

Original article

Bariatric surgery in young adults: a multicenter study into weight loss, dietary adherence, and quality of life

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Abstract

Background: Numerous studies have demonstrated that bariatric surgery is an effective intervention for morbid obesity, but study samples are characterized by an underrepresentation of young adult patients.

Objectives: The aim of this study was to evaluate weight loss, dietary adherence, and quality of life (QoL) in a multicenter, young adult sample, in the first 6 years after bariatric surgery.

Setting: Four general hospitals in the Netherlands.

Methods: A total of 184 young adult patients who underwent bariatric surgery between 6 and 74 months previously at the age of 18 to 24 years were included, interviewed by phone, and sent questionnaires assessing postoperative weight, QoL, and lifestyle behaviors including dietary adherence. Complete data were available for those 96 patients who returned the questionnaires.

Results: Mean percent weight loss was 30.2 (SD 10.7) for laparoscopic sleeve gastrectomy and 35.6 (SD 6.9) for laparoscopic Roux-en-Y gastric bypass. Adherence to postoperative dietary recommendations declined over the years ($r = -.25$, $P = .02$) and explained 8.3% of the variance in weight loss ($r = .29$, $P = .005$). QoL scores lagged behind national norms for young adults and were largely unrelated to weight loss. A quarter of patients (25%) turned out to be not in education, employment, or training and 38% had used mental healthcare services since surgery, which occurred independent of weight loss and concurred with poorer QoL.

Conclusion: Young adult patients achieve weight loss comparable to adult patients after bariatric surgery. However, postoperative adherence to behavioral recommendations and psychosocial functioning clearly demonstrate room for improvement and require adjunctive interventions. (Surg Obes Relat Dis 2017;13:1204–1211.) © 2017 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Keywords:

Bariatric surgery; Gastric bypass; Sleeve gastrectomy; Young adults; Weight loss; Quality of life; Psychosocial functioning; Dietary adherence

Bariatric surgery has proven to be an effective intervention for morbid obesity [1], with patients losing around 30% of their total weight [2]. Over the past decade, there has been an increase in the use of bariatric surgery in

adolescents and young adults [3,4]. In adolescents, bariatric surgery has been shown to produce favorable results [5]. For young adults, outcomes are as yet unclear because adult study samples are characterized by an underrepresentation of young adult patients. Studies that included young adults along with adolescents [4,6,7] are characterized by small sample sizes and short follow-up periods of 12 to 24 months. A recent Cochrane review [1] points to the lack of evidence on the effectiveness of bariatric surgery in

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younger adults and argues for more studies in this age group.

In addition, there is a need for a better understanding of determinants of individual differences in weight loss. Although weight loss is generally substantial in bariatric surgery patients, an estimated 20% of patients show less improvement postoperatively [8]. In the search for possible predictors of weight loss after surgery, adherence to postsurgery behavioral recommendations emerged as factor of significance [9,10]. In younger patients, adherence to behavioral guidelines may be of special importance. Bariatric surgery can be viewed as “forced behavior modification” during the first postoperative years, but over the long run, the patient’s ability to voluntarily comply with a dietary regimen becomes crucial in maintaining weight loss [11,12]. This might prove challenging in the turbulent young adult life stage. Indeed, younger age predicts poor attendance to follow-up care [13], and young adults’ compliance with clinical follow-up care already decreases in the first 2 postoperative years [14].

Although weight loss and health gains are primary objectives of bariatric surgery, improving quality of life (QoL) and psychosocial functioning is an important secondary aim. Young adults with obesity have been shown to have reduced physical [15] and mental [16] QoL, reduced educational attainment, decreased earning potential, and greater likelihood to stay single [17]. As these patients develop into the adult life stage, bariatric surgery should ideally steer QoL in a more positive direction, toward more fulfilling levels of functioning. The present study will examine weight loss in a multicenter young adult sample, up to 6 years after bariatric surgery. Dietary adherence following surgery will be evaluated as a possible predictor of weight loss. In addition to examining weight loss as an outcome measure, QoL and psychosocial functioning following surgery will also be assessed.

Methods

A multicenter, cross-sectional study was conducted from September 2014 to March 2016. Four hospitals in the Netherlands participated in the study. Permission to conduct the study was obtained from the local institutional review boards. The study population consisted of all patients who underwent bariatric surgery at the age of 18 to 24 years in one of the participating hospitals in the past 6 years. Patients who underwent surgery <6 months previously were excluded, as were patients who underwent revisional surgery. The age range was selected in accordance with age range criteria for young adulthood as employed by both Dutch and U.S. federal statistical agencies [18].

Patients were first informed in writing about the study and were then approached by phone to solicit their participation. Five attempts were made to reach patients

by phone. Upon agreement to participate, data on height and preoperative weight were collected from the patient’s medical record. Each participant was then scheduled for a structured interview by phone and sent questionnaires by post. Written informed consent was obtained from all participants included in the study.

Measurements

By means of a structured interview by phone, data were collected on satisfaction with the results of surgery (scale 1–10), complications after surgery, follow-up care, medical and mental healthcare consumption since surgery, self-rated QoL (scale 1–10), stressors since surgery, alcohol consumption, relationship status (having a partner/not having a partner), and education/employment status (being in education or employment/not being in education or employment). With regard to patients’ relationship status, comparisons were made with figures from a population study among young adults [19]. With regard to patients’ education/employment status, comparisons were made with figures on the number of young adults not in education employment or training (NEET) in the general population [20]. The NEET indicator is measured regularly in population studies as an indicator of the transition from education to work and of youth unemployment [20].

A self-composed lifestyle questionnaire, based on a questionnaire in use nationally for screening patients for bariatric surgery, was used to establish patients’ dietary and exercise habits. Questions focus on adherence to dietary guidelines (scale 1–10), frequency of eating fatty and high-caloric meals, amount of exercise per day, and TV/computer time per day. Regarding adherence to dietary guidelines, the cut-off score for discriminating sufficient from insufficient adherence was set at 6, in line with the Dutch grading system in education.

QoL was assessed using the Dutch version [21] of the Short Form Health Survey (SF-36) [22]. This instrument measures QoL and daily functioning, based on the World Health Organization definition of health that focuses on 3 dimensions: physical, mental, and social health. Support for the reliability and validity of the SF-36 has been documented for both the English version [23,24] and the Dutch version [21]. The SF-36 consists of 8 scales: physical functioning, physical role functioning, bodily pain, general health, vitality, social role functioning, emotional role functioning, and mental health. Responses on each scale are transformed to scores ranging from 0 to 100, with a higher score indicating better health status. Patients’ QoL scores were compared to both national [21] and US norms [25].

To determine postoperative weight, participants received a form with instructions how to measure their weight at home (during daytime, with clothes, without shoes). Although trends of underreporting weight in studies using

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