

Bariatric surgery: Why age changes substance use outcomes

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The rising prevalence of severe adolescent obesity has increased referrals for bariatric surgery, but the psychiatric and psychosocial outcomes in younger patients remain poorly understood. A prospective cohort study compared these outcomes in adolescents and young adult women undergoing bariatric surgery, revealing distinct patterns of improvement.¹

KEY TAKEAWAYS

- **The Pivot:** Bariatric surgery differentially impacts substance use and mental health outcomes based on age group, with young adults seeing reductions in substance use and adolescents improving in social anxiety and depression.
- **The Data:** 46.7% of adult women improved in psychoactive substance use post-surgery, compared to 12.5% of adolescents ($p = 0.003$).
- **The Action:** Clinicians should tailor perioperative psychological support for bariatric surgery patients, recognizing age-specific psychiatric and psychosocial needs.

Bariatric surgery has become a more common intervention for severe adolescent obesity, but the full spectrum of its psychiatric and psychosocial effects across different young age groups has not been thoroughly characterized. Researchers in Poland conducted a prospective cohort study to compare these outcomes in adolescents and young adult women undergoing bariatric surgery.¹

The study, published in *J Clin Med*, recruited 77 consecutive female patients from a single bariatric center between December 2022 and December 2023. The cohort included 32 adolescents (under 18 years) and 45 adult women (18-25 years). All participants underwent comprehensive preoperative and one-year postoperative assessments, including laboratory testing, standardized psychiatric interviews, and psychometric screening using the Beck Depression Inventory (BDI) and the Patient Health Questionnaire-9 (PHQ-9).¹

Preoperative Differences and Postoperative Divergence

Preoperatively, adolescents presented with more severe obesity for their age (median BMI-for-age z-score 3.53) and experienced longer wait times from their initial obesity clinic visit to surgery. Adolescents also reported self-harm behaviors and moderate-to-severe depression on the BDI more frequently. Adult women, conversely, more often reported psychoactive substance use before surgery.¹

Both groups achieved comparable improvements in laboratory and comorbidity outcomes at one year. But adult women experienced greater relative weight loss (median total weight loss 37.6% vs. 28.4% in adolescents, $p < 0.0001$). This

difference in weight loss persisted even after adjustment for BMI reduction, which was smaller in adolescents.¹ Postoperatively, the psychiatric and psychosocial outcomes diverged significantly. A greater proportion of adolescents improved with respect to social anxiety (50.0% vs. 13.3% in adult women, $p = 0.0007$) and BDI depression severity (53.1% vs. 24.4%, $p = 0.02$). But a greater proportion of adult women improved in psychoactive substance use (46.7% vs. 12.5% in adolescents, $p = 0.003$). Generalized anxiety and suicidal ideation declined within both groups, but the extent of improvement did not differ significantly between them.¹

Understanding the Nuances of Recovery

The distinct outcome profiles highlight that bariatric surgery is not a monolithic intervention for mental health. While adolescents saw significant improvements in social anxiety and depression, their substance use patterns remained largely unchanged. This contrasts sharply with young adult women, who experienced substantial reductions in psychoactive substance use. This finding aligns with broader trends in addiction recovery, where age and developmental stage often dictate response to interventions.¹

The study was an observational cohort, lacking an uncontrolled, non-surgical comparison group. This design means the findings are hypothesis-generating and cannot establish a causal effect of surgery or its timing. Confirmation in larger, multicenter studies with appropriate comparison groups is essential to solidify these observations. Still, the data emphasize the importance of comprehensive multidisciplinary perioperative care and tailored postoperative psychological support for both age groups. Clinicians managing these patients may find the Oxford Handbook of Psychiatry a useful reference for guiding mental health interventions.

The gender disparity in cardiovascular awareness and lifestyle behaviors among Polish adolescents, as revealed by a separate nationwide survey, also points to the complex relationship of factors influencing health outcomes in this demographic.³ This broader context suggests that interventions targeting adolescent health must consider a wide array of psychosocial and behavioral determinants. Another study on liver adenomas in adolescents further illustrates the need for specialized care pathways in younger populations.

The observed decline in per capita alcohol consumption, as explored in a Finnish study on attitudes towards drinking in the presence of small children, suggests societal shifts that might influence substance use patterns more broadly.² But the specific context of bariatric surgery patients, particularly young women, presents unique challenges that require targeted interventions. The differential impact on substance use between adolescent and young adult women post-surgery warrants further investigation into underlying mechanisms and optimal support strategies.

CLINICAL IMPLICATIONS

The data from this Polish cohort make it clear: bariatric surgery is not a one-size-fits-all solution for the complex psychiatric and psychosocial issues accompanying severe obesity in young patients. We cannot assume that improvements in one domain, such as depression in adolescents, will automatically translate to others, like substance use. The age of the patient matters profoundly.

For adult women undergoing bariatric surgery, the significant reduction in psychoactive substance use is a positive signal, suggesting that the intervention, perhaps through improved self-esteem or metabolic health, can be a powerful catalyst for broader behavioral change. But for adolescents, where substance use did not improve, clinicians must recognize that the surgery alone is insufficient. Dedicated, ongoing substance use

interventions remain critical for this younger group.

The study's observational nature means we are generating hypotheses, not definitive causal links. But the distinct patterns observed demand attention. Multidisciplinary teams must move beyond generic psychological support and instead implement age-specific, evidence-based interventions that address the unique vulnerabilities and potential benefits for each patient group. This means more than just a general check-in; it requires tailored screening and targeted therapies.

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