Obesity Surgery (2019) 29:739–743
https://doi.org/10.1007/s11695-018-3599-8

BRIEF COMMUNICATION

Psychological Support and Well-being in Post-Bariatric Surgery Patients

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Published online: 17 November 2018

Abstract

Bariatric surgery research has focused predominantly on weight loss outcomes and complications of surgery in relation to the type of surgical procedure. The psychological impact of having bariatric surgery has received less attention. This study investigated whether patients who receive psychological counselling have better physical and mental well-being post-bariatric surgery. Eighty-eight persons (81 female, 7 male, *M* age 43.99 years) who had undergone weight loss surgery were recruited from bariatric surgery and obesity online support groups to answer an electronic survey which included the Health Survey Short Form (SF-12) to assess *mental* and *physical* well-being. Patients who had attended ≥ 6 counselling sessions after gastric sleeve surgery had better *physical* well-being, compared to those who attended < 6 sessions. Patients who attended between one and four psychological counselling sessions had significantly higher mental well-being. Psychological support for the mental health needs of obese patients post-surgery requires more attention.

Keywords Bariatric surgery · Psychological counselling · Mental well-being · Physical well-being

Introduction

Bariatric or weight loss surgery is currently the leading treatment of obesity. With excess weight loss (EWL) between 30 and 50% in the first year [1, 2], it is no wonder this option is becoming increasingly popular. This initial weight loss is promising, however as longitudinal research shows most patients regain some weight over time. A 10-year follow-up of patients after Roux-en-Y bypass surgery indicated that 41% had regained weight [3]. In an 11-year follow-up of 107 patients who had undergone laparoscopic adjustable gastric banding, 32 still had a BMI over 30 kg/m^2. Only 11% achieved satisfactory %EWL. Twenty-two percent of patients regained weight or even exceeded their original weight [4]. Furthermore, in an 18-year follow-up study of laparoscopic adjustable gastric banding, late complications, weight regain and intolerance lead to band removal in nearly 50% of patients over time [5].

Obese persons who elect to have bariatric surgery often have lower quality of life and co-morbid psychological conditions of depression, anxiety and disordered eating [2, 6] compared to their non-surgery counterparts, which necessitates a multidisciplinary approach to treatment including doctors, nutritionists and psychologists. Post-operative weight loss is associated with less depressive symptoms [6], while those who re-gain weight have been found to have clinical depression as measured by the Hospital Anxiety and Depression Scale [7]. Patients who unrealistically expect their life to change after surgery are the most disappointed and may be at risk of depression as a result of their expectations not matching their reality [8].

Research which has assessed the quality of life (QoL) in bariatric patients generally indicates improvements in well-being from baseline to post-surgery regardless of the type of surgical procedure [9–11]. The percentage total weight loss has been found to be positively correlated with QoL at 24 months [12]. Psychological well-being beyond 24 months when weight regain may occur has not been explored. Psychological consultations before surgery [13] and the standard post-operative follow-up assessment of more than 6 sessions [14] appear to have a positive effect on patients' weight

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loss success. Whether post-operative well-being is higher for patients who receive psychological counselling following surgery remains under-researched. Accordingly, the aim of this study was to investigate whether patients who receive a certain number of counselling sessions have better *mental* and *physical* well-being post-bariatric surgery.

Methods

Participants Eighty-eight bariatric surgery patients (7 male, 81 female, *M* age 43.99 years, age range 24–65) were recruited via an online survey. Bariatric surgery and obesity support groups were targeted and Australian and US sites were used. The mean BMI for the sample before surgery was 47 kg/m^2 (SD = 9.2) and post-surgery was 33.43 kg/m^2 (SD = 10.53). The inclusion criteria for the study were that the participants had undergone one of the bariatric surgeries: gastric sleeve, gastric band or gastric bypass.

Most had undergone bariatric surgery in the last 10 years with 58% opting for the gastric sleeve surgery.

Instruments The Health Survey Short Form (SF-12) [15] assesses *physical* and *mental* health components of well-being and is a reliable and well-validated measure. There are 12 questions in the SF-12 which assess a person's feelings relating to their health and any limitations on their work, social and everyday activities due to either physical problems, pain or emotional problems in the last 4 weeks. Responses are reported using the Likert scales of frequency of limitations from 'none of the time' (5) to 'all of the time' (1) or as 'yes' (1) and 'no' (2) responses.

Additional questions asked about type of weight loss surgery, date of surgery, weight before surgery, whether they had had psychological counselling of any kind (yes/no) and, if so, the number of sessions attended. A psychological counselling session was defined as a professionally facilitated session incorporating health-related, emotional, developmental and social concerns. Demographics, current weight and height to calculate BMI were also collected.

Procedure The data was collected via an online survey and was analysed using *t* tests to assess mean differences on the dependent variables of *physical* and *mental* well-being. The results of the survey were analysed using SPSS software version 23.

Results

The analysis of the study focussed on the number of psychological counselling sessions attended in relation to well-being score post-bariatric surgery. The number of psychological counselling sessions was analysed for the total 88 participants with sessions ranging from 0 to 38 ($M = 2.92$) per person. When the group as a whole was considered, there was no significant difference between those who had received psychological counselling and those who had not in regard to their well-being scores. Participants who underwent gastric sleeve surgery ($n = 51$) had attended the largest number of sessions ($M = 3.54$) and participants who opted for the gastric band ($n = 15$) had the least amount of counselling sessions ($M = 1.33$). Figure 1 shows the number of counselling sessions attended for participants who underwent each kind of surgery.

Only around 15% had undergone more than 6 sessions of counselling post-surgery ($n = 13$). Results for the gastric sleeve group revealed significantly higher *physical* well-being scores (PCS) for patients who attended more than 6 sessions of counselling ($M = 51.26$, SD = 8.99) reporting increases of some 9.79 higher, 95% CI [4.05, 15.53] than the participants who attended less than 6 sessions (($M = 41.47$,

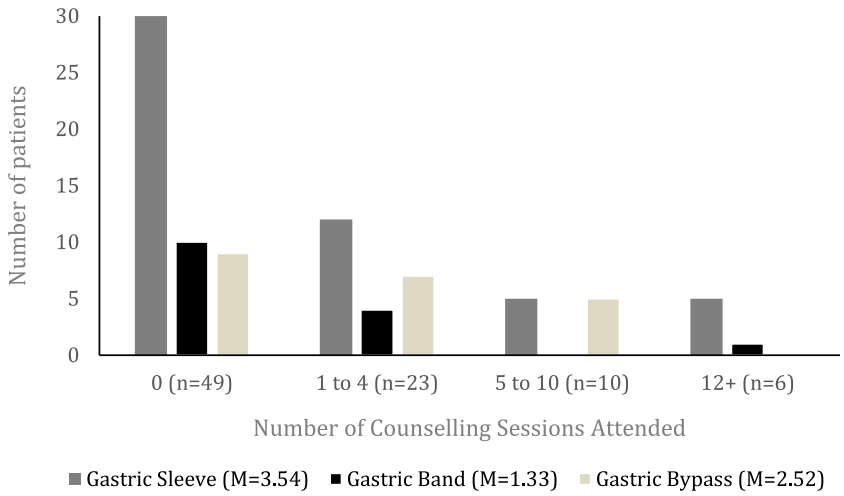

Fig. 1 Number of counselling sessions attended and type of surgery of participant including mean number of sessions per surgery type

Table 1 Mean differences between type of surgery and SF12 score for patients who attended more than 6 psychological sessions and those who did not

	SF-12 physical component score (PCS)		SF-12 mental component score (MCS)	
	M	SD	*M*	SD
Type of surgery				
Gastric sleeve				
More than 6 sessions (n = 8)	51.26	8.99	46.77	4.17
Less than 6 sessions (*n* = 44)	41.47	7.14	46.76	6.19
t test	3.42		0.004	
p	.001		.997	
Gastric banding				
More than 6 sessions (*n* = 1)	39.82	–	56.0	–
Less than 6 sessions (*n* = 14)	45.55	3.57	44.12	6.35
t test	− 1.54		1.80	
p	.140		.094	
Gastric bypass				
More than 6 sessions (n = 4)	42.81	10.52	41.84	12.03
Less than 6 sessions (*n* = 17)	40.58	6.05	46.83	7.60
t test	0.577		− 1.06	
p	.571		.302	

SD = 7.14), $t(50) = 3.42$, $p < .05$, .001 two-tailed, $d = 7.41$). The bypass group showed no significant differences in relation to *physical* and *mental* well-being scores in any group comparisons, nor did the gastric band group. Results are shown in Table 1.

By completing an analysis of groups based on the number of sessions attended regardless of type of surgery, results revealed a significantly higher *mental* health component score (MCS) for the one to four counselling session group ($M = 49.02$, SD = 6.12) reporting scores of 4.28, 95% CI [− 7.47, − 1.08] higher than the group who had no psychological counselling (($M = 44.74$, SD = 6.44), $t(70) = -2.67$, $p < .05$, .009 two-tailed, $d = 6.34$). As can be seen from Fig. 2, participants who attended between one and four psychological counselling sessions had a higher mental well-being score. Those who did not have any psychological counselling had the lowest mental and physical well-being score. Those who attended between 5 and 10 sessions had a mean MCS of 45.6 and a mean PCS of 43.8. Participants who had attended more than 12 sessions had a mean MCS of 48.83 and a mean PCS of 48.05 as seen in Fig. 2.

Discussion

It was expected that participants who attended more than 6 psychological counselling sessions post-bariatric surgery may show higher well-being scores in both their *physical* and

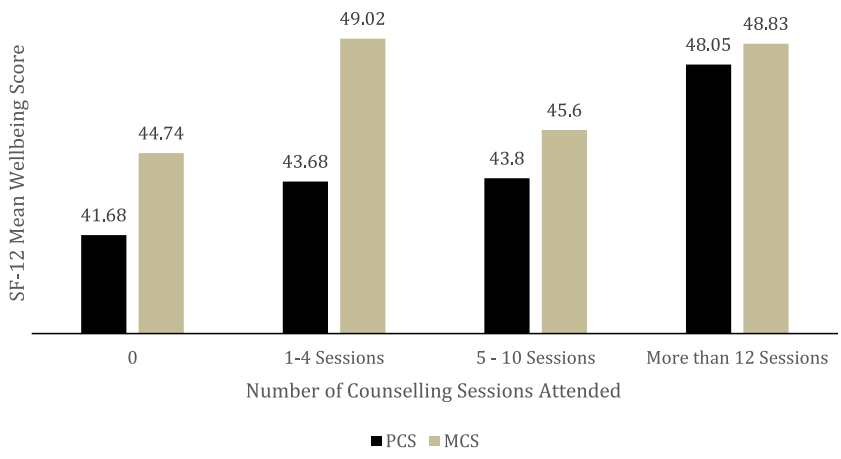

Fig. 2 Number of counselling sessions attended and SF-12 mean wellbeing scores for group

mental health, compared to those who had attended less than 6 sessions. When the group ($n = 88$) was analysed as a whole, there was no difference on well-being scores if a participant attended 6 sessions or less; however, the gastric sleeve patients showed a significantly higher *physical* well-being score if they had attended more than 6 psychological counselling sessions, meaning that their physical functioning, pain level and movement were better than the group who attended less than 6 sessions.

In research by Shen et al. [14], it was reported that gastric band patients who attended more than 6 standard post-operative follow-up consultations lost more weight than those who did not. The current findings add to this research by indicating a higher *physical* well-being score after 6 counselling sessions. Patients reported less limitations in everyday activities, work and social activities due to pain or physical problems.

Furthermore when the group was analysed by number of sessions, results revealed participants who had attended between one and four sessions ($n = 23$) had significantly improved *mental* well-being scores. Those participants who had not attended any sessions had the worse *mental* and *physical* well-being. Weight loss is most likely to occur in the first 2 years post-surgery [1, 3–5] with weight re-gain over time being associated with diminished *mental* well-being [12] and the need for psychological counselling. As the current study only assessed the number of counselling sessions attended rather than the timeframe within which the sessions occurred, the lower *mental* well-being for the 5–10 sessions group (see Fig. 2) may be due to the reduced impact of these sessions if they were spaced out over time. Future longitudinal research could explore these issues and whether counselling impacts on psychological well-being when weight regain occurs.

Some limitations of the study should be acknowledged and future directions for research proposed. The sample for this study was predominantly female. Women (79%) are more represented amongst bariatric surgery patients than men [16]. Future research could examine whether females are more likely to seek counselling after surgery and the benefits of counselling to both obese males and females. Cultural factors in relation to access to and type of psychological counselling post-surgery can also be examined in future research.

While data was collected on the number of counselling sessions attended since surgery, we do not know the specific timeframe within which the sessions took place, nor do we know the type of counselling received. Future research could use a randomised clinical trial to assess the effects of specific types of psychological counselling on well-being and weight loss maintenance. Despite these limitations, this study is an important precursor to further investigation on the effectiveness of standardised counselling sessions after bariatric surgery.

Conclusions

Psychological counselling even if minimal appears to benefit the well-being of bariatric patients. Therefore, it is suggested that psychological counselling sessions be considered as part of the treatment plan. Future research needs to identify the types of psychological counselling which are most therapeutic for well-being and successful weight loss maintenance.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval Statement As this is a retrospective study, for this kind of study, formal consent is not required.

Statement of Informed Consent Does not apply.

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