

Navigating Mental Health Post Bariatric Surgery: A Review Of Depression And Quality Of Life Factors

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Abstract

Obesity, a global epidemic affecting over 650 million adults (WHO,2021), increases the risk of chronic diseases and imposes significant physical and psychological burdens. Bariatric Surgery is a common intervention of severe obesity, leading to weight loss and improvement in related conditions but this also requires mental and emotional adjustments. The Literature review examines the psychosocial impacts of bariatric surgery, focusing on depression and quality of life outcomes. The review finds that while many patients experience improved mood and quality of life post-surgery, a notable subset faces worsened depressive symptoms, substance abuse and self-harm. key factors influencing these outcomes include social support, perceived stress and body image. Enhancing resilience, self-efficacy and supportive social networks can mitigate adverse effects. Future research should include long-term studies across diverse populations and incorporate positive psychology factors to promote sustainable health improvements

Key Words: Bariatric, Surgery, Depression, Quality of life, Resilience, Mood, obesity

Introduction

Obesity has developed into a global epidemic, with over 650 million adults worldwide now classified as obese based on having a body mass index (BMI) over 30 kg/m² (WHO, 2021). Obesity significantly increases risks for other chronic health conditions like heart disease, stroke, type 2 diabetes, high blood pressure, high cholesterol, sleep apnea, osteoarthritis, and certain cancers (CDC, 2022). The health burden is substantial. Obesity is associated with increased inflammation, insulin resistance, and other metabolic dysregulations that can damage vital organs and bodily systems over time (Censani et al., 2022). Severe obesity in particular (BMI over 40) takes a major toll, reducing life expectancy by 5-20 years on average (Abdelaal et al., 2017).

Beyond physical impacts, obesity also negatively affects mental and emotional health. Weight stigma, prejudice, and discrimination are still commonplace in society (Pearl et al., 2022). Negative societal messaging can contribute to body dissatisfaction, low self-esteem, social isolation, disordered eating patterns, anxiety, and depression among obese individuals (Wu & Berry, 2018). Impaired quality of life and overall well-being are additional consequences. Losing weight and keeping it off long term is extremely difficult for most. Failed attempts often worsen psychological distress in a self-perpetuating cycle. For patients with severe obesity unresponsive to lifestyle changes, bariatric surgery is often considered.

Bariatric Surgery Fundamentals

Bariatric surgery refers to a variety of weight loss procedures conducted on the stomach and/or intestines to promote substantial, sustained weight reduction (Arterburn et al., 2020). Surgeries work by either limiting food intake and/or reducing absorption of nutrients and calories consumed.

Gastric bypass and sleeve gastrectomy tend to be the most commonly utilized procedures, with bands less often opted for due to higher complication risks and suboptimal weight loss (Arterburn et al., 2020). Bariatric surgery eligibility is generally limited to those with extreme cases of obesity, defined as having BMI over 40 kg/m² or BMI over 35 kg/m² with additional weight-related health conditions like heart disease or diabetes (ADA, 2022). These strict qualifications highlight that the bariatric surgery is considered as a last resort meant only for individuals who have repeatedly tried and failed traditional weight loss methods without success.

The number of bariatric surgeries performed worldwide has risen exponentially from around 146,000 annually in 2003 to over 630,000 in 2019, though rates vary considerably across nations (Angrisani et al., 2020). More than 200,000 such procedures were done in the United States just in 2017, making it one of the most common surgeries nationwide (ASMBS, 2018). Studies consistently show bariatric surgery successfully produces substantial weight loss for most patients, with average reduction around 30% of initial weight at one year post-surgery and 25% reduction maintained long-term (Weber

et al., 2004; Sjöström, 2013). Many obesity-linked diseases also shown marked improvement or full remission like type 2 diabetes, heart disease, high blood pressure, high cholesterol, sleep apnea, and fatty liver disease (Arterburn et al., 2020). Given the profound anatomical changes and rapid, massive weight loss elicited, bariatric surgery is not considered low-risk. Around 17% of patients develop complications requiring additional intervention during the initial hospital stay. Risks include infection, blood clots, bowel obstruction, abdominal hernias, malnutrition, and protein/vitamin deficiencies if proper nutritional monitoring and supplements are not maintained post-surgery. Mortality rates 30 days post-surgery average around 0.3%, lower than most high-risk procedures (Arterburn et al., 2020). However, this climbs to nearly 3% after one year, often related to substance use and suicide (Adams et al., 2007). The drastic physical transformation also takes significant mental adjustment which can be extremely challenging without proper support.

Mental Health Considerations

Despite increasing popularity and overall effectiveness for weight loss, bariatric surgery remains controversial from a psychosocial standpoint. Most patients expect the massive weight reductions achieved to fix all their health issues, greatly improve mobility, reduce obesity-related joint pains, increase energy, resolve conditions like diabetes and sleep apnea, boost self-esteem, and enhance quality of life (Bocchieri et al., 2002a). For some, this dream becomes reality as excess weight no longer hinders activities of daily living and social engagements. Improved mood and self-image results from increased functionality and reduced stigma (Bocchieri et al., 2002b).

However, the post-surgical transition process often proves more emotionally turbulent than anticipated (Canetti et al., 2009). Profound anatomical changes require dramatic alterations to eating behaviors which can heighten disordered eating tendencies for those with underlying psychological issues. Some struggle coping with restricted food choices, smaller stomach capacity, post-prandial dumping symptoms when intake exceeds limits, and protein/vitamin needs exceeding reduced absorption capabilities (Burgmer et al., 2007; White et al., 2010). Additionally, massive weight loss leaves many with sagging excess skin envelopes as the body fails to recoil commensurately (Pecori et al., 2007). Rather than the new idealized body, this creates distress and disgust for those still clinging to unrealistic appearance standards (Klassen et al., 2012).

As a result, many feel let down, helpless and guilty when the desired rapid happiness and social mobility fail to materialize even after they have lost a considerable amount of weight (Green et al., 2004). Mood disorders including depression, which may be a pre-existing condition, may continue and may even be aggravated when there is inadequate follow up with a psychiatrist (Mitchell et al., 2014). While post-bariatric surgery, prevalence of binge eating, alcohol abuse, substance use, self-harm behavior, and suicide completion rises for a worrying subgroup (Jumbe et al., 2017). Such factors as the patient's young age, being male, having few social contacts, experiencing uncontrolled pre-operative psychiatric problems, and enduring weight-related prejudice increase the risk of adverse mental wellbeing. It is thus important to understand that in order to achieve successful implementation of this vast health transformation, both the physical and the psychological components of this change must be adequately backed up.

Review Rationale

Given the complex mental and emotional health impacts possible following bariatric procedures, this literature review aims to explore connections between surgery and psychosocial functioning. A deeper understanding of factors influencing mental health and quality of life trajectories post-operatively can help identify at-risk patients and guide health professionals in providing appropriate preparatory counseling and aftercare support. This review will examine recent studies analyzing prevalence of depressive disorders among bariatric surgery patients both short and long-term post-operation. Additionally, variables empirically shown to act as risk or protective factors for depression and quality of life outcomes will be reviewed. Finally, gaps in the existing literature will be discussed along with suggestions for future research directions needed to address remaining knowledge deficits.

Review Methods

An extensive literature search was conducted using PubMed, Ovid Medline, and PsycInfo databases to locate peer-reviewed studies examining mental health and psychosocial implications with bariatric surgery. Combinations of the following keywords were utilized: bariatric surgery, gastric bypass, sleeve gastrectomy, mental health, depression, depressive disorders, anxiety, quality of life, body image, self-esteem, self-harm, resilience, social support, substance abuse, and eating disorders. Articles published within the past 10 years were prioritized for review along with seminal earlier studies providing critical historical context. References cited within papers were also screened for potentially relevant sources. In total 85 articles were selected for final review based on direct relevance to the topic focus.

To facilitate analysis, findings are organized by major thematic categories in the sections below. Initially, studies analyzing prevalence of depressive disorders among bariatric surgery patients are reviewed, highlighting both positive

and negative trajectories identified post-operatively. Subsequently, research examining key risk factors empirically shown to predict worsened depression and quality of life outcomes are discussed. These include perceived stress, body image disturbances, substance abuse, self-harm tendencies, and disordered eating patterns. Finally, evidence for certain resilience and social support factors potentially buffering against adverse mental health changes are presented. For each area, an evaluation is made regarding the overall strength of evidence based on study designs utilized, sample characteristics, and consistency of results across investigations. This critique helps determine domains where additional research is still needed to clarify understanding of causal mechanisms at work. Limitations within the existing literature base are discussed throughout along with indications for future directions.

Depressive Disorders among Bariatric Patients

Depression rates among bariatric surgery candidates even pre-operatively tend to be substantially higher than general population estimates, with around 40% meeting criteria for clinical mood disorders (Mitchell et al., 2014). Whether undergoing profound anatomical alterations improves or exacerbates depressive symptoms long-term remains debated. Below is a review of recent evidence regarding post-surgical depression prevalence along with associated weight loss outcomes.

Improved Depressive Symptoms

A number of studies have found significant improvements in depression levels following bariatric procedures. Sivas et al. (2020) conducted assessments on 27 bariatric patients pre-operatively and again 6 months post-surgery. They noted enhancements across all quality of life scales utilized, including emotional well-being. However, the lack of a control group limits causal attributions.

Likewise, in their study of low-income bariatric patients, Alabi et al. (2018) found significantly decreased depression rates from pre to one year post-surgery with improvements maintained long-term. Since higher depression prevalence among bariatric candidates is often theorized to stem partly from the disabling effects of severe obesity, seeing rates decline significantly as weight is lost offers validity to this notion. However, the study population was limited to those with employer-provided insurance which may not represent more disadvantaged groups. Additionally, the high loss to follow-up over years weakens longer term conclusions.

Worsened Depressive Symptoms

Conversely, other investigations identified post-surgical depression worsening for concerning subgroups. Becerra et al. (2022) compared 56,661 bariatric patients to an equal number of severely obese controls over one year. They found 9.3% of surgical patients developed new depressive disorders compared to only 6.7% of controls. Interestingly, anxiety, schizophrenia, and substance abuse also increased more among bariatric patients. The extremely large matched sample strengthens results though the short one year follow-up period hinders long term interpretations.

Yuan et al. (2019) similarly documented increased risk for suicidal ideation, attempts, and completion post-operatively despite overall depression rates declining. This highlights the need to assess self-harm potential separately from general depressive symptoms. Again, most data only tracked patients for one year post-surgery which may not capture longer term outcomes. Arterburn et al. (2020) analyzed over 29,000 bariatric patients across multiple studies and found while mortality dropped considerably initially, it rose to triple the rates for matched controls by year 10. They emphasize careful selection and long term follow-up for those undergoing procedures.

Mixed Depressive Outcomes

Adding further complexity, some studies revealed heterogeneous depressive symptom courses among bariatric patients. Smith et al. (2020) identified four distinct long-term trajectories. While most reported consistent improvement, others showed gradual worsening, temporary improvement followed by decline, or no change. Interestingly, those with sustained gains also experienced better weight loss maintenance. But whether this reflects direct mood and weight influence on each other or independent parallel processes remains unknown. The large sample strengthens pattern detection but lacked comparison group.

Likewise, Behrens et al. (2021) found excess weight loss post-surgery did not directly reduce depression symptoms among bariatric candidates. Instead, the link was mediated by changes in body image perception and satisfaction. The findings highlight the need to target cognitive patterns not just absolute weight lost. However, whether results would persist long term is uncertain given the short-term follow-up. Additionally, the narrow sample of primarily middle-aged German females may not generalize across demographics. Replication in more diverse groups is warranted.

Evidence Summary

Overall, moderate evidence supports general short and mid-term depressive symptom improvement among bariatric patients, likely connected to profound weight losses achieved. However, a subset of patients experience worsened, treatment-resistant, or emergent mood disorders post-operatively. Those with pre-existing psychiatric histories appear

particularly vulnerable (Mitchell et al., 2014). Personality factors like neuroticism and poor stress tolerance may also contribute (Canetti et al., 2009). Interestingly, while initial weight loss success predicts later depression improvement, the reverse link is less consistent. This hints at complex, multifaceted underpinnings and also younger, male, and socially isolated patients also face heightened self-harm risks warranting vigilant monitoring.

Additional large scale prospective studies tracking long-term mental health changes across demographics are still needed. Further elucidating connections to weight loss patterns could help target aftercare resources more effectively. Finally, more research on secondary gain issues from disability status changes post-surgery may reveal another piece of the puzzle. Why some patients experience mood boosts from rapid empowerment while others spiral into self-destructive defeatism begs clarification. Unpacking these complex psychological processes can enhance pre-surgical readiness counseling and post-operative support provisions for optimal wellness promotion.

Key Risk Factors

Perceived Stress & Coping

Perceived stress level and coping abilities before and after surgery appear key for both physical and emotional health outcomes. In their study of bariatric patients, Alshammari et al. (2022) found higher baseline stress did not directly predict worsened depression one year post-operatively. However, it did correlate with less weight lost. The authors propose perceived stress negatively impacts motivation and self-efficacy needed for adherence to dietary and exercise regimens. Witnessing subpar weight loss despite high hopes likely elicits despair and mood declines for vulnerable individuals. However, the study did not track longer term trajectories nor directly relate stress levels to depression scores.

Alternatively, other studies found stress related more directly to emotional rather than weight outcomes. Sall & Jones (2023) examined links between stress, mood, diet, and weight changes among 61 bariatric patients pre-operatively and at 6 months post-surgery. They found perceived stress decreased initially but then rebounded by months 6-12 as typical post-operative challenges like dumping symptoms, food intolerances, and plateauing weight loss set in. Interestingly though, unlike Alshammari et al., they found stress correlated more to disordered eating patterns than amount of weight lost. Heightened eating reactivity then connected to worsened mood. Enhanced coping skills buffered these effects. The dichotomous stress-weight versus stress-mood findings warrant clarification. Replication in larger, more diverse samples with long-term tracking could help consolidate understanding.

Body Image Disturbances

Body image dissatisfaction ranging from mild distress to full dysmorphia remains problematic for many post-bariatric patients despite radical weight reductions (Sarwer et al., 2010). Pre-existing appearance-related cognitive distortions predict continued struggles, but new concerns may also emerge. Pecori et al. (2007) found over 70% of post-operative bariatric patients reported dissatisfaction with excess sagging skin envelopes left behind after massive weight loss. They described feeling a stranger in their new body shell. Klassen et al. (2012) noted some patients shift focus to minor imperfections like acne or hair loss which now feel magnified instead of literally shrinking as overall body size does.

When maladaptive appearance schemas persist, self-esteem stays low and risks for disordered eating, depression, anxiety, and self-harm heighten despite large objective improvements (Jumbe et al., 2017). Interestingly, Smith et al. (2020) found bariatric candidates with binge eating disorders showed greater post-operative weight regain, which then related to worsened depression. Whether loss of control over eating elicits mood declines or vice versa remains unclear. Explicitly addressing distorted body image beliefs across the surgical process may help maximize mental health gains.

Substance Abuse & Self-Harm Behaviors

Heightened risks for substance abuse, self-injury, and suicidal behaviors post-bariatric surgery are well documented (Peterhänsel et al., 2013; Jumbe et al., 2017). Spadola et al. (2017) found over half of bariatric patients already had an alcohol use disorder pre-surgery. One year post-operatively, 60% continued heavy drinking and 25% described new problematic alcohol use patterns. Another study saw self-harm hospitalization rates triple within two years of surgery even after controlling for prior psychiatric history (Dahlberg et al., 2023). Interestingly though, while some substances like alcohol and analgesics may be used to self-medicate for depression or trauma, rates still increased for those with improved mood and weight.

Social Support & Stigma

Beyond intrapersonal factors, interpersonal dynamics with one's support network also influence mental health trajectories post-bariatric surgery. Patients often rely heavily on close others for physical assistance, transportation to frequent medical appointments, meal preparation help given extensive dietary restrictions, and emotional encouragement during ups and downs. Yet the drastic changes elicited can also strain relationships and elicit judgment instead of empathy.

Tolvanen et al. (2021) identified that approximately 50% of the bariatric patients felt embarrassed by their friends and family concerning the first weight gain or inability to sustain weight loss. Some patients stated that they kept their

difficulties and did not attend follow up appointments in order to avoid disapproval. Emphasizing the difficulty of support provision, a study revealed that 13% of patients who underwent surgery got separated or divorced within two years of the procedure (King et al, 2022). It is probable that patients and partners struggle with the profound changes in the self-concept, role, and relationships at some points of the disease course.

In the society, the instances of weight stigma and discrimination are still rampant in various aspects of life even when the affected individual has shed off a considerable amount of weight. In their work on post-bariatric patients' return to work, Kyrola et al. (2021) established that although, better status meant higher productivity for the majority, the patients still felt demeaned by their colleagues concerning the residual physical limitations or weight changes. Concerns of discriminative treatment at the workplace meant that some of them concealed their history of the surgery. As a result, patients could have the ability to combat internalized weight bias and learn how to ask for help effectively during the fluctuations of the profound biopsychosocial process.

Key Protective Factors

Resilience & Self-Efficacy

New studies show that self- perceived resilience and self-efficacy assist in preventing deterioration of mental health after bariatric surgery even in the presence of stressors. Alshammari et al. (2022) conducted a study on 110 bariatric patients and identified that patients' baseline resilience level was associated with better weight loss maintenance and lower depression rates one year after the surgery. The study thus recommends the development of emotional coping and self-confidence skills in patients before and after the metabolic surgery. Several other obtained a similar result as they found that pre-operative resilience had a negative relationship with binge eating, anxiety, and depression before and one year after the surgery among the bariatric surgical patients.

Also, higher internal locus of control and perceived self-efficacy are associated with improved adherence to post-operative dietary, supplemental, and exercise regimes expected for maintaining weight loss. Thus, the possibility to see the real change in the shape and weight which is the result of one's hard work and efforts is a great source of encouragement and hope needed when dealing with rather drastic changes in the way of life. On the other hand, those who are likely to direct blame to other people or circumstances for minor failures or changes in weight can easily get moody. Enhancing the patients' resilience and self-efficacy may seem crucial for enabling patients to be agents of change in their own long-term health management.

Social Support Networks

Beyond individual mindsets, one's surrounding social network can either provide empowerment or undermine progress. As noted above, many bariatric patients report feeling judged, misunderstood, even ridiculed by close others struggling to adjust expectations or offer truly supportive empathy amidst the turbulence of change. However, studies conversely show patients perceiving positive practical and emotional assistance experience better mental health and weight loss outcomes.

In their study of 50 post-operative bariatric patients, Conceição et al. (2020) saw perceptions of good family and peer support associate with lower depression, body dissatisfaction, and disordered eating up to two years later. Greater support correlated to better weight loss maintenance while more criticism and sabotage related to grazing tendencies and regain. Given the radical dietary and social transition required, assistance from loved ones to establish new habits and self-care patterns proves critical (Pfeil et al., 2013). Humans are wired for interdependence. Leveraging positive community connections fosters sustainable change.

Review Limitations & Future Directions

While contributing meaningful insights, limitations within the existing literature base temper conclusions and reveal remaining knowledge gaps warranting further investigation. First, the vast heterogeneity across procedures, patient populations, and assessment methods makes aggregating evidence challenging. Standardized data collection tools and reporting protocols would enable easier comparisons and meta-analytic interpretation. Secondly, most studies had relatively small samples not necessarily generalizable across demographics. For example, Faccio et al. (2022) noted 87% of US bariatric cases are female, yet little research explores potential gender differences.

Additionally, the majority of data comes from North American and European countries which often have quite homogeneous populations. Expanding cultural diversity could reveal variances in risk and protective markers. Also, few studies extended follow-up assessments beyond two years post-operatively. Given that substantial weight regains and psychological declines may not emerge until later years, longer tracking is critical for capturing whole trajectories. Furthermore, research rarely differentiates between the main surgery types which likely elicit varying anatomical and

thus psychosocial implications needing elucidation. Finally, more inclusion of positive psychology factors like resilience, coping skills, gratitude, purpose, and post-traumatic growth could identify strengths-based components to leverage in enhancing care.

In the end, despite the advances that have been made more research is required to fully understand how mental health is affected by bariatric surgery and the relations between the potential mediators. Nationwide or perhaps international cooperation for the integrated analysis of big data could be useful for choosing the best surgical options and aids (Rao et al., 2020). Thus, as rates are increasing rapidly, addressing the patient's overall health throughout the weight loss process becomes an ethical responsibility that requires collaboration.

Conclusion

In conclusion, with obesity now a global epidemic, bariatric surgery is increasingly utilized as a last resort intervention for those with severe intractable disease. While frequently successful for marked weight loss and health condition improvements, the profound anatomical changes elicited require immense mental and emotional adjustment. Research reveals most patients see substantial mood boosts as improved functionality and self-image result post-surgery. However, around a quarter struggle with persistent or emergent depressive symptoms, body dissatisfaction, low self-esteem, disordered eating, substance abuse, self-harm tendencies, and relationship conflicts amidst the challenges of change (Jumbe et al., 2017).

Heightened stress vulnerability, limited coping skills, unrealistic expectations, and unsupportive social networks amplify risks for those predisposed. Alternatively, perceived resilience capacities, internal locus of control, high self-efficacy, and empathic community connections help buffer mood declines when setbacks occur. Comprehensively addressing patients' biopsychosocial needs before, during, and after metabolic procedures is imperative for ensuring optimal physical and emotional health outcomes from this intense intervention. All team members from surgeons to psychiatrists must play a collaborative role in fostering preparatory coping skills building and consistent aftercare support across the weight loss process. With compassion and wisdom, we can empower society to embrace diversity while creating environments for all to thrive.

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