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Integrated Health Article

Associations between psychological test results and failure to proceed with bariatric surgery

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Abstract

Background: The reasons why some patients who begin the presurgical process for bariatric surgery fail to complete the procedure are understudied. Previous research implies that psychological factors play a role.

Objectives: To examine whether scores from baseline psychological testing incrementally predict failure to proceed with bariatric surgery beyond demographic information in patients' medical charts and data derived from a clinical interview.

Setting: Cleveland Clinic Bariatric and Metabolic Institute.

Methods: The sample (n = 1160) was mainly female (72.41%), middle aged (mean age = 46.07 yr, SD = 11.70) and of Caucasian descent (65.76%). Hierarchical logistic regressions were conducted to test the incremental validity of baseline Minnesota Multiphasic Personality Inventory-2 Restructured Form scores after controlling for information gathered from the psychological interview and medical charts. Relative risk ratios were calculated to reflect the clinical utility of the results.

Results: In total, 27.16% of patients failed to proceed with bariatric surgery after 1 year or more after a recommendation for surgery from their psychological evaluations. Psychological test scores were substantially associated with failure to proceed with surgery and significantly accounted for up to 6% of additional variance after controlling for psychological interview variables and medical chart data. Elevated scores on Minnesota Multiphasic Personality Inventory-2 Restructured Form scales, such as anxiety and substance use, identify patients at up to 2.5 times greater risk for failing to proceed with bariatric surgery.

Conclusions: Objective psychological test data—notably, scale scores assessing for substance abuse, anxiety, and demoralization—add to information obtained from a clinical interview and medical records in identifying patients at risk for failing to proceed with bariatric surgery. (Surg Obes Relat Dis 2016;▮:00–00.)

Keywords: Obesity; Bariatric; Psychology; Assessment; Incremental validity; Dropout

Bariatric surgery can provide a number of significant benefits for patients with obesity [1]. However, for reasons that are not well understood, only .4% of nearly 2 million individuals in the United States who are medically eligible undergo the procedure [2]. Some impediments include the

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invasiveness of surgery, potential surgical risks and complications, irreversibility of the surgical intervention, physicians who may not present it as a viable treatment option, and lack of insurance coverage [3–5]. Even less is known about why patients who enter a presurgical program and are not denied surgery fail to proceed with bariatric surgery.

Rates of patients failing to proceed with surgery after beginning the presurgical evaluation process vary considerably across programs, with some sites reporting that as many as 60.6% of patients who begin the presurgical program fail to proceed with surgery [6–10]. Findings across these studies indicate that psychopathology is a better predictor of failure to proceed with bariatric surgery than are medical factors. In one study, Merrell et al. [7] reported that the most common reasons for failing to obtain bariatric surgery were insurance denial (24.8%), outstanding program requirements (17.1%), self-cancelled surgery (7.8%), switch to nonsurgical weight management (7.8%), patients moving out of the area (3.1%), and death (1.6%). These rates were similar to those reported in another study [8]. Analyses of patients with outstanding program requirements in the Merrell et al. study indicated that patients who were taking psychotropic medications, met criteria for a substance use disorder, had a history of at least 1 psychiatric inpatient hospitalization experience, and had a lower body mass index (BMI) were less likely to proceed with having bariatric surgery [7]. On the other hand, another study suggested that a lower BMI yielded better odds of proceeding with bariatric surgery [9]. Sockslingam et al. reported that anxiety-related and substance-related disorders were more common in patients who participated in a presurgical assessment program for bariatric surgery but failed to proceed with the recommended procedure [10]. Active substance use also yielded lower odds for proceeding with surgery in one study [9], whereas greater hostility was associated with not proceeding with surgery in another [11]. Similarly, higher levels of anxiety regarding surgery, as well as a preference for nonsurgical weight loss, no history of dieting, and late onset of obesity, were all predictors of not proceeding with surgery [12].

Identification of psychological and behavioral factors (specifically anxiety-related symptoms and substance use) as predictors of failure to proceed with bariatric surgery suggests that information about psychopathology obtained in a presurgical psychological evaluation may assist in identifying patients in need of bariatric surgery who are at risk for not completing it. These individuals may benefit from an intervention designed to increase the likelihood that they will proceed with surgery. Psychological evaluations are recommended before patients proceed with bariatric surgery, both to identify contraindications that may impede surgical outcomes if unattended, and, relatedly, whether patient outcomes can be enhanced with presurgical treatment or targeted postoperative care [13,14]. Objective psychological assessments (e.g., Minnesota Multiphasic Personality Inventory-2 Restructured Form [MMPI-2-RF] [15,16]), Personality Assessment Inventory [17,18]) are often recommended in conjunction with clinical interviews and medical chart reviews. Psychological testing findings have been shown to provide incrementally helpful information beyond what can be found in patients' medical charts or gathered from clinical interviews [19]. In particular, the MMPI-2-RF has demonstrated incremental utility and feasibility for use in bariatric surgery evaluations. A comprehensive review of the performance of psychological assessment instruments (including the MMPI-2-RF) when used for bariatric surgery evaluations has recently been published [20]. In summary, it is recommended that bariatric surgery evaluations include a broadband instrument with validity indices.

The purpose of the current investigation is to examine whether MMPI-2-RF scores can predict failure to proceed bariatric with bariatric surgery and do so incrementally, beyond chart and interview data. It was hypothesized that the psychosocial factors identified by Merrell et al. [7], with additional data sources obtained at the same setting, would be associated with failure to proceed in a second, larger sample. Based on the literature just reviewed, we expected that measures of anxiety-related symptoms and substance use would yield the strongest findings. Specifically, we hypothesized that higher presurgical MMPI-2-RF scores in the domains of psychological distress, anxiety, and behavioral disinhibition would predict the likelihood that individuals would not proceed with surgery. Although the MMPI-2-RF has a scale specific to substance use, many of the items that appear on the substance abuse scale are face valid and likely to be underendorsed in this setting [21]; therefore, a broader set of scales that reflect dimensions of behavioral disinhibition were selected for analyses. We also hypothesized that interpersonal functioning would predict failure to proceed with surgery. For example, higher scores on MMPI-2-RF scales, such as family problems, raise the specter of insufficient spousal support, ongoing familial conflict, or possible disagreement within the family about the patient's choice to obtain bariatric surgery. Also, based on prior findings, we hypothesized that MMPI-2-RF measures of psychological distress, anxiety, and behavioral disinhibition would incrementally predict failure to proceed with bariatric surgery above and beyond clinical interview and medical chart review data.

Methods

Participants

Our initial sample included 1311 consecutive and patients who consented to the study and underwent a pre-presurgical psychological evaluation, which included a semi-structured, psychodiagnostic interview and the MMPI-2-RF. Of these individuals, we excluded 43 patients