatric Surgery

Garima Sharma[1], Ashish Ahuja[2], Harsimran Singh[3], Prabhdeep S Nain[4], Rupesh Chaudhary[5]

[1]Associate professor, Dept of Physiology, DMCH, Ludhiana, Punjab, India;
[2]Associate professor, Dept of Surgery, DMCH, Ludhiana , Punjab, India;
[3]Resident, Dept of Surgery, DMCH, Ludhiana , Punjab, India;
[4]Professor, Dept of Surgery, DMCH, Ludhiana , Punjab, India;
[5]Professor, Dept of Psychiatry, DMCH, Ludhiana , Punjab, India

ABSTRACT

Background: Obesity has emerged as one of the most serious public health concerns in the 21st century. This epidemic rise in obesity fueled the debate to classify it as a disease and in 1985 obesity was officially classified as a disease. The study aims to assess long-term effectiveness of bariatric surgery on quality of life of obese adults. **Materials and methods**: This study was conducted in department of surgery, Dayanand Medical College and Hospital, Ludhiana on patients with morbid obesity. These patients were followed up for 6 months from the date of surgery. The quality of life was assessed using WHO Quality of WHOQOLBREF scale The WHOQOL-BREF version is a self-administered psychometrically sound cross cultural instrument developed in 15 centers across developing and developed countries. Comparison of quantitative variables between the variables was done using paired Student t-test. A probability value (p value) less than 0.05 was considered statistically significant. **Results**: Out of 30, 21 (70%) patients were females and rest 9 (30%) were males. Mean age of patients was 42.8 ± 11.8 years. The General domain of all patients were checked preoperatively as well at 3rd and 6th months after bariatric surgery which was 5.20±.830 and 5.33±1.030 respectively with a pre-op value of 5.00±0.830.The environmental domain levels of all patients were checked preoperatively as well at 3rd and 6th months after bariatric surgery. **Conclusion**: Obesity affects quality of life and leads to psychological problems like low self esteem or even depression. Bariatric surgery helps in significant weight loss and BMI reduction leading to a better quality of life improving the social, physical and psychological domains.

Key words: Bariatric, psychological, morbid, effectiveness

Received: 13 March, 2019 Revised: 10 July 2019 Accepted: 11 July 2019

Corresponding author: Dr. Garima Sharma, Associate professor, Dept of Physiology, DMCH, Ludhiana, Punjab, India;

This article may be cited as: Sharma G, Ahuja A, Singh H, Nain PS, Chaudhary R. Quality Of Life Changes amongst Obese Subjects Undergoing Bariatric Surgery. J Adv Med Dent Scie Res 2019;7(8): 144-148.

INTRODUCTION

Obesity has emerged as one of the most serious public health concerns in the 21st century. This epidemic rise in obesity fueled the debate to classify it as a disease and in 1985 obesity was officially classified as a disease. Obesity is defined as a "disease" because it is a physiological dysfunction of the human organism with environmental, genetic and endocrinological causes.[1] Obesity most frequently develops when food calorie intake exceeds energy expenditure over a long period of time.[2] The continuous increase in a number of obese people is accompanied by an increase in a number of obesity-related diseases such as insulin resistance/type 2 diabetes, dyslipidemia, hypertension, cholelithiasis, cancer, liver steatosis, gastroesophageal reflux, obstructive sleep apnea, degenerative joint disease, gout, and others.[3,4] Treatment options for obesity include non-surgical treatment and bariatric surgery. However, surgical procedures are currently the most effective therapy for long-term weight loss. As per recommendations of National Institute of Health, USA, surgery for obesity is recommended at a body mass index (BMI) of 40 kg/m2 or at a BMI greater than 35

kg/m2 with comorbid conditions such as hypertension, diabetes, and hypercholesterolemia which are expected to respond to weight loss secondary to surgical therapy.[5] Bariatric surgeries such as gastric bypass, gastric sleeve, and laparoscopic adjustable gastric banding, work by changing the anatomy of the gastrointestinal tract (stomach and digestive system) or by causing different physiological changes in the body that change energy balance and fat metabolism. While patients do value the overall positive impact that the procedure has on their "physical health," they measure the overall impact of the procedure on their quality of life on different scales, often based on their personal expectations as to the outcome of the surgery. The study aims to assess long-term effectiveness of bariatric surgery on quality of life of obese adults.

MATERIALS AND METHODS

This study was conducted in department of surgery, Dayanand Medical College And Hospital, Ludhiana on patients with morbid obesity undergoing bariatric surgery like Roux-en-Y gastric bypass (RYGB), Laparoscopic adjustable gastric banding (LAGB), Laparoscopic Sleeve gastrectomy (LSG), Mini Gastric Bypass (MGB). These patients were followed up for 6 months from the date of surgery. Particulars of each patient were noted including name, age, sex, occupation, admission number, occupation and address for future correspondence. A written informed consent was taken from all the patients. Detailed history of each patient was obtained including history of presenting symptoms, any pre-existing co-morbid conditions and the patient's background history. Patients who were unable to understand the nature of bariatric surgery or behavioural changes required afterwards, including untreated schizophrenia, active substance abuse and noncompliance with previous medical care were excluded from the study. The quality of life was assessed using WHO Quality of WHOQOLBREF scale The WHOQOL-BREF version is a self-administered psychometrically sound cross cultural instrument developed in 15 centers across developing and developed countries. It is available in Hindi language and evaluates subjective QOL in the past 2 weeks in four domains: physical health, psychological, social relationship and environment. It has an additional two items for assessing overall QOL and general health. The 26 items are scored 1-5 to given domain scores, the total score ranging between 26 and 130, a higher score indicating a better QOL. The scale has shown good discriminant validity, concurrent validity, internal consistency and test – retest reliability. Hindi version of WHOQOLBREF Scale has been widely used in several studies and was used in the study. Data was described in terms of range; mean ±standard deviation (± SD). Comparison of quantitative variables between the variables was done using paired Student t-test. A probability value (p value) less than 0.05 was considered statistically significant.

RESULTS

Out of 30, 21 (70%) patients were females and rest 9 (30%) were males. Mean age of patients was 42.8 ± 11.8 years. Mean height and weight were 5.42 ± 0.25 feet and 113.64 ± 16.91kg respectively. Mean BMI was 43.91 ± 6.89 kg/m². Out of 30 patients, 13 were hypertensive, and 20 were diabetics, on regular medications.

Table 1 illustrates the effect on general domain in the quality of life. The general domain of all patients was checked preoperatively as well at 3rd and 6th months after bariatric surgery which was 5.20 ±.830 and 5.33±1.030 respectively with a pre-op value of 5.00±0.830.

Graph 1 shows the effect on physical domain in the quality of life. The physical domain of all patients was checked preoperatively as well as at 3rd and 6th months after bariatric surgery which was 16.50±1.81 and 18.07±1.80 respectively with pre op value of 13.53±1.85.

Table 2 illustrates effect on psychological domain. in quality of life. The psychological domain levels of all patients were checked preoperatively as well as at 3rd and 6th months after bariatric surgery which was 12.43±1.70 and 12.50±1.74 respectively with pre op value of 12.20±1.45.

Graph 2 demonstrates effect on social domain in quality of life. The social domain levels of all patients were checked preoperatively as well as at 3rd and 6th months after bariatric surgery which was 3 months and 6 months to be 12.83±1.05 and 13.83±.83 respectively with pre op value of 11.27±1.28.

Table 3 shows the effect on environmental domain in quality of life. The environmental domain levels of all patients were checked preoperatively as well as at 3rd and 6th months after bariatric surgery. There is increase in values of mean at 3 months and 6 months to be 13.77±1.55 and 13.87±1.57 respectively with pre op value to be 13.33±1.54.

Table 1: Effect on general domain in quality of life

GENERAL	Mean	SD	t	p-value	Mean difference	SD
Pre-op	5.00	.830				
3 month	5.20	.925	-1.099	0.281	-0.200	0.997
6 month	5.33	1.030	-1.581	0.125	-0.333	1.155

Graph 1: Effect on physical domain in quality of life

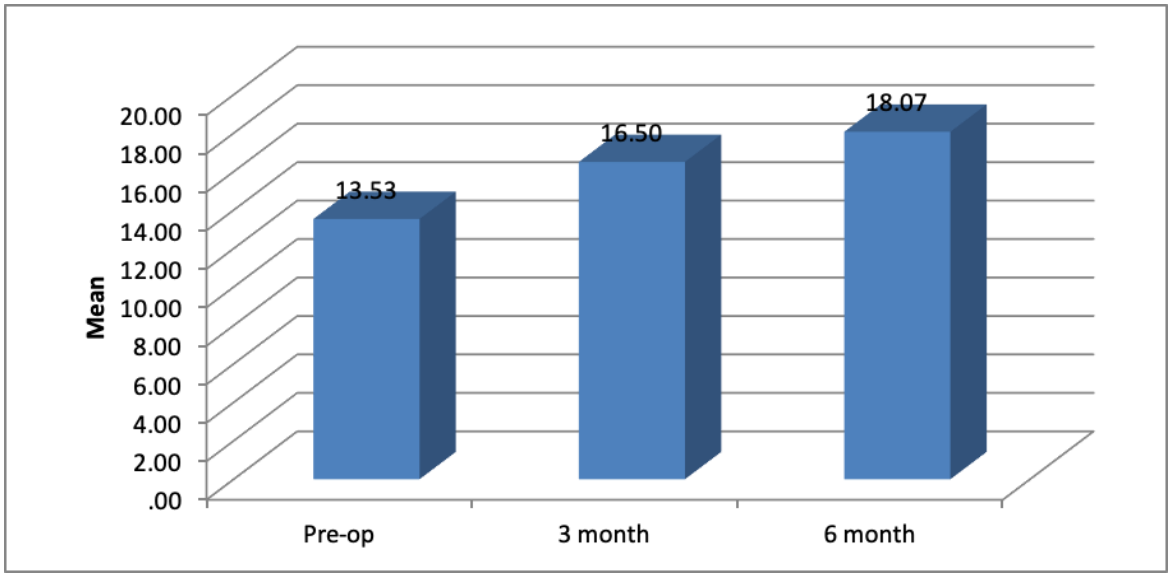

Table 2: Effect on psychological domain in quality of life

PSYCHOLOGICAL	Mean	SD	t	p-value	Mean difference	SD
Pre-op	12.20	1.45				
3 month	12.43	1.70	-0.980	0.335	-0.233	1.305
6 month	12.50	1.74	-0.987	0.332	-0.300	1.664

Graph 2: Effect on social domain in quality of life

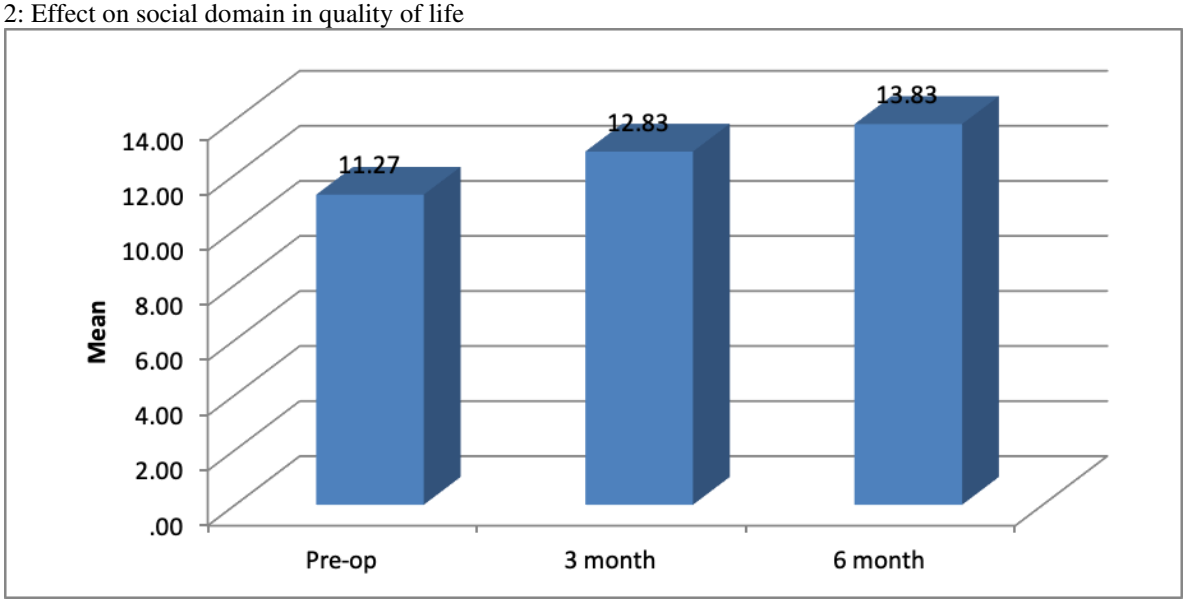

Table 3: Effect on environmental domain in quality of life

ENVIORNMENTAL	Mean	SD	t	p-value	Mean difference	SD
Pre-op	13.33	1.54				
3 month	13.77	1.55	-1.750	0.091	-0.433	1.36
6 month	13.87	1.57	-1.593	0.122	-0.533	1.83

DISCUSSION

WHO defined QoL as the individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns.[6] As obesity is a chronic and often progressive condition, its management requires long-term behavioral change. Indeed, for all obesity intervention strategies (i.e. behavioural interventions, medication, and surgery), an individual's commitment to new habits and practices is crucial to success. Behavioural intervention requires the individual to implement new behaviours and maintain them after initial weight loss is achieved. Thus, in all cases, it is essential to help the patient adopt the new behaviors (e.g., healthy eating, physical activity, medication adherence, protein supplementation following surgery) as part of their normal routine.[7] Doll et al. also investigated the interaction between obesity and QoL. The authors observed that physical as well as emotional well-being deteriorated in a manner directly proportional to weight gain.[8] Several studies found an improvement in mental health and psychosocial functioning aspects of QOL, with greater improvements occurring within the first year. This is consistent with research demonstrating improvements in self-esteem, body image, sexual and social functioning, and a decline in depressive and anxious symptoms following bariatric surgery within the same time frame. [9] A Greek study surveying 59 obese women before and after bariatric procedures found significant reductions in depression (P<.001) and sexual pain levels (P = .014) as well as significant improvements in sexual desire, arousal (P 5 .001), lubrication (P = .003), satisfaction (P = .012), and total sexual function (P = .003) 1 year after surgery.[10] The differential effect of each surgery on QoL is not yet fully understood, but it seems that RYGB is associated with better patient-centered outcome measures and greatest improvement in QoL.[11]The WHOQOL-BREF version is a self administered psychometrically sound cross cultural instrument developed in 15 centers across developing and developed countries. It is available in Hindi language and evaluates subjective QOL in the past 2 weeks in four domains: physical health, psychological, social relationship and environment. It has an additional two items for assessing overall QOL and general health. The 26 items are scored 1-5 to given domain scores, the total score ranging between 26 and 130, a higher score indicating a better QOL. The general domain scoring of all patients was checked preoperatively as wellas at 3rd and 6th months after bariatric surgery which was 5.20±.830 and 5.33±1.030 respectively with a pre op value of 5.00±0.830. The physical domain was at 3 and 6 months was 16.50±1.81 and 18.07±1.80 respectively with pre op value of 13.53±1.85. The psychological domain score at 3 and 6 months was 12.43±1.70 and 12.50±1.74 respectively with pre op value of 12.20±1.45. The social domain score 3 months and 6 months was 12.83±1.05 and 13.83±.83 with pre op value of 11.27±1.28. Chi-Yang Chang et al conducted a study on a total of 114 consecutive patients with obesity coming for bariatric surgery. Obese subjects had poorer WHOQOL-BREF scores than those of the healthy referents in physical, psychological, and social domains but not in environmental domain.[11] Similar results were seen in a study by Dirk P.A. Versteegden et al in which all QoL domains greatly improved after bariatric surgery. Physical functioning increased more in patients who underwent gastric bypass.[12]

CONCLUSION

Obesity affects quality of life and leads to psychological problems like low self esteem or even depression. Obesity is leading preventable cause of death worldwide. The failure of medical therapy for severe obesity and success of surgery over the last decades produced a remarkable series of new techniques and procedures for the treatment of obesity and its co- morbidities. Bariatric surgery helps in significant weight loss and BMI reduction leading to a better quality of life improving social, physical and psychological domains of life. It also improves a number of conditions and biological actions (hormonal changes) to reverse the progression of obesity.

REFERENCES

1. Chaturvedi A, Jane N. Obesity and insulin resistance: an overview. J Biol Sci Opinion. 2014:2(6):369-72.
2. Bleich S, Cutler D, Murray C, Adams A. Why is the developed world obese? Annu Rev Public Health. 2008;29:273-95.
3. Boza C, Gamboa C, Salinas J, Achurra P, Vega A, Pérez G. Laparoscopic Roux-en-Y gastric bypass versus laparoscopic sleeve gastrectomy: a case-control study and 3 years of follow-up. Surg Obes Relat Dis. 2012;8(3):243-9.
4. Haslam DW, James WP. Obesity. Lancet. 2005;366:1197-209.
5. Ardestani A, Rhoads D, Tavakkoli A. Insulin cessation and diabetes remission after bariatric surgery in adults with insulin-treated type 2 diabetes. Diabetes Care. 2015;38(4):659-64.
6. Kolotkin RL, Meter K, Williams GR. Quality of life and obesity. Obes Rev.2001;2(4):219-29.
7. Vallis M, Piccinini-Vallis H, Sharma AM, Freedhoff Y. Clinical review: modified 5 As: minimal intervention for obesity counseling in primary care. Can Fam Physician. 2013;59:27-31.
8. Doll HA, Petersen SE, Stewart-Brown SL. Obesity and physical and emotional well-being: associations between body mass index, chronic illness, and the physical and mental components of the SF-36 questionnaire. Obes Res. 2000;8(2):160-70.
9. Stolzenberger KM, Meaney CA, Marteka P, Korpak S. Morello K. Long-term quality of life following bariatric surgery: a descriptive study. Bariatr Surg Patient Care. 2013;8(1):29-38.
10. Assimakopoulos K, Karaivazoglou K, Panayiotopoulos S, Hyphantis T, Iconomou G, Kalfarentzos F. Bariatric surgery is associated with reduced depressive symptoms and better

sexual function in obese female patients: a one-year follow-up study. Obes Surg. 2011;21(3):362-6.
11. Mohos E, Schmaldienst E, Prager M. Quality of life parameters, weight changeand improvement of co-morbidities after laparoscopic Roux Y gastric bypassand laparoscopic gastric sleeve resection – comparative study. Obes Surg. 2011;21: 288-94.
12. Chang CY, Hung CK, Chang YY, Tai CM, Lin JT, Wang JD. Health-related Quality of Life in Adult Patients with Morbid Obesity Coming for Bariatric Surgery. Obes Surg. 2010; 20(8):1121-7.
13. Versteegden DPA, Van Himbeeck MJJ, Nienhuijs SW. Improvement in quality of life after bariatric surgery: sleeve versus bypass. Surg Obes Relat Dis. 2018;14(2):170-4.