

Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

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ABSTRACT

Bariatric surgery results in significant weight loss, improvement or cure of accompanying illnesses, and may lead to important changes in psychological conditions. The aim of this paper is to study the changes in the psychological and emotional lives of patients as well as quality of life during the first year after bariatric surgery. The study population comprised 30 patients, 17 women (56.67%) and 13 men, between 28 and 60 years old. laparoscopic gastric sleeve procedure was adopted for bariatric surgery. Patients were asked to complete SF-36 questionnaire before surgery. One year after surgery, patients were again asked to complete an SF-36. Comparisons were made between loss of weight, alteration in the psychological condition and quality of life postoperatively, within the parameters of sex, age, marital status, clinical condition, duration of obesity and family history of obesity. Outcomes obtained from Wilcoxon signed rank test of SF-36 parameters revealed that there is significant difference between pre surgery and post surgery SF-36 parameters except emotional role limitation. The bariatric surgery most satisfactorily improved the patients' psychosomatic condition, as well as their quality of life, during the first year after surgery.

Keywords: *Bariatric surgery, SF-36, Laparoscopic gastric sleeve, Quality of life*

The word overweight relates to extra body weight for a selective height while the term obesity is used to specify excess body fat (NCBI, 2016). Overweight and obesity primarily happen either due to excess calorie intake or insufficient physical activity or both. Furthermore, various genetic, behavioural, and environmental factors play a role in its pathogenesis. In the developed

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Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

and growing nations alike, the obesity rate quickly raises, already striking an epidemic level (Maggard, 2005).

Obesity in India has attained epidemic proportions in the 21st century, with morbid obesity affecting 5% of the country's population (The Hindu, 2007). The endless raise in a number of overweight personalities is accompanied by a raise in many obesity-related ailments, including type II diabetes, hypertension, lipid disorders, or ischemia disease (WHO, 2016).

In 1946, the World Health Organization in its code defined health as a state of the whole physical, mental, and social well-being and not simply the nonexistence of disease or infirmity. Therefore, the modern concept of health also covers the quality of life, and a sense of health is one of its basic determinants. According to several authors, a sense of health is, actually, a primary condition determining a good quality of life. Amongst various complications related to obesity and overweight, apart from somatic diseases affecting function of individual organs and systems, their negative effect on the quality of life is increasingly often mentioned.

Patients are trying for body figure after huge weight loss establishes a rapidly growing patient group in plastic surgery practice. As growing numbers of bariatric surgical patients attain success, they are left with post-weight loss deformities of vague, ptotic skin envelopes and remaining adiposities that compose shape abnormalities (Schechner et al., 1991) (Fotopoulos et al., 2000). In addition to causing an intertriginous rash, hygiene exertions, and difficulties with movement, these deformations have the potential to induce personal distress concerning appearance. In 2003, 52,000 post-bariatric weight loss patients experienced body contouring, and a 36% raise was expected for 2004 (Song, 2006).

As body contouring practice experiences explosive expansion, there is a requirement for documentation of psychological, social, and functional characteristics of body contouring. The physical changes in appearance from these methods have been reported by various consultants (Hurwitz et al., 2008) (Young et al., 1991). However, quality of life and mental capacity of post-bariatric weight loss patients remain broadly unexplored areas. These topics require inquiry, so that we may accurately record relief of prior dysfunction with surgical treatment (Özgür et al., 1998). At the current time, we have not verified that surgical correction of these post-weight loss deformities can positively impact either quality of life or psychosocial function.

An earlier study of non-bariatric aesthetic patients revealed promising outcomes, indicating that at six months after the operation, the patients exhibited improved psychosocial function and self-confidence (Klassen et al., 1996). In aesthetic surgery, quality of life and body image constitute the most contributively aspects of patient satisfaction (Ching et al., 2003).

Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

A study was planned to analyze issues concerning effects of laparoscopic bariatric surgeries in patients operated for super obesity, with particular focus on the effect of surgical treatment on the psychological spectrum as well as quality of life of treated people.

Aim of the Paper

The aim of this paper was to analyze the bariatric surgery effect on the quality of life, considering the pre surgery clinical conditions and the weight loss rate.

MATERIALS AND METHODS

Study population

A group of 30 patients with morbid obesity were assessed for the study of quality of life. The referral sources of these patients were from other departments of Dr. Ram Manohar Lohia Institute of Medical Sciences (RMLIMS), Lucknow (India), newspapers, website, referred by other patients and few came directly. The group includes males and females, married and unmarried. The bariatric procedure at RMLIMS is a laparoscopic gastric sleeve. Out of 34 patients only morbid obese patients without any associated condition (n=2), patients having psychological distress (n=14), patients with hypertension (n=25), patients with diabetes type II (n=22), thyroid disorders (n=16), high cholesterol (n=12) and with pain and other conditions (n=31). The age of group lies between 28 years to 60 years. Exclusion standards were severe psychopathology (psychotic disorder, critical mood disorder), critical eating troubles, the risk of suicidal action, serious substance abuse, or severe cognitive dysfunction, all based on the psychological assessment. Four patients, three women and one man (with mean age 51.0 years), were excluded from this investigation due to severe mood disorder and severe eating disorder. These patients were getting poor clinical treatment, and we recommend an adequate treatment for these disorders before surgery. Hence, postoperative score on both psychiatric disorders and quality of life were available from 30 patients.

Assessment

Clinical history in detail was taken by psychologist covering medical details, emotional and social history, associated conditions and mental illness, etc. In pre-operative phase all patients were assessed by a team which includes Gastro Surgeon, Psychologist, and Dietician. Gastro Surgeon deals with the selection of surgery type and other medical conditions of the patient. Then face to face interviews by a psychologist to assess psychological issues and other relevant histories (author), dietician deals with the diet part at preoperative assessment. At follow-up after one year of surgery, the evaluation was done by face-to-face interviews or telephone interviews. Patients were interviewed by using SF-36 and filled in self-report at both preoperative assessments and follow-up one year after surgery.

Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

Health associated quality of life

Short Form Health Survey 36 (SF-36) is a properly authenticated self-rating questionnaire that estimates HRQOL. The SF-36 evaluates eight dimensions of health, each ranking from 0 to 100; higher scores express better fitness. The SF-36 includes 36 items that represent the following nine aspects of functioning: Physical Functioning (PF), Physical Role Limitation (RF/Phy), Emotional Wellbeing (EW), Energy, Bodily Pain, General Health (GH), Social Functioning (SF), Emotional Role Limitation (RF/Emo), and Health Change (HC). The efficacy of the Norwegian version of SF-36 has been tested and found competent, and norm data were collected from this Norwegian study.

Statistical methods

The mean values \pm SEM were calculated for each parameter. For determining the significant pre and post surgery difference in score of each parameter, we analyzed all parameters separately by using Wilcoxon signed rank test. Then the individual comparisons of the group mean values were done using 99% confidence interval ($p \leq 0.01$). All the analysis was carried out using IBM SPSS Statistics version of SPSS.

RESULTS

The study population comprised 30 patients, 17 women (56.67%) and 13 men (43.33%). The pre surgery average body mass of patients was found to be 133.4 kg, whereas after six months post surgery average body mass was calculated as 102.33 kg. The pre surgery mean BMI of patients was found to be 48.56 kg/m^2 and after one year post surgery mean BMI was determined as 37.23 kg/m^2 .

Pre surgery clinical observations suggested that 73.33 % patients were suffering from hypertension, 60% from Type-II diabetes, 33.33% from high cholesterol, 46.67 %, from thyroid disorders, 33.33 % from psychiatric issues and 93.33% patients were suffering from pain and other conditions. Post surgery clinical observations indicated a huge improvement in these clinical conditions. After one year of surgery only 53.33% patients were found to have hypertension, 40% patients had diabetes, 26.67% had high cholesterol and only 44.67% were left with pain and other conditions. No improvement was observed in the patients suffering from thyroid disorders.

Comparison of pre and post surgery data of individual parameter by Wilcoxon signed rank test suggested z values as -4.797 for physical functioning, -4.358 for physical role limitation, -2.533 for emotional role limitation, -4.22 for energy, -3.778 for emotional well being, -4.33 for social functioning, -3.847 for pain, -4.791 for general health and -4.597 for health change.

Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

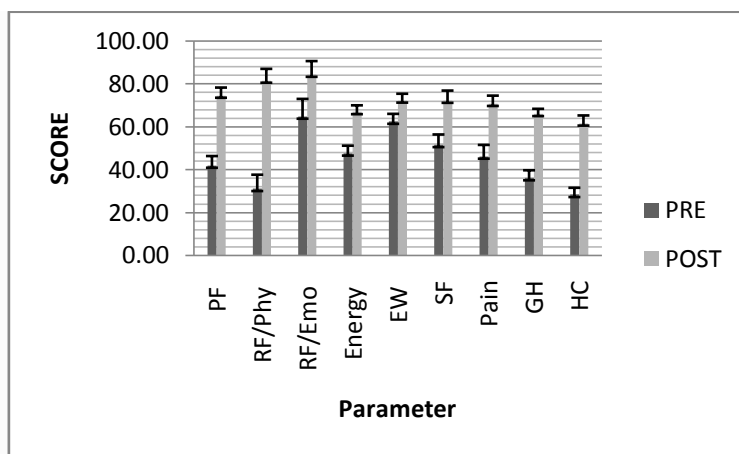
Since calculated values of z were beyond the critical values of z (-2.57 to +2.57) at 99% confidence level except for emotional role limitation (-2.533), therefore null hypothesis was rejected for all other parameters except RF/Emo. It revealed that there is significant difference between pre surgery and post surgery SF-36 parameters except emotional role limitation Table 1, Fig. 1.

Table 1: Comparison of different parameters of SF-36 (Pre and Post bariatric surgery)

Condition/Parameter	PF	RF/Phy	RF/Emo	Energy	EW	SF	Pain	GH	HC
Pre Surgery	42.00	31.13	64.89	47.67	62.50	51.63	46.23	36.15	28.33
	± 4.47	± 6.63	± 8.24	± 3.63	± 3.65	± 4.90	± 5.43	± 3.69	± 3.33
Post Surgery	74.67	81.67	84.44	67.00	72.40	72.30	70.83	66.11	61.67
	± 3.75	± 5.48	± 6.34	± 3.14	± 3.14	± 4.71	± 3.82	± 2.40	± 3.74

Values are mean ± SEM of 30 patients

Fig. 1: Comparison of different parameters of SF-36 (Pre and Post bariatric surgery)



Values are mean ± SEM of 30 patients

DISCUSSION

Obesity, as represented by a BMI > 30 kg/m², is a lifelong condition that is increasing in prevalence in adults, adolescents, and children. The WHO has reported it as a global disease (WHO, 2015).

Besides, obesity is a major risk factor for various comorbidities, covering cardiac disease, diabetes, high B.P., dyslipidemia, stroke, atherosclerosis, and particular types of malignancy (Collaboration, 2009). It is also connected with overall elevated mortality and drop in lifespan by 10 years (Fontaine, 2003). Obese people have an increased hazard of psychological distress,

Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

disordered eating, and spoiled health-related quality of life (HRQoL). As the severity of the obesity begins, so does the severity of the pathological complications and the death risk. This is remarkable because of severe or morbid obesity, described as BMI > 40 kg/m², is one of the most fast growing subgroups of obesity.

The current study, though confined, exhibited that bariatric surgery may also lead to significant psychological benefits in the population of all age groups. Recent investigations have reported enhancements in mental health (depression, anxiety, and self-concept) after 4 months of bariatric surgery and up to two years after surgery (Järholm et al., 2011). As with adults, alterations in mental health appear to parallel weight change and permanence, yet a subset of the patient group sustained health gains despite still being overweight or obese. Zeller et al. propose that a change in weight, reduction of comorbidities, or a patient's revitalized self-concept may override the patient's interest with actual weight status when assessing psychological health (Zeller, Reiter-Purtill, Ratcliff, Inge, & Noll, 2011).

CONCLUSION

On comparing pre and post bariatric surgery clinical conditions, we assessed that the body mass and BMI of patients opted for bariatric surgery reduced drastically. Out of 22 patients suffered from hypertension pre surgery, six got normal after one year of surgery. Out of 18 patients suffered from type II diabetes, six got normal after one year of surgery. Similarly a significant difference in mean values of SF-36 parameters was also observed. Outcomes of this study suggested a positive impact of bariatric surgery on quality of life of patients with morbid obesity.

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Conflict of Interests: The author declared no conflict of interests.

REFERENCES

- Ching, S., Thoma, A., McCabe, R. E., & Antony, M. M. (2003). Measuring outcomes in aesthetic surgery: A comprehensive review of the literature. *Plastic and Reconstructive Surgery*, *111*(1), 469–480. doi:10.1097/00006534-200301000-00085
- Collaboration, P. S. (2009). Body-mass index and cause-specific mortality in 900 000 adults: Collaborative analyses of 57 prospective studies. *The Lancet*, *373*(9669), 1083–1096. doi:10.1016/s0140-6736(09)60318-4
- Fontaine, K. R. (2003). Years of life lost due to obesity. *JAMA*, *289* (2), 187. doi:10.1001/jama.289.2.187

Effect of Bariatric Surgery on Psychosomatic Condition and Quality of Life of Patients with Morbid Obesity: A Study at Dr. RMLIMS, Lucknow

- Fotopoulos, L., Kehagias, I., & Kalfarentzos, F. (2000). Dermolipectomies following weight loss after surgery for morbid obesity. *Obesity Surgery, 10*(5), 451–459. doi:10.1381/096089200321593959
- Hurwitz, D. J., Rubin, J. P., Risin, M., Sajjadian, A., & Sereika, S. (2004). Correcting the Saddlebag deformity in the massive weight loss patient. *Plastic and Reconstructive Surgery*. doi:10.1097/01.prs.0000135862.83833.5f
- Järholm, K., Olbers, T., Marcus, C., Mårild, S., Gronowitz, E., Friberg, P., ... Flodmark, C.-E. (2011). Short-term psychological outcomes in severely obese adolescents after Bariatric surgery. *Obesity, 20*(2), 318–323. doi:10.1038/oby.2011.310
- Klassen, A., Jenkinson, C., Fitzpatrick, R., & Goodacre, T. (1996). Patients' health related quality of life before and after aesthetic surgery. *British Journal of Plastic Surgery, 49*(7), 433–438. doi:10.1016/s0007-1226(96)90025-9
- Maggard, M. A. (2005). Meta-Analysis: Surgical treatment of obesity. *Annals of Internal Medicine, 142*(7), 547. doi:10.7326/0003-4819-142-7-200504050-00013
- Özgür, F., Tuncali, D., & Güler Gürsu, K. (1998). Life satisfaction, self-esteem, and body image: A psychosocial evaluation of aesthetic and Reconstructive surgery candidates. *Aesthetic Plastic Surgery, 22*(6), 412–419. doi:10.1007/s002669900226
- Schechner, S. A., Jacobs, J. S., & O'Loughlin, K. C. (1991). Plastic and Reconstructive body contouring in the post-vertical banded Gastroplasty patient: A retrospective review. *Obesity Surgery, 1*(4), 413–416. doi:10.1381/096089291765560827
- Song, A. Y., O'Toole, J. P., Jean, R. D., Hurwitz, D. J., Fernstrom, M. H., Scott, J. A., & Rubin, P. J. (2006). A classification of contour deformities after massive weight loss: Application of the Pittsburgh rating scale., *20*(1), Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2884754/>
- WHO. (2015, September 30). Obesity: Preventing and managing the global epidemic. Retrieved March 1, 2017, from World Health Organization, http://www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/
- Young, S. C., & Freiberg, A. (1991). A critical look at abdominal lipectomy following morbid obesity surgery. *Aesthetic Plastic Surgery, 15*(1), 81–84. doi:10.1007/bf02273838
- Zeller, M. H., Reiter-Purtill, J., Ratcliff, M. B., Inge, T. H., & Noll, J. G. (2011). Two-year trends in psychosocial functioning after adolescent Roux-en-Y gastric bypass. *Surgery for Obesity and Related Diseases, 7*(6), 727–732. doi:10.1016/j.soard.2011.01.034

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