



A Review of Psychosocial Risk Factors Among Transgender Patients Seeking Bariatric Surgery

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Abstract

As nearly one third of transgender individuals in the USA are obese, more transgender patients may pursue bariatric surgery as a means of sustaining weight loss. Transgender individuals, like bariatric surgery patients, have high rates of mood pathology, substance use, abuse, and self-harm behaviors. However, there is no research on transgender bariatric surgery candidates. The aim of this review is to elucidate potential psychosocial risk factors, including sex hormone management, which may impact surgical clearance, presurgical psychosocial assessment, and treatment recommendations.

Keywords Bariatric surgery · Transgender · Psychosocial factors

Introduction

The term transgender refers to “individuals who transiently or persistently identify with a gender different from their natal gender” whereas “cisgender” refers to people whose gender identity aligns with their sex at birth [1, 2]. A survey of adults across the USA and Guam found 28.16% of transgender people have a body mass index (BMI) in the obese range ($> 30 \text{ kg/m}^2$), similar to rates of obesity (30.43%) among cisgender people [3]. Although rates of obesity appear to be relatively similar among transgender and cisgender individuals, less than 1% of individuals seeking bariatric surgery identify as lesbian, gay, bisexual, or transgender (LGBT) [4]. Considering the dramatic rise in severe obesity in the USA [5], coupled with an increase in the number of people undergoing bariatric surgery [6], there will likely be an increased prevalence of transgender individuals seeking surgical weight loss.

A presurgical psychological evaluation is a standard part of the recommended work-up for those seeking bariatric surgery [7]. At minimum, a psychological evaluation for bariatric

surgery should include an assessment of psychological health and functioning including eating behaviors and weight history, substance use, social support, decision-making capacity, and ability to adhere to postsurgery lifestyle behaviors [7–9]. Presently, there is a dearth of research on transgender individuals seeking bariatric surgery, and a review of potential psychosocial risk factors may help to inform psychological assessment in this population.

The aim of this review is to highlight presurgical psychosocial risk areas among transgender individuals and bariatric candidates in order to better inform assessment and treatment recommendations for providers caring for transgender individuals seeking bariatric surgery. In service of this goal, we will discuss areas of potential psychosocial risk among transgender individuals seeking bariatric surgery including gender dysphoria, sexual abuse, depression and anxiety, suicidal ideation and self-harm, substance use, and hormonal management. Additionally, the review will highlight several ways in which the psychosocial needs of transgender bariatric surgery candidates are unique from cisgender individuals and recommended assessment strategies for providers.

Gender Dysphoria

Gender dysphoria refers to the degree of discrepancy between physical gender characteristics and gender self-identification as well as associated distress or functional impairment [1]. Behavioral health clinicians may want to consider using an assessment of gender dysphoria to evaluate distress regarding

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gender identification. One option is using a validated measure, such as the Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults [10]. This measure may help to clarify whether the source of an individual's distress is related to gender dysphoria and subsequently aid in providing targeted treatment recommendations. A recent review of the treatment of gender dysphoria recommended a multidisciplinary approach including psychotherapy, cross-sex hormone therapy, social gender transition, and gender affirming surgery [11]. Further, there is the potential for untreated mental illness, including depression, to exacerbate gender dysphoria, providing further evidence for proper screening and treatment [12].

Depression, Anxiety, Suicidal Ideation, and Self-Injury

Nearly half of transgender individuals report mood and anxiety symptoms [13]. Lifetime rates of mood disorders (45.5%) and anxiety disorders (37.5%) are similarly high among bariatric surgery candidates [14]. In comparison, a meta-analysis found rates of lifetime depression among community samples to be 10.8% [15]. Thus, there appears to be a shared elevated prevalence of mood pathology among individuals seeking bariatric surgery and those who identify as transgender.

One of the features of severe depression is suicidal ideation. When compared with heterosexual individuals, transgender individuals have elevated rates of suicidal ideation and suicide attempts, possibly due to “heterosexism as well as sexism” [16]. Suicidal ideation and attempts have also been linked with higher BMI [17]. Furthermore, research with bariatric patients has found an increased risk of suicidal ideation, suicide attempts, and completed suicide (approximately 4.1 out of 10,000) after bariatric surgery, as compared with 1.0/10,000 among the general population [18]. This suggests that transgender individuals seeking bariatric surgery may represent a high-risk group for suicidal behavior and underscores the need for a thorough suicide risk assessment.

Additionally, a systematic review of non-suicidal self-injury (NSSI) among transgender individuals found rates of NSSI ranged from 19 to 36.8%, with cutting as the most common type of self-injury [19]. Comparatively, prevalence rates of NSSI among cisgender samples are 17.2%, 13.4%, and 5.5% among adolescents, young adults, and adults, respectively [20]. A significantly higher percentage of transgender male youth reported self-harm behaviors (56%) as compared with transgender female youth (34%; [21]. Alternately, cisgender women have a higher likelihood than men of engaging in NSSI [20]. Thus, there are different gender and prevalence rates of NSSI between transgender and cisgender individuals that should be recognized.

Considering the increased prevalence of psychiatric illness and suicidal behaviors among both bariatric patients and transgender individuals, it is important to thoroughly assess these areas and refer bariatric candidates to qualified mental health

providers either within or outside the multidisciplinary bariatric surgery team. Given the relationship between gender dysphoria and other psychiatric disorders [22], transgender bariatric candidates may benefit from working with providers experienced in LGBT issues. The World Professional Association for Transgender Health website (wpath.org) contains a provider directory search.

Substance Use

Transgender individuals also endorse high rates of substance use. Research has found 47% of transgender individuals report binge drinking and nearly 40% report marijuana use; rates of lifetime substance use disorder treatment among transgender individuals are approximately 10% [23]. Transgender females have three times greater odds of seeking treatment for problems with substance use as compared with transgender males [23]. Of note, among cisgender individuals, males have higher rates of substance use disorder treatment admissions than women [24]. Similar to the high rates of substance use among transgender individuals, lifetime prevalence of any substance use disorder is as high as 32.6% among bariatric surgery candidates [14]. Following bariatric surgery, there is a documented increased likelihood of problematic alcohol use and alcohol use disorders [25–27]. Additionally, rates of tobacco use among sexual minorities are up to 2.5 times higher as compared with those among cisgender individuals [28]. At present, tobacco use is a contraindication for bariatric surgery and is associated with medical complications such as impaired wound healing and ulcers [7].

It is important to recognize that transgender individuals presenting for bariatric surgery may be more likely than cisgender individuals to report substance use, including tobacco and alcohol use, which may prolong or impede clearance for surgery. Additionally, substance use may contribute to surgical and postsurgical complications. However, the degree to which transgender individuals exhibit problematic alcohol use following bariatric surgery is presently unknown, warranting further research in this area. As with any bariatric candidate struggling with a substance use disorder, healthcare providers on the bariatric team should be prepared to offer resources and substance use treatment referrals for transgender bariatric candidates.

Abuse

Among transgender individuals, lifetime rates of emotional and physical abuse are as high as 78.1% and 50.1%, respectively [29], and rates of sexual abuse are as high as 86% [30]. Further, rates of physical assault of transgender individuals have been shown to range from 20 to 86%, and the violence is primarily committed by perpetrators who know the victim [30]. Of those who seek bariatric surgery, approximately one

quarter report experiencing childhood sexual abuse [31], which has been linked with risk for future psychopathology, namely mood and anxiety disorders, personality pathology, suicidal behaviors, and substance use [32]. Following bariatric surgery, childhood sexual abuse is also associated with high rates of postsurgical psychiatric hospitalizations [31].

While an abuse history in and of itself may not be linked with postsurgical weight loss [31], bariatric candidates with an abuse history are more likely to have personality traits or disorders such as borderline personality disorder, which has been associated with poorer weight loss following bariatric surgery [33–36]. Thus, transgender bariatric candidates should be assessed for comorbid personality disorders, educated on the potential for increased risk of psychiatric hospitalization following surgery, and referred for treatment as indicated. For transgender bariatric candidates with a diagnosis of posttraumatic stress disorder, treatments including various forms of cognitive therapy and exposure therapy as well as eye movement desensitization and reprocessing are considered efficacious treatment options [37]. Given the prevalence of physical violence against transgender individuals, the behavioral health provider conducting the psychosocial evaluation should do a thorough safety assessment and be prepared to provide information on community resources if needed.

Hormonal Management

Medical treatment for transgender individuals who wish to augment their gender expression typically involves using hormone therapy and/or surgical modifications to enhance feminization or masculinization of bodily characteristics [12]. Quality of life has been shown to be higher among transgender individuals receiving hormone therapy than among transgender individuals not receiving hormone therapy [38]. Similarly, bariatric surgery appears to contribute to improvements in physical and mental health–related quality of life and could further improve quality of life for transgender individuals with severe obesity [39]. However, it is important to understand how hormonal management of transgender individuals may impact not only quality of life, but also additional factors related to bariatric surgery.

There are several potential risks when using hormonal therapies. From a medical perspective, those receiving feminizing hormones, such as estrogen, likely have an increased risk of venous thromboembolic disease, gallstones, elevated liver enzymes, weight gain, and hypertriglyceridemia [12]. There is also an increased risk for cardiovascular disease among those who are older [12]. With masculinizing hormones, such as testosterone, there is a risk of polycythemia, weight gain, acne, balding, and sleep apnea [12]. Additionally, both types of hormone therapy carry a risk of weight gain, which is necessary to consider in regard to bariatric surgery as it may limit the success of bariatric surgery by negatively affecting weight

loss outcomes. From a psychiatric perspective, exogenous testosterone also carries the potential to increase risk of hypomanic, manic, or psychotic symptoms [12]. It is important to consider etiological factors, such as whether an individual on testosterone therapy experienced mood changes or psychosis prior to or since beginning hormone therapy, as this may inform psychotropic medication treatment recommendations as well as impact psychological clearance for bariatric surgery. Additionally, the malabsorptive nature of some bariatric procedures, such as the Roux-en-Y gastric bypass, may impact postsurgical absorption of hormones, as it has been posited to do so for oral contraceptives [40]. Transgender individuals should be provided with education about the risks hormone therapy could have on mood, postsurgical weight loss, and potential medication or hormone absorption rates.

Given the potential for hormone therapy to impact surgical complications, including venous thromboembolism, pulmonary embolism, myocardial infarction, and stroke, research has considered cessation of hormones in advance of surgery; however, a recent systematic review found insufficient evidence to recommend cessation [41]. Cessation of hormone therapy may inadvertently contribute to emotional and physical distress. Research on hormone cessation found that 35% of transgender individuals who discontinued feminizing hormones in advance of sex reassignment surgery reported difficulty; 20% of those who stopped hormones experienced mood swings/irritability and 20% experienced hot flashes [42]. To ensure postsurgical safety, bariatric surgery candidates undergoing hormone therapy should have routine lab tests beginning at treatment initiation and careful monitoring by healthcare providers postsurgery for hematological deficiencies and imbalances, as hemoglobin, albumin, cholesterol, and triglycerides can be affected [43, 44].

Sex hormones contribute to differences in distribution of body shape observed between males and females. Males tend to carry weight around their abdomen, while fat distribution among females is peripherally diffused [45]. There is the potential for postsurgical patterns of weight loss to impact perceived feminization or masculinization. For example, losing weight in the abdomen may accentuate feminizing characteristics, including the waist. Additionally, hair loss is a common postsurgical complication reported by up to 40.5% of women who underwent sleeve gastrectomy [46]. It is important for transgender individuals to be educated about the possibility of these postsurgical changes, as resulting changes in perceived masculinity or femininity may be distressing. Of note, sex differences for changes in fat-free mass with weight loss have also been observed, such that women lose a smaller percentage of fat-free mass than men following bariatric surgery [47]. No studies to date have examined weight loss patterns among transgender individuals following bariatric surgery, or whether hormone therapy impacts subsequent weight loss, highlighting potential areas for future study.

Although hormone therapy may not be a contraindication for surgery, transgender individuals considering bariatric surgery should be informed of the potential risks and benefits of temporary hormone cessation and should work collaboratively with their bariatric team and endocrinologist throughout the bariatric surgery process to inform decisions about hormone management. The risk for weight gain with hormone therapy should also be communicated to patients, as well as the potential for postsurgical weight loss to influence body shape and/or body image, especially for those who may be particularly sensitive to aspects of their perceived feminization or masculinization. Lastly, the potential for malabsorption of hormones to occur postsurgically should be discussed.

Additional Therapeutic Considerations and Recommended Assessment Strategies

In addition to being aware of the differences in psychosocial risk factors among transgender and cisgender individuals, it is important for providers to recognize other ways in which care for transgender individuals may be unique. Notably, concerns with stigma about being transgender may limit the extent to which individuals seek healthcare. When compared with cisgender individuals, transgender patients are more likely to delay care and experience adverse treatment from their healthcare providers [48]. Similarly, individuals with obesity experience stigma from healthcare providers, which combined with transgender-associated stigma, may further compound healthcare treatment-seeking behaviors [49]. To facilitate trans-affirming care, it is recommended the clinicians underscore confidentiality, use gender-affirming language that is aligned with the individual's preference, and clearly state their clinical role and assessment purpose [50]. Among LGBT youth, research found healthcare provider interpersonal skills (e.g., being “respectful, honest, nonjudgmental, supportive, and friendly”) to be among the most valued qualities, ranking more important than the provider's level of experience working with LGBT youth [51].

Conclusion

Across the populations, both bariatric surgery candidates and transgender individuals exhibit elevated psychosocial risk factors, including higher rates of psychiatric illness, substance use, abuse, and suicidal behaviors. Gender identification is often closely linked with perceived physical characteristics, including those associated with feminization and masculinization. Levels of gender dysphoria, use of hormone therapy, and concerns related to patterns of weight loss affecting perceived feminization or masculinization are unique areas related to the assessment and treatment of transgender individuals considering bariatric surgery. Clinicians should be cognizant of these

considerations and potentially augment the presurgical psychological assessment accordingly. Transgender individuals may also have unique postsurgical care needs compared with cisgender individuals, due to the need to monitor hormone therapy and potential side effects (e.g., weight gain) as well as potential exacerbation of mood pathology.

This is the first report to date to jointly examine shared psychosocial risk areas across bariatric surgery-seeking samples and transgender individuals, as well as to highlight considerations unique to transgender individuals considering bariatric surgery. Several suggestions for the psychosocial assessment and treatment of transgender individuals seeking bariatric surgery are provided. Understanding the psychosocial risk factors and necessity of providing a comprehensive assessment through empathic care in a trans-affirming environment is fundamental to assessing presurgical readiness and can hopefully help facilitate postoperative success. A multidisciplinary, collaborative approach may help to optimize care for transgender individuals seeking bariatric surgery. Research specifically examining transgender individuals, including those considering and those who have undergone bariatric surgery, is needed as there is an anticipated rise in the prevalence of transgender individuals seeking bariatric surgery. Future research is also needed to address how presurgical risk factors impact postsurgical success among this specific population. It is our hope that aiding providers in the presurgical psychological assessment process will help facilitate greater access and surgical success for transgender individuals seeking bariatric surgery.

Compliance with Ethical Standards

Conflict of Interest Leah Hecht, MS: no conflict of interest
Chazlyn Miller, MS: no conflict of interest
Lisa R. Miller-Matero, PhD, ABPP: no conflict of interest
Aaron Hamann, PsyD: no conflict of interest
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Ethical Approval Statement All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed Consent Statement For this type of study, formal consent is not required.

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