

# Obesity and Major Depressive Disorder: A Bi-Directional Relationship

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## INTRODUCTION

Over the past 20 years, the rate of obesity in the United States has risen from 30.5% to 41.9%, representing a growing burden on the health of the nation's population. There are a number of comorbid medical conditions and psychiatric conditions associated with obesity [1]. However, an area that requires further clarification and exploration is the relationship between obesity and mood disorders.

The Focus of this literature review is to look at the relationship between Body Mass Index (BMI) values in excess of 30.0 kg/m<sup>2</sup> and the incidence of Major Depressive Disorder (MDD).

## RESEARCH QUESTION & METHOD

**Is there an association between high BMI values in the excess of 30.00kg/m<sup>2</sup> and Major Depressive Disorder (MDD)?**

Publications were searched for via Embase, Google Scholar, and Cochrane library and included in this literature review. 17 articles which included clinical trials, data analyses, cohort studies, and systematic reviews were compiled.

## CONCLUSIONS

- Our review of the current literature on the relationship between obesity (BMI >30) and major depressive disorder shows that there is in fact a **bi-directional relationship**, where managing one condition may help with the management of the other
- Thus, the continued elucidation of the relationship between obesity and MDD will be useful in the management of these patients, especially with regard to selecting treatment options and predicting outcomes.

## RESULTS

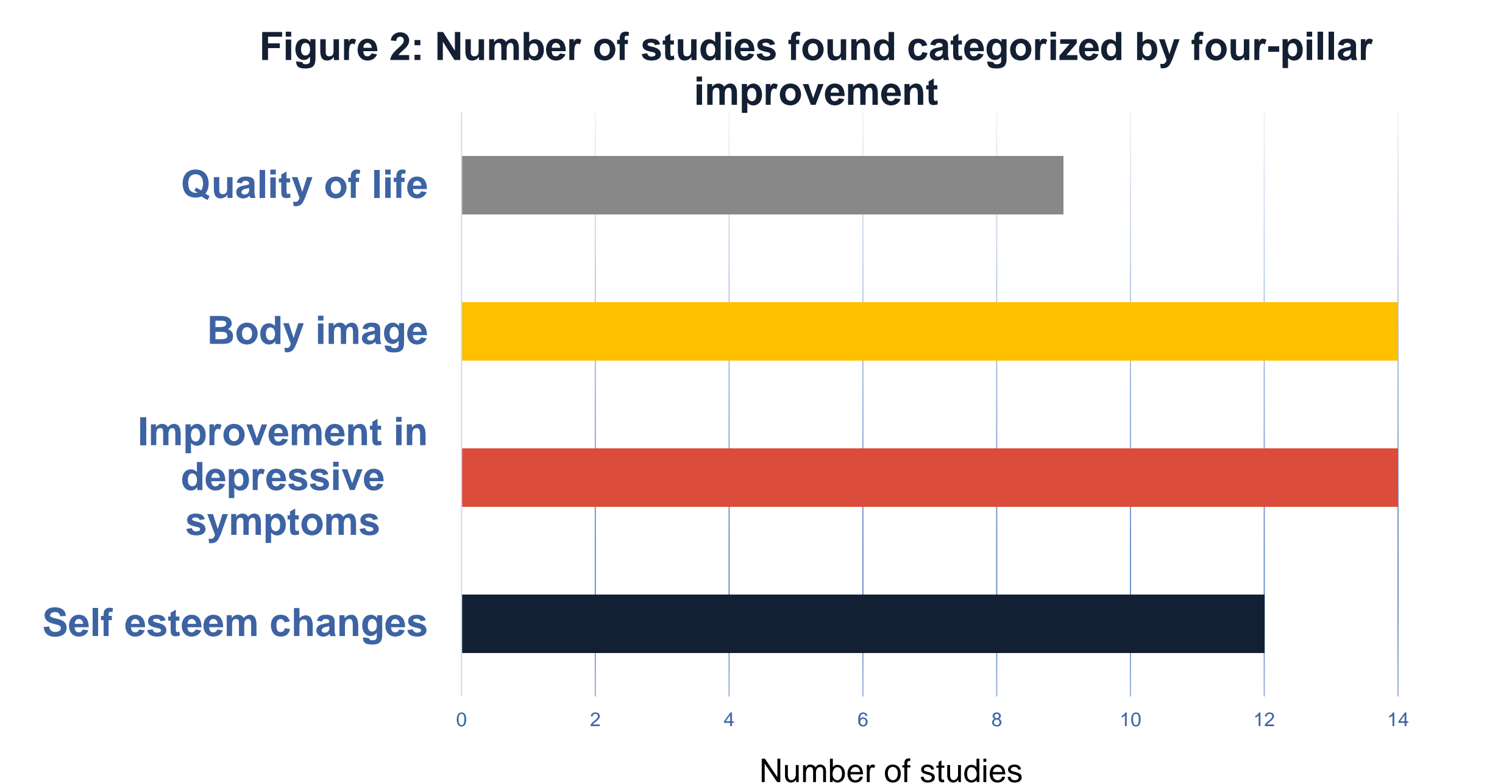
**The association between obesity and depression appears to be a bi-directional relationship which suggests that either depression may lead to weight gain, or the existence of obesity can contribute to a greater risk of developing depression [2].**



- Obesity is associated with the chronicity of depressive disorders resulting in longer inpatient stays and duration of illness [3].
- Weight loss and lifestyle management of obesity have a positive impact on the prognosis of depression across multiple studies.
- There is a demonstrated salient and consistent improvement in depressive symptoms correlated with weight loss [2-12].
- Concurrent management of obesity and depression in a collaborative care intervention resulted in improvement of both weight loss and depressive symptoms [4].
- Legenbauer's study showed patients who suffered anxiety/depression at the baseline lost less weight compared to controls after the bariatric surgery[5].
- Patients undergoing post-bariatric surgery had a statistically significant reduction in depressive symptoms following the first 24 months of surgery.
- The *perception* of weight is the greatest link between depression and obesity rather than the actual weight value [6].
- Successful weight loss is an important mediator. Patients who were able to lose weight and experience improvement in mood regardless of the presence or absence of targeted depression treatment [7].
- The necessity of weight loss for psychological improvement is not definitively established; instead, it serves as tangible evidence of the power of one's esteem/image in the role of one's mental health.

## RESULTS (cont.)

Lasikiewicz proposed an excellent four-pillar model that delves deep in examining the two-way street of how mental health changes are associated with weight loss. Many studies found map well in their findings to this model, as seen in Figure 2.



- **Self-esteem:** 12 studies utilizing the Rosenberg Self-Esteem Scale found that improvement in self-esteem was concurrent with weight loss.
- **Improvement in depressive symptoms:** 14/17 studies showed a reduction in depressive symptoms following the completion of weight loss intervention [8].
- **Body image:** 14 studies had varying interventions ranging from behavioral to dietary and all consistently demonstrated that weight loss intervention improved body image scores [8]. Younger women with poorer body images were at increased risk for depression but responded with greater improvement upon weight loss. Obesity seemed to be the cause or aggravator of depression [10].
- **Quality of life:** Health-related quality of life involves an individual's perspective of physical, psychological, and social functioning. 9 studies demonstrated a significant association between this score and weight loss. A few of the studies found the improvements were dependent on the degree of weight loss [8].

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