The obesity epidemic in the United States is a rising and complex public health problem. In 2015-2016, the prevalence of obesity rose to 39.8% among adults in the US\textsuperscript{[1]} Obese patients (BMI$\geq30$) are also more likely to have many comorbid conditions: dyslipidemia, T2D, hypertension, coronary heart disease, psychiatric, and others\textsuperscript{[2]}. Bariatric surgery is an emerging treatment for obesity as the total number of procedures in the US increased by about 60% between 2011 and 2018\textsuperscript{[3]}. Bariatric surgery results in sustained weight loss and reductions in comorbidities, making it a highly effective treatment for morbid obesity\textsuperscript{[4]}. While the high incidence of psychiatric comorbidities is well supported\textsuperscript{[5]}, little is understood about bariatric surgery’s relationship with antidepressant utilization and psychiatric disorders.

**Objective/Focus Areas**

**Main Objective:** To develop a narrative review of the literature to inform LMHO study

**Focus Area 1:** Impact of preoperative antidepressant usage on postoperative weight change

**Focus Area 2:** Effect of surgery on postoperative antidepressant usage

**Focus Area 3:** Pharmacokinetic effects of surgery

**Literature Search**

PubMed Search $\rightarrow$ MeSH Terms $\rightarrow$ Similar Articles/Cited By

**MeSH Terms:** (bariatric surgery OR gastric bypass OR gastrectomy) AND (Antidepressive Agents OR "Depression/drug therapy"[Mesh] OR "Depression/prevention and control"[Mesh] OR "Depression/therapy"[Mesh])

**Data Extraction**

Skin Abstracts $\rightarrow$ Skin Papers $\rightarrow$ Extract Data Elements $\rightarrow$ Categorize Papers

**Data Elements:** Years of Data; Surg Procedures; Research Question; Follow-up: Study Duration/%; Sample Loss; Sample Size: Treatment/Control Group; Treatment/Control Group: Descriptor, % Female, Mean/Med Age, Mean/Med BMI, Psychiatric Diagnoses; Methods of Assessment; Medications; Specific Numeric Results; Extra Notes

**Introduction**

The obesity epidemic in the United States is a rising and complex public health problem. In 2015-2016, the prevalence of obesity rose to 39.8% among adults in the US\textsuperscript{[1]} Obese patients (BMI$\geq30$) are also more likely to have many comorbid conditions: dyslipidemia, T2D, hypertension, coronary heart disease, psychiatric, and others\textsuperscript{[2]}. Bariatric surgery is an emerging treatment for obesity as the total number of procedures in the US increased by about 60% between 2011 and 2018\textsuperscript{[3]}. Bariatric surgery results in sustained weight loss and reductions in comorbidities, making it a highly effective treatment for morbid obesity\textsuperscript{[4]}. While the high incidence of psychiatric comorbidities is well supported\textsuperscript{[5]}, little is understood about bariatric surgery’s relationship with antidepressant utilization and psychiatric disorders.

**Large Research Project Context**

**Long-term Mental Health Outcomes of Bariatric Surgery (LMHO):** Comparing long-term outcomes (alcohol, antidepressants, etc.) of veterans who underwent bariatric surgery and veterans who did not

**Veterans Affairs Population:** Predominantly older males

**Past Studies:** Evidence of surgery leading to long-term weight loss (Figure 1)\textsuperscript{[6]}

**Association with UAU**

**Examining how**

**Veterans before surgery**

**Past Studies:**

- **Evidence of surgery leading to long-term weight loss** (Figure 1)\textsuperscript{[6]}
- **Association with UAU**

**Ongoing Study:**

- **Examining how**
- **Veterans before surgery**

**Main Objective:** To develop a narrative review of the literature to inform LMHO study

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**Results**

Total: 10 (empirical studies), 5 (commentaries)

**FA1 Weight Change (7)**

Plaekke, 2019 (n=751): Continuous antidepressant use associated w/ reduced %EBMIL (SNRIs, TCAs)

Barr, 2019 (n=547): Diagnosis of depression (ICD-10 codes) or type 2 diabetes resulted in lower %EWL

Hawkins, 2020 (n=190): Antidepressant not associated w/ poorer %TWL but some classes have different effects

**FA2 Antidepressant Change (7)**

Mitchell, 2014 (n=2458): BS improves depression but declines 1 year after surgery

Booth, 2015 (n=6090): BS may cause initial reduction in clinical depression after surgery but not continued

**Conclusions**

- Conflicting findings on impact of antidepressants on weight loss (%EBMIL v. %TWL)
- Certain antidepressant classes may affect weight change differently (SNRIs)
- Antidepressants/Depression fell first and then rose
- Adsorption of drugs seems to be greatly altered
- Some consensus in focus areas but also discord between papers

**Future Directions**

- Inform ongoing LMHO Study about weight change by antidepressant class 5 years after surgery v. 1-2 years for most studies
- Need standardized measures for weight change
- More studies into the pharmacokinetic effects of different classes
- May suggest certain antidepressants are preferable
- Potential to guide better clinical practices

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**References**


