Comment Article

**Psychological issues and alcohol misuse following bariatric surgery**

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# Standfirst

Bariatric surgery is an effective treatment for severe obesity, but it can have unintended negative psychosocial consequences, including an increased risk of alcohol use disorder. A greater understanding of the psychosocial effects of bariatric surgery will probably improve treatment outcomes.

# [H1] Challenges and problems after surgery

Bariatric surgery is well-established as an effective treatment for severe obesity, resulting in substantial long-term weight loss. In addition, research has highlighted further positive outcomes, including remission of type 2 diabetes mellitus (T2DM), reduced cardiovascular events and decreased mortality.

There are reports, however, of negative psychosocial consequences following bariatric surgery. Published in 2018, a study by Martin Neovius and colleagues[1](#_ENREF_1) examined data from two large, long-term cohorts consisting of patients with obesity who received surgery compared with patients who received either usual care or intensive lifestyle intervention. The median follow-up periods in the two cohorts were 18 years and 4 years. The crucial finding was that the surgery group had a significantly higher relative risk of suicide and non-fatal self-harm than the control group (in the two cohorts the adjusted hazard ratios were 1.78 (95% CI 1.23-2.57) *p*=0·0021, and 3.16 (95% CI 2.46-4.06) *p*<0·0001). An increased risk was reported for all surgery types (gastric banding, bypass and vertical-banded gastroplasty), and was not mediated by weight loss success; indeed, within the surgery groups, patients who died by suicide or experienced self-harm had similar or greater weight loss than those who did not.

A compelling finding from this study was that an increased risk of suicide and self-harm was also observed in a subgroup of patients who were free from psychiatric disorders and had no history of self-harm. Although the absolute risk of suicide and self-harm was low (cumulative incidence less than 5%), these data are concerning because they suggest that there is a subset of patients who are at elevated risk of committing suicide or non-fatal self-harm and whose problems escalate in the aftermath of having bariatric surgery.

Published in 2017, a systematic review of 33 qualitative studies by Karen D. Coulman and colleagues[2](#_ENREF_2) investigated the psychosocial challenges that patients experience after surgery. Participants described both positive and negative changes with regard to their physical health and psychological functioning. For example, some participants reported improvements in depression, confidence, self-esteem and sense of control, while other participants found that poor self-esteem and low confidence continued after surgery. These data suggest that while successful surgery can improve psychological distress arising from obesity, for some individuals, surgery is unable to ‘fix’ underlying psychological problems. In these individuals, psychological problems might be a causal factor in, rather than being a product of, obesity.

The link between mental health and obesity is well-established, and might be partly explained by maladaptive coping strategies whereby eating is used to alleviate psychological and emotional distress. Notably, Coulman and colleagues found that for some participants the psychological need to eat persisted after their surgery, despite the fact that they were physically unable to eat as much food as they could before having surgery. This raises a critical issue — if surgery does not address a patient’s underlying psychological problems and if a patient has consumed food as a means of coping, the patient might need to find an alternative way of managing difficult emotions.

# [H1] Alcohol misuse after surgery

There is growing evidence that bariatric surgery is associated with problematic alcohol use and an increased risk of developing alcohol use disorder (AUD). The DSM-5 defines AUD as the presence of at least 2 of 11 symptoms (e.g. “wanted a drink so badly you couldn’t think of anything else”) with mild, moderate, and severe sub-classifications. The most recent evidence comes from the Longitudinal Assessment of Bariatric Surgery-2 (LABS-2) study[3](#_ENREF_3), a prospective observational cohort study of patients in the US who received Roux-en-Y gastric bypass (RYGB) or laparoscopic adjustable gastric banding (LAGB). In the RYGB group, the prevalence of AUD increased from approximately 7% at pre-surgery to 16% at 7-year follow-up, while no such increase was seen in the LAGB group. This finding is consistent with other longitudinal evidence indicating that RYGB increases the risk of developing post-surgery alcohol misuse, relative to other types of surgery.

Notably, the prevalence of regular alcohol consumption increased significantly over the 7 years in both the RYGB and LAGB groups (*p*<.001 and *p*=.01, respectively) indicating that the increased AUD prevalence in the RYGB group is not explained by increased exposure to alcohol *per se*. Of the patients without AUD at pre-surgery, 20% reported AUD at least once within 5 years of having RYGB. Illicit drug use also increased significantly over time in the RYGB group but not the LAGB group (*p*<.001 and *p*=.33, respectively). Pre-surgery risk factors for post-surgery AUD included male sex, younger age, any or regular alcohol consumption, and reduced social support. Significant post-surgery risk factors for AUD and drug use included worsening mental health (adjusted relative risk (ARR) = 1.15 (95% CI 1.07-1.23), *p*<.001) and becoming single versus remaining married (ARR = 1.6 (95% CI 1.20-2.13), *p* <.01). This finding raises the possibility that use of alcohol and drugs might be adopted as a coping strategy.

# [H1] A switch in coping strategies?

Prospective cohort studies have established an evidence base on the increased prevalence of alcohol misuse and AUD after bariatric surgery; however, these studies are silent on specific mechanisms to explain why bariatric surgery (specifically RYGB) increases this risk, and why certain individuals are particularly vulnerable. To address this gap, in 2017 Ruth Yoder and colleagues[4](#_ENREF_4) published the results of semi-structured interviews with eight patients with AUD who had received RYGB between 3 and 12 years previously. Using constructivist grounded theory, the authors constructed a ‘filling the void’ explanatory model of the development of AUD following surgery. The main concern that the participants had was ‘unresolved psychological issues’, with the majority reporting histories of trauma, major losses and childhood attachment difficulties. These issues had led to difficulties in regulating emotion and the resultant use of palatable foods as a coping strategy. Surgery was immediately followed by a ‘honeymoon period’ lasting up to 2 years, characterized by rapid weight loss, elevated mood and other positive outcomes. The need for an external coping mechanism, however, eventually resurfaced, and as eating to cope was no longer possible due to the physical restrictions of surgery, alcohol provided a replacement coping strategy. For these patients, alcohol was a new source of pleasure, which they used to ‘fill the void’, that was unencumbered by the physical restrictions imposed by bariatric surgery.

This new explanatory model of post-surgery AUD from Yoder and colleagues is consistent with the findings of cohort studies[5](#_ENREF_5) which indicate that alcohol problems typically do not appear until 2 years post-surgery, after the ‘honeymoon period’. Switching from eating to drinking as a coping strategy might also explain why some patients without AUD at pre-surgery develop problems after surgery and why AUD is associated with post-surgery negative life events[3](#_ENREF_3).

# [H1] Implications for research and practice

We need research that systematically examines a range of potential mechanisms for AUD after bariatric surgery, including psychological and situational factors, altered alcohol pharmacokinetics (earlier and increased peak in blood alcohol content than before surgery) and changes to appetitive gut hormones. Notably, there are no quantitative or longitudinal studies on psychological motivators for alcohol misuse post-bariatric surgery so this is a clear priority for future research. In a position statement published in 2016[5](#_ENREF_5), the American Society for Metabolic and Bariatric Surgery highlighted that the existing evidence base largely consists of retrospective studies with small sample sizes, lack of control groups and low response rates. There are also variations in how investigators define and measure alcohol misuse.

In most bariatric surgery clinics, clinicians discharge patients back into primary care ~2 years after surgery; however, AUD prevalence increases steadily over a 7-year period[3](#_ENREF_3), meaning that its development could be missed by bariatric surgery teams. The actual prevalence of AUD outside of research studies could therefore be under-diagnosed.

Candidates for bariatric surgery need to be informed about the increased risk of AUD as part of their routine pre-surgical care. All patients should receive this information, even those with low pre-surgery alcohol consumption. Pre-surgery psychological assessments should consider patients’ existing coping strategies to identify vulnerable individuals and the facilitation of tailored psychological support during the post-surgery period; for example, patients with a history of using food for emotion regulation might benefit from learning adaptive coping strategies. Long-term psychological support beyond the second post-surgical year will probably be critical and might enable patients to address unresolved psychological issues, ultimately removing the need to drink alcohol to cope and improving treatment outcomes.

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**Competing interests statement**

The authors declare no competing interests.

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