The Predictive Value of Zung Self-rating Depression and Self-rating Anxiety Scale in Evaluating Early Weight Loss Outcome Following Sleeve Gastrectomy

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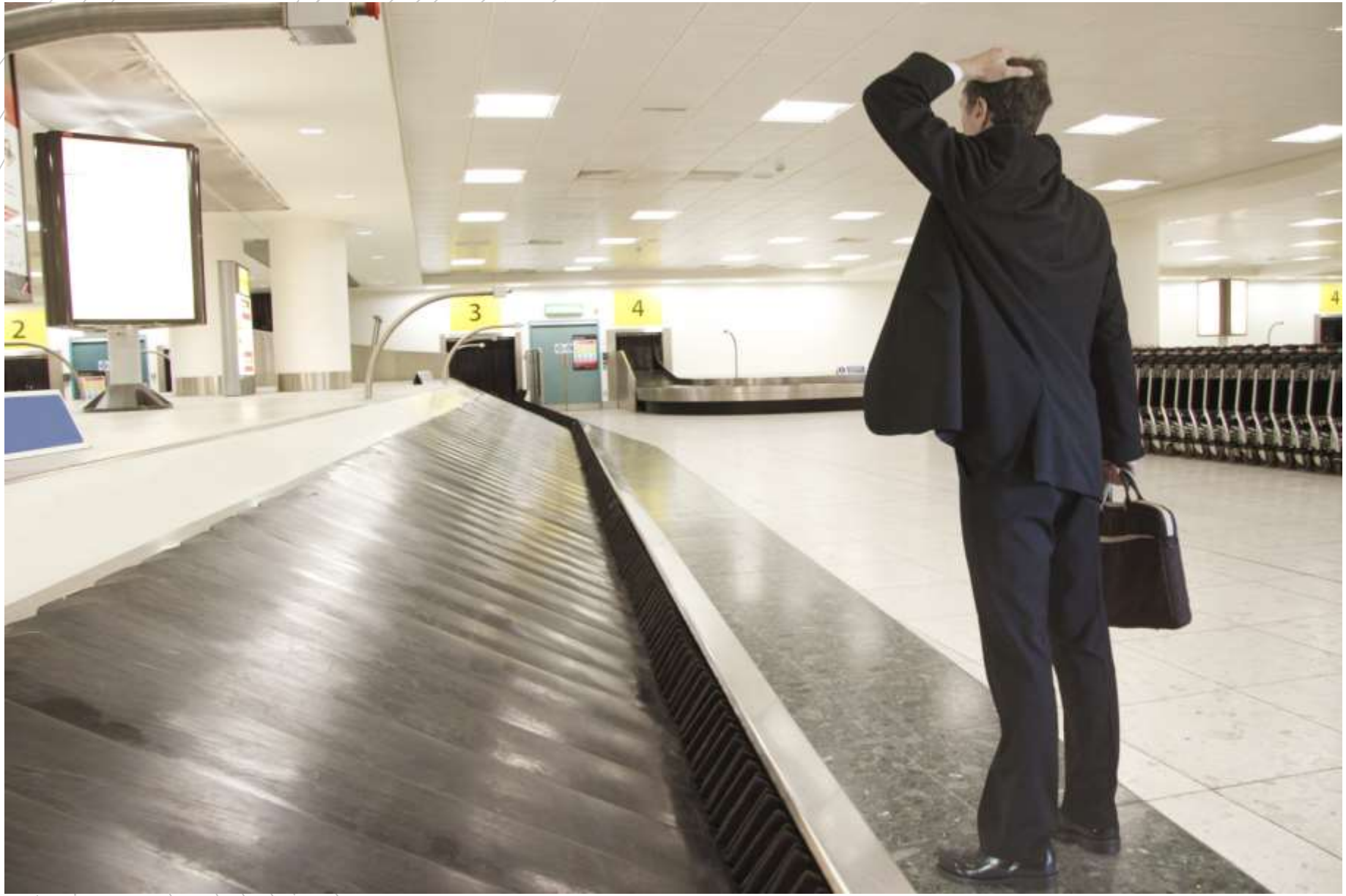
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Depression - Obesity Cycle

SteadyHealth.com

Obesity increases the risk of depression

Depression has been also found to trigger obesity

A connection between childhood obesity and depression often forms at young age and continues into adulthood

The depression-obesity cycle is further strengthened through comfort eating, sleeping problems and loss of self-esteem

Body image dissatisfaction is a particularly serious problem among women


26th November
Anti-Obesity Day
JOURNEY TO OBESITY is POUND by POUND
Did you know
Causes of Obesity
Genetics
Are one of your parents obese? Then you could be obese too
Sedentary Lifestyle
Your lifestyle lacks physical activity
Psychological Reasons
Emotions such as boredom, sadness, stress or anger result in excessive eating
If you are obese you face higher-than-average risk of 50 different health problems
Effects of OBESITY
Psychological Effects
It attacks your self-esteem
Depression & anxiety will hover your mind
Physical Effects
Cardiovascular Diseases
Type II diabetes
Osteoarthritis
High Blood Pressure (Hypertension)
Sleep apnea
HOW TO beat OBESITY
Ditch the lift and take the stairs
Exercise regularly
Live a stress free life. Explore meditating & breathing exercises
Never skip breakfast
Eat right. Have high fiber food as it keeps you full


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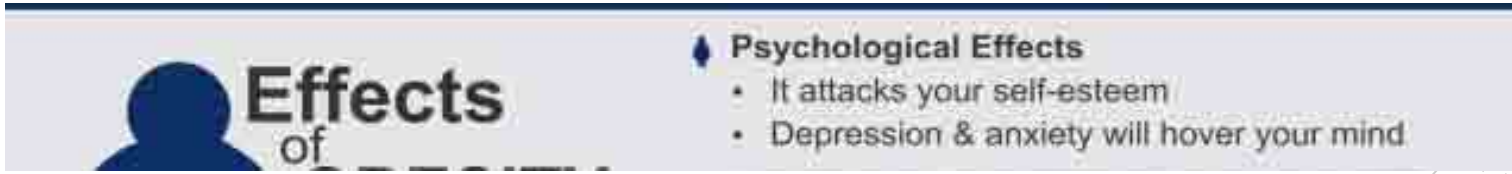
Effects of
Psychological Effects
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There are contradictory studies on whether bariatric surgery improves depression in patients with obesity.

Some suggested that bariatric surgery could provide some degree of improvement, while others suggested the opposite.

› Physiol Behav. 2019 May 15;204:86-92. doi: 10.1016/j.physbeh.2019.02.013. Epub 2019 Feb 11.

The effects of roux en y gastric bypass surgery on neurobehavioral symptom domains associated with severe obesity

Dominique Musselman [1], Neeta Shenvi [2], Amita Manatunga [2], Andrew H Miller [3], Edward Lin [4], Nana Gletsu-Miller [5]

Affiliations + expand

› Obes Surg. 2018 Nov;28(11):3492-3498. doi: 10.1007/s11695-018-3371-0.

Depression Before and After Bariatric Surgery in Low-Income Patients: the Utility of the Beck Depression Inventory

Francisco Alabi [1], Lizbeth Guilbert [1], Gabriela Villalobos [1], Karen Mendoza [1], Rocío Hinojosa [1], Juan C Melgarejo [1], Omar Espinosa [1], Elisa M Sepúlveda [1], Carlos Zerrweck [2]

Meta-Analysis › JAMA. 2016 Jan 12;315(2):150-63. doi: 10.1001/jama.2015.18118.

Mental Health Conditions Among Patients Seeking and Undergoing Bariatric Surgery: A Meta-analysis

Aaron J Dawes [1], Melinda Maggard-Gibbons [2], Alicia R Maher [3], Marika J Booth [4], Isomi Miake-Lye [5], Jessica M Beroes [6], Paul G Shekelle [7]

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Methods: The self-report Zung Depression Rating (ZDRS) and Neurotoxicity Rating (NRS) scales were administered before, and at 6-months after RYGB surgery in severely obese women (body mass index > 35 kg/m^2; N = 19). Symptom domains corresponding to depressed mood/suicide ideation, anxiety, cognitive, somatic, and neurovegetative symptoms were assessed. Biologic measures were of adiposity [leptin, abdominal visceral (VAT) and subcutaneous (SAT) adipose tissue], inflammation [IL-6, C-reactive protein (CRP)], and insulin sensitivity (Si). Spearman correlations and linear regression (adjusted for biologic measures) assessed relationships between changes in biologic measures and changes in neurobehavioral domains.

Results: By 6-months after RYGB, VAT, SAT, Si, CRP, and IL-6 had improved ($p < .05$). Anxiety, somatic, and neurovegetative symptoms domains improved ($p < .05$), but depressed mood/suicidal ideation and cognitive domains did not. Reductions in VAT were associated with decreases in neurovegetative symptoms (beta = 295 ± 85, $p < .01$). We also found significant positive longitudinal associations between IL-6 concentrations and minor changes in cognitive symptoms.

Conclusion: Anxiety, somatic and neurovegetative symptoms, improved within 6 months after RYGB, but depressed mood/suicidal ideation and cognitive symptoms did not improve. Associations between visceral adiposity, IL-6 concentrations and neurovegetative and cognitive symptoms support links between obesity, inflammation and distinct neurobehavioral symptoms.

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Background: The prevalence of psychological disorders in bariatric surgery candidates is well established, where anxiety and depression are commonly observed. Depression prevalence and evolution after gastric bypass, and its impact on weight loss, have been less explored, especially among low-income patients.

Methods: A retrospective study with low-income patients undergoing bariatric surgery from 2015 to 2016. A comparative analysis of preoperative depression (the Beck Depression Inventory II) was performed and compared at 6 and 12 months. A demographic and weight loss analysis was also performed.

Results: Seventy-three patients were included. Female sex comprised 76.7% of cases, and baseline depression was present in 45.2%, being severe in 2.7%. The analysis at 6 months showed Beck's score improvement (12.3 baseline vs. 4.2 points at 6 months, $p = 0.006$), as well as for individual items (excepting irritability). At 12 months, the mean score was 5 points, without difference vs. 6 months. At 6 and 12 months, depression (any degree) was present in 9.6 and 8.6%, corresponding to percentage change rates of - 65.8 and - 59.3%. Only one patient (2.7%) presented severe depression. Depression status before surgery had no influence in weight loss amount at 12 months.

Conclusion: Almost half of bariatric surgery candidates have some degree of depression that improves dramatically soon after bariatric surgery. Such change continues stable during the first year. Improvement was independent of gender, and depression has no influence on weight loss. In low-income bariatric patients, depression is lower than reports from developed countries, but similar improvement has been observed.

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Mental Health Conditions Among Patients Seeking and Undergoing Bariatric Surgery: A Meta-analysis

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clients, to evaluate the association between preoperative mental health conditions and health outcomes following bariatric surgery, and to evaluate the association between surgery and the clinical course of mental health conditions.

Data sources: We searched PubMed, MEDLINE on OVID, and PsycINFO for studies published between January 1988 and November 2015. Study quality was assessed using an adapted tool for risk of bias; quality of evidence was rated based on GRADE (Grading of Recommendations Assessment, Development and Evaluation) criteria.

Findings: We identified 68 publications meeting inclusion criteria: 59 reporting the prevalence of preoperative mental health conditions (65,363 patients) and 27 reporting associations between preoperative mental health conditions and postoperative outcomes (50,182 patients). Among patients seeking and undergoing bariatric surgery, the most common mental health conditions, based on random-effects estimates of prevalence, were depression (19% [95% CI, 14%-25%]) and binge eating disorder (17% [95% CI, 13%-21%]). There was conflicting evidence regarding the association between preoperative mental health conditions and postoperative weight loss. Neither depression nor binge eating disorder was consistently associated with differences in weight outcomes. Bariatric surgery was, however, consistently associated with postoperative decreases in the prevalence of depression (7 studies; 8%-74% decrease) and the severity of depressive symptoms (6 studies; 40%-70% decrease).

Conclusions and relevance: Mental health conditions are common among bariatric surgery patients-in particular, depression and binge eating disorder. There is inconsistent evidence regarding the association between preoperative mental health conditions and postoperative weight loss. Moderate-quality evidence supports an association between bariatric surgery and lower rates of depression postoperatively.

William W.K. Zung MD (1929–1992)

Zung Self-Rating Depression Scale

Patient's Initials: _____ Date of Assessment:_____

Please read each statement and decide how much of the time the statement describes how you have been feeling during the past several days.

Make check mark (✓) in appropriate column.	A little of the time	Some of the time	Good part of the time	Most of the time
1. I feel down-hearted and blue				
2. Morning is when I feel the best				
3. I have crying spells or feel like it				
4. I have trouble sleeping at night				
5. I eat as much as I used to				
6. I still enjoy sex				
7. I notice that I am losing weight				
8. I have trouble with constipation				
9. My heart beats faster than usual				
10. I get tired for no reason				
11. My mind is as clear as it used to be				
12. I find it easy to do the things I used to				
13. I am restless and can't keep still				
14. I feel hopeful about the future				
15. I am more irritable than usual				
16. I find it easy to make decisions				
17. I feel that I am useful and needed				
18. My life is pretty full				
19. I feel that others would be better off if I were dead				
20. I still enjoy the things I used to do				

William W.K. Zung MD (1929–1992)

Zung Self-Rating Anxiety Scale (SAS)

For each item below, please place a check mark (✓) in the column which best describes how often you felt or behaved this way during the past several days. Bring the completed form with you to the office for scoring and assessment during your office visit.

Place check mark (✓) in correct column.	A little of the time	Some of the time	Good part of the time	Most of the time
1 I feel more nervous and anxious than usual.				
2 I feel afraid for no reason at all.				
3 I get upset easily or feel panicky.				
4 I feel like I'm falling apart and going to pieces.				
5 I feel that everything is all right and nothing bad will happen.				
6 My arms and legs shake and tremble.				
7 I am bothered by headaches neck and back pain.				
8 I feel weak and get tired easily.				
9 I feel calm and can sit still easily.				
10 I can feel my heart beating fast.				
11 I am bothered by dizzy spells.				
12 I have fainting spells or feel like it.				
13 I can breathe in and out easily.				
14 I get feelings of numbness and tingling in my fingers & toes.				
15 I am bothered by stomach aches or indigestion.				
16 I have to empty my bladder often.				
17 My hands are usually dry and warm.				
18 My face gets hot and blushes.				
19 I fall asleep easily and get a good night's rest.				
20 I have nightmares.				

Source: William W.K. Zung. A rating instrument for anxiety disorders. Psychosomatics. 1971

Table 1. Overall patients' condition in this study

Category	Values (n=83)
Gender (F/M)	50 / 33
Age, y	32.1 ± 7.3
Height, m	1.68 ± 0.08
Preoperative Weight, kg	113.0 ± 25.6
Postoperative Weight, kg	74.8 ± 15.3
%TWL	32.9 ± 9.1
SDS	44.7 ± 10.7
SAS	40.4 ± 10.9

Table 2. Weight loss outcome according different SDS score

	Normal (n=40)	Mild (n=24)	Moderate (n=19)	P-value
SDS	37.3 ± 5.1	49.8 ± 2.5	63.5 ± 3.7	-
Age, y	33.8 ± 7.1	29.5 ± 7.2	29.9 ± 6.9	0.145
Preoperative Weight, kg	115.7 ± 27.4	104.9 ± 22.7	116.7 ± 23.2	0.422
Postoperative Weight, kg	73.4 ± 14.8	70.8 ± 11.3	86.1 ± 19.2	0.058
%TWL	35.3 ± 9.0	31.3 ± 9.9	26.4 ± 4.2*	0.034

Table 3. Weight loss outcome according different SAS score

	Normal (n=44)	Moderate (n=23)	Severe (n=16)	P-value
SAS	34.1 ± 5.2	47.8 ± 3.6	64.1 ± 2.8	-
Age, y	32.5 ± 6.9	30.9 ± 8.5	32.8 ± 7.8	0.880
Preoperative Weight, kg	111.0 ± 26.4	116.8 ± 26.1	117.6 ± 21.4	0.732
Postoperative Weight, kg	71.4 ± 13.3	78.4 ± 15.8	88.4 ± 20.0	0.038
%TWL	34.2 ± 10.3	32.4 ± 4.7	25.2 ± 4.2#	0.034

Conclusion

1. Zung SDS and SAS scoring system might have a predictive value in prognosing the weight loss outcome following sleeve gastrectomy.

2. Although patients who had higher depression and anxiety levels had poorer weight loss, such weight loss could still likely provide a positive health outcome

3. We had to provide them with better psychological treatment for such patients preoperatively rather than to avert them from having bariatric surgery

4. More extensive studies that could evaluate and associate mental status, quality of life, and health status post-bariatric surgery will be needed.

Thank you for your understanding!!!

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