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Original article

Patient expectations of bariatric surgery are gender specific—a prospective, multicenter cohort study

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Abstract

Background: The effect of bariatric surgery on weight loss and improvement of co-morbidities is no longer doubted. However, little attention has been given to the treatment goals from the patient's point of view (patient expectations). The objective of this study was to examine patients' expectations of bariatric surgery and identify gender differences.

Methods: Bariatric patients were asked to complete a questionnaire. Statistical analysis was performed using chi-square, Pearson correlation coefficient, and Wilcoxon rank sum test.

Results: Overall, 248 patients participated in this study (69.4% females). The male patients (45.2 yr, SD ± 11.1) were significantly older than the female (41.8 yr, SD ± 12.0; $P = .04$) and suffered significantly more often from diabetes, hypertension, hypercholesterolemia, and sleep apnea. One hundred thirty patients (52.4%) expected to lose at least 45 kg and 39 patients (15.7%) > 70 kg. The mean expected excess weight loss was 71.8%. Females expected significantly more often that surgery alone would induce weight loss ($P = .03$). "Improved co-morbidity" was by far the highest ranked parameter.

Conclusion: The male bariatric surgery patients were older and suffered from more co-morbidities. Most of the patients had unrealistic weight loss goals and overestimated the effect of the surgical intervention. However, for both female and male patients, "improved co-morbidity" was the most important issue. (Surg Obes Relat Dis 2014;▮:00–00.)

Keywords: Bariatric surgery; Patient expectations; Weight loss goals; Gender differences; Co-morbidity

The positive effects of bariatric surgery on weight loss and obesity-related co-morbidities, such as diabetes or hypertension, are no longer doubted [1–7]. Bariatric surgery may even significantly improve overall patient survival and reduce cancer incidence among female patients in particular [8–10]. In addition, surgery can be performed safely with regard to morbidity and mortality [11–13] and has proven effective in bringing about diabetes remission that surgeons now perform operations such as gastric bypass on patients with type 2 diabetes and a body mass index (BMI, kg/m^2) of <35 kg/m^2 for this purpose alone [14–20]. The field of bariatric surgery is still evolving. However, gastric bypass and sleeve gastrectomy are the most commonly performed procedures, both worldwide and in Germany, because of their positive risk/benefit correlation [21–28].

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The clinical efficacy of bariatric surgery is mostly measured by "hard" endpoints such as weight loss and the reduction of obesity-related co-morbidities. The patient's perspective, however, including his/her treatment goals and expectations, has received less attention in the literature. The issues most important to patients can be identified and scientifically analyzed by using an approach called ranking [29–32]. Knowledge of patients' expectations has been shown to affect clinical outcome [29,33–35]. While studies on this subject have been completed [36–40], most focus on weight loss or examine only female or male patients [41–44]. The goal of this study was to measure the expectations of both male and female patients and identify possible gender differences.

Methods

Bariatric patients were invited to complete a questionnaire about their expectations. Patients were deemed eligible for bariatric surgery according to the most recent S3 German guidelines. To qualify, the patients must have exhausted conservative treatment for at least 6 months, undergone a psychosomatic and endocrinologic evaluation, have a BMI of >35 kg/m^2 with at least 1 co-morbidity such as diabetes mellitus, hypertension or sleep apnea, or a BMI of 40 kg/m^2 or more. Generally, insurance companies agree to cover a surgical intervention, but in most cases not for a certain procedure such as sleeve gastrectomy or gastric bypass. Eligible patients are provided with comprehensive written information regarding the risks and benefits of procedures performed at each center. However, no standardized preoperative education was used during this study.

This study was performed in 3 bariatric centers: Schön-Klinik Hamburg, Städtisches Klinikum Karlsruhe, and University Hospital Heidelberg. There was no screening list, so the number of patients asked to participate, those who declined participating, and their reasons for doing so, were not systematically recorded. Thus, it was not possible to calculate the "random ratio" or the "enrollment fraction" (proportion of screened to included patients). Furthermore, they were not asked which procedure (for instance sleeve gastrectomy or gastric bypass) they were to receive.

The questionnaire (Fig. 1) was developed by Mari Hult (Karolinska Institute, Sweden), Anne Juuti (Helsinki University Hospital, Finland), Signe Röstad (Oslo University Hospital, Norway), Lars Fischer (Department of Surgery, University Heidelberg, Germany), Wouter te Riele (AMC Hospital Amsterdam, Belgium), Kai Orava (Seinäjoki Hospital, Finland), Timo Heikkinen (Oulu, Hospital, Finland) and Rune Sandbu (Morbid Obesity Center Tønsberg, Norway), during the second postgraduate training course of the European Obesity Academy and in collaboration with endocrinologists, psychiatrists, and statisticians. The questionnaire was prepared in English but, to check the translation, the initial questionnaire was translated into German and then retranslated into English by a native English speaker. The translation was thought to be adequate, as the 2 English versions differed only slightly.

The questionnaire consisted of 3 parts. In the first part, patients were asked to provide medical and socioeconomic data such as height, weight, age, educational status, profession, and co-morbidities. The second part asked them to describe their treatment goals in terms of both weight loss and the effect they expected surgery to have. In addition, they were asked to select drawings standardized according to Bulik et al. [45] (permission to use the drawings was obtained) that they considered representative of their bodies before and after weight loss. In the third part, ranking parameters were presented in a randomized fashion. Based on the lessons learned from the POVATI trial [31], part 3a of the questionnaire was designed to prevent systematic errors; i.e., the randomized ranking parameters were rated in importance on a 5-point scale from 1 (not important) to 5 (very important). Because it was anticipated that many parameters would be ranked as very important (i.e., with 5), in part 3b, patients were asked to indicate which of the 14 issues were the highest, second highest, and third highest priority.

In a pilot study, the questionnaire was tested with 10 patients for comprehensibility and ambiguity. Neither during the pilot phase nor during the study itself did any patients make recommendations concerning the comprehensibility or ambiguity of the questionnaire.

In the analysis of the responses, the results in part 3a of each parameter were evaluated. In addition, a scoring system was used in part 3b, where the most important parameter was given 3 points, the second most important 2 points, and the third most important 1 point. The scores were added to determine the order of importance among the ranking parameters.

Ethical approval (S-618/2011) was obtained from the institutional review board, also known as ethical review board.

To describe the empirical distribution of continuous parameters, the weighted means and minimum and maximum values were calculated. The distribution of categorical parameters was described by absolute and relative frequencies (count and percentage). Possible differences were analyzed using chi-square, Wilcoxon rank sum test, and Spearman correlation coefficient. Excess weight loss (EWL) was calculated using the formula "(initial BMI - final BMI)/(initial BMI - 25) $\times$ 100" based on the "weight" and "height" as stated in part 1 of the questionnaire and the "expected weight loss" provided by the patients according to the question: "How many kilograms do your expect to lose after surgery?" in part 2 of the questionnaire. All patients were asked to state weight related values in kilograms (1 kg = 2.205 lb).