



“THE ASSOCIATION BETWEEN OBESITY AND PSYCHOLOGICAL WELL-BEING IN ADULTS – A SYSTEMATIC REVIEW”

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ABSTRACT

Background: Obesity is a health problem frequently accompanied by depression and anxiety, as well as psychological eating styles such as emotional eating, addictive eating behaviours, and binge eating. Depression and obesity are established as major health problems worldwide. The World Health Organization (WHO) estimates that overweight affects about 1.3 billion adults worldwide, obesity more than 600 million, and depression affects 350 million people of all ages.

Methodology: A systematic review was conducted following centers for Google scholar, PUBMED and science direct database using the keywords Overweight, obesity, depression, symptoms of depression. The time frame of the search was from 2000 to 2020.

Result: The literature search resulted in 100 articles. 70 articles were selected after duplicate removal 50 articles were selected as per eligibility criteria. 25 articles were excluded due to reasons and 25 articles were selected for the systematic review.

Conclusion: Based on our analysis results, most of the study stated that the importance of focusing on body image dissatisfaction among both adult females and males. In the present study, emotional eating was identified as a mediator variable between depression and BMI in young men and women. Other factors that contribute to weight gain should also be taken into consideration. There was a positive association between obesity and the risk of body dissatisfaction and low self-esteem among adults.

KEY WORDS: Overweight, obesity, body mass index, depression, symptoms of depression, Psychological Well-being, Body dissatisfaction, Low self-esteem.

INTRODUCTION:

Obesity is rising around the world. Most of the studies have aimed to evaluate the psychopathology of overweight and obesity and paying attention to mental well-being in obese individuals is rare. Therefore, this study aimed to assess the relationship between body image and psychological well-being in obese patients¹. According to the World Health Organization (WHO), more than 1.9 billion people suffer x from overweight and 600 million from obesity¹.

Obesity, a multi-factorial condition, is defined as an accumulation of fat that has adverse effects on health. Among the most vulnerable populations, individuals with mood disorders (MD) such as bipolar disorder or major depressive disorders (MDD) are more likely to develop obesity compared to the general population. In obesity as in MD, behavioral factors were found to be inadequate (low physical activity, unhealthy diet). Moreover, some patho-physiological, social, or psychological factors were also found to contribute to the development of both, MD and obesity. These were the presence of a major depressive episode, anxiety disorder, psychological distress, quality of life, stress, mental health, and satisfaction with life in general². Depression and obesity are established as major health problems worldwide.

METHODOLOGY:

Protocol:

This systematic review is done to analyze the Effect of Obesity in Adults and Psychological well-being in Adults.

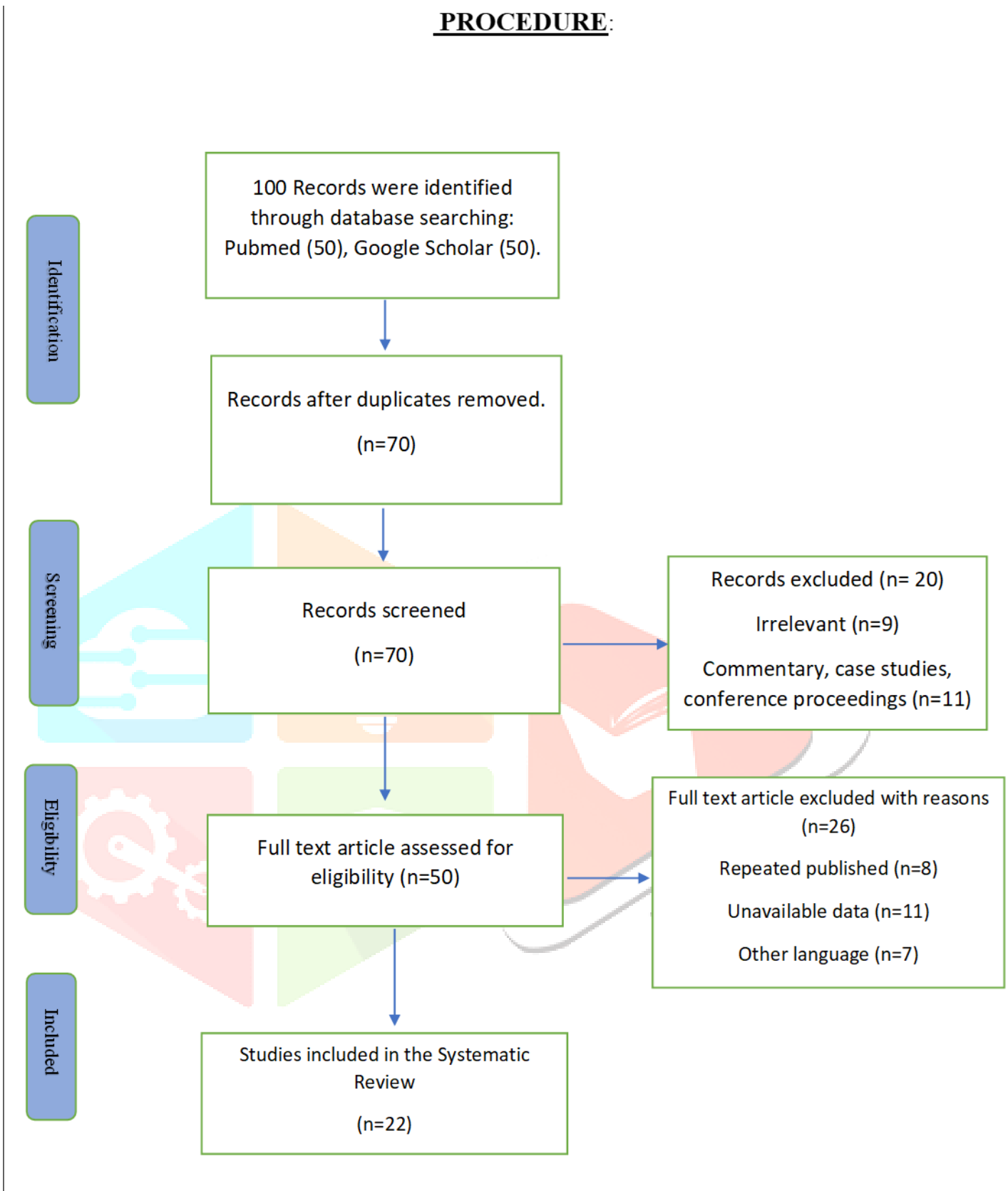
Eligibility Criteria:

Inclusion Criteria included Full text articles, Articles which are published in the last 20 years, other Systematic Reviews, Cross-sectional studies, Observational studies.

Exclusion Criteria included Case reports, Duplicate Articles, Articles with only Abstracts.

Study selection and Data extraction:

Once a study was selected based on the Abstract content, it was considered appropriate for the Systematic Review if the eligibility criteria was met. All the Study Designs were eligible for this review.

PROCEDURE:

RESULT:

Systematic Review Findings:

The search procedure resulted in 100 articles (n=50) articles from Pubmed and (n=50) from Google scholar. (n=30) articles were excluded after duplicate analysis. (n=10) articles were excluded from title and abstract screening. (n=70) articles were included after Full text reading and Eligibility criteria out of which (n= 45) articles were excluded for Outcome measures of Obesity and Psychological well-being (n= 26), Body Image and Low Self-esteem (n=19). Full review of (n= 25) articles were done. Finally, (n=28) Studies were selected for this Systematic Review.

Cross-sectional Research:

Cross-sectional findings generally pointed to a weak but positive association between obesity and anxiety disorders. Seven studies showed a significant positive association.

Obesity And Psychological Well-being:

The search for literature resulted in (n=26) articles that studied the Effects of Obesity on Psychological well-being on adults. Obesity was significantly related to psychological well-being, although effect sizes were modest. Individuals with obesity reported lower quality of life, lower life satisfaction, and more depressive symptoms than those without obesity.

Body Image And Low Self-esteem:

The search for literature resulted in (n=19) articles that studied the Effects of Obesity on Self-Esteem of Adults. The relationship between obesity and self-esteem is not straight forward. In adults, obesity is associated with a modest reduction in self-esteem, sometimes limited only to those with morbid obesity.

TABLE 1: CHARACTERISTICS AND MAIN FINDINGS OF INCLUDED CROSS-SECTIONAL STUDIES.

	TITLE OF ARTICLE	METHODOLOGY	SAMPLE SIZE	AUTHOR AND YEAR OF PUBLICATION	RESULT AND CONCLUSION
1.	Association between weight control failure and suicidal ideation in overweight and obese adults: a cross-sectional study.	Cross-sectional Study.	N=6621	Yeong Jun Ju et.al. 2016	Findings from this study suggest that weight control failure is associated with an increased risk of suicidal ideation among obese women.
2.	Relationship among obesity, depression, and emotional eating in young adults.	Cross-sectional Study.	N=1453	Irina Lazarevich et al., 2016	In the present study, emotional eating was identified as a mediator variable between depression and BMI in young men and women.
3.	The relationship between abdominal obesity and depression in the general population-A Systematic Review and Meta-Analysis.	Observational Study	-	Qunyan Xua et.al. 2011	These included 1 study that examined the longitudinal effect of abdominal obesity on depression among adolescents.
4.	Is body weight dissatisfaction a predictor of depression independent of body mass index, sex and age? Results of a cross-sectional study.	Cross-sectional Study.	N = 15,975	Aline Richard et. al. 2016	BWD was associated with depression. The association was independent of age, sex, and BMI, i.e. present in individuals with normal body weight and in all age group.
5.	Body image, body dissatisfaction and weight status in south asian children: a cross-sectional study.	Cross-sectional Study.	N=574	Miranda J Pallan et.al. 2011	Awareness of body image size and increasing body dissatisfaction with higher weight status is established at a young age in this population.
6.	Impact of obesity and mood disorders on physical comorbidities, psychological well-being, health behaviours and use of health services.	Cross-sectional study.	N=1298	Ahmed Jérôme Romain. et.al. 2018	ObMD reported poorer psychological well-being with OR ranging from 2.1 [95%CI: 1.4 – 3.3] (stress) to 25.6 [95%CI: 14.7 – 45.0] (poor perceived mental health).
7.	Age and gender specific association between obesity and depressive symptoms: a large-scale cross-sectional study.	Cross-sectional Study.	N=29,900	Wei Liao et.al. 2020	Underweight was associated with a higher prevalence of depressive symptoms, which indicated that health care should pay attention to underweight as well as obesity, especially for women and the young.
8.	Body Mass Index Perception, Body Image Dissatisfaction and Their Relations with Weight-Related Behaviors among University Students.	Cross-sectional Study.	N= 308	Hadia Radwan et.al. 2019	The study highlights the importance of focusing on body image dissatisfaction among both females and males, with body image dissatisfaction associated with fewer attempts to either diet or exercise.

9.	Obesity, Perceived Weight Discrimination, and Psychological Well-Being in Older Adults in England.	Longitudinal Study.	N=5056	Sarah E. Jackson. et.al. 2015	Perceived weight discrimination explains a substantial proportion of the association between obesity and psychological well-being in English older adults.
10.	Body dissatisfaction, physical activity, and sedentary behavior in female adolescents.	Exploratory, analytical, descriptive, cross-sectional study.	N= 120	Valter Paulo Neves Miranda et.al. 2017	This study concluded that female adolescents with higher cell phone time also present higher body dissatisfaction, as well as the most physically active ones.
11.	Dissatisfaction about body image and associated factors: a study of young undergraduate students.	Cross-sectional Study.	N=348	Laleska Pâmela Rodrigues da Silva et.al. 2019	The prevalence of dissatisfaction with body image was observed in more than half of the individuals evaluated and is associated with nutritional status.
12.	Association between depression and overweight in Chinese adolescents: a cross-sectional study.	Cross-sectional Study.	N=1080	Zhongyi Zhao et.al. 2019	These findings provide evidence that depression is associated with overweight or obesity among adolescents in China, especially among males.
13.	The Impact of Psychological Flexibility on Psychological Well-Being in Adults With Obesity.	Cross-sectional Study.	N=220	Anna Guerrini Usubini et.al. 2021	Achieving psychological well-being is one of the most relevant purposes psychological interventions aim for. Identifying the psychological processes that can help to protect psychological well-being is relevant.
14.	Relationship between Body Image and Psychological Well-being in Patients with Morbid Obesity.	Cross-Sectional study.	N=130	Negar Yazdani et.al. 2018	Final results indicated that body image defects caused by obesity could lie in negative psychological well-being in all aspects.
15.	Unhealthy diet practice and symptoms of stress and depression among adolescents in Pasir Gudang, Malaysia.	Cross-Sectional Study.	N=1734	Esra Tajik et.al. 2015	We have demonstrated cross-sectional relationship between skipping main meals, poor quality of diet with stress and depression among adolescents.
16.	The Impacts of Obesity on Psychological Well-being: A Cross-sectional Study about Depressive Mood and Quality of Life.	Cross-sectional Study.	N=534	Ji- yeong Kim et.al. 2007	In conclusion, obese women are likely to have depressive mood, lower quality of life and low self-esteem related to body satisfaction.
17.	Perceived Weight Discrimination Mediates the Prospective Association Between Obesity and Physiological Dysregulation: Evidence From a Population-Based Cohort.	Longitudinal Study.	N=3,609	Michael Daly et. al. 2019	These findings provide initial evidence that the psychosocial strain of weight stigma may account for a notable proportion of the obesity-related disease burden.
18.	Prevalence of anxiety and depression in patients with overweight and obesity.	Cross-Sectional Study.	N=732	Sayedeh Elham Sharafi et.al. 2019	Obesity/overweight associated with the development of anxiety and depressive symptoms irrespective of sleep behavior.

19.	Weight Stigmatization and Ideological Beliefs: Relation to Psychological Functioning in Obese Adults.	-	N=93	Kelli E. Friedman et.al. 2005	Further, participants' own negative attitudes about weight problems were associated with their psychological distress and moderated the relation between the experience of stigmatization and
20.	Study of the effect of family communication and function, and satisfaction with body image, on psychological well-being of obese girls: the mediating role of self-esteem and depression.	Cross-sectional Study.	N=173	ZabihollahKavehFar sani et.al. 2020	The factors identified in this study may be helpful for mental health policy-makers, in planning and implementing preventive and the
21.	Impact of obesity and mood disorders on physical comorbidities, psychological well-being, health behaviours and use of health services.	Cross-sectional Study.	N=2198 612 females	Ahmed Jérôme Romain et.al. 2017	To conclude, in the present representative community-based study, it was found that the co-occurrence of obesity and MD is an increased risk factor of physical comorbidities, poor mental health and psychological well-being, and less healthy behaviours.
22.	Obesity and health behaviours of British adults with self-reported intellectual impairments: cross sectional survey.	Cross-sectional Study.	N=50,994	Janet Robertson et.al. 2014	British adults with self-reported intellectual impairments have higher rates of obesity, inactivity, tobacco and alcohol use and poorer nutrition than their non-disabled peers.

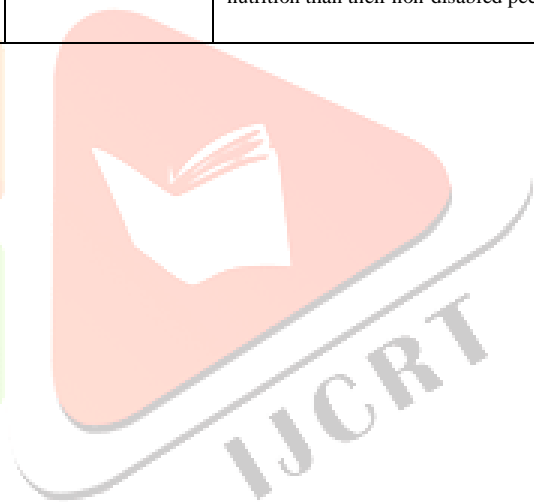
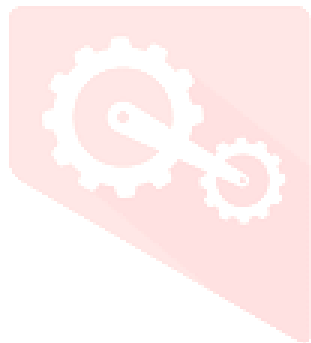
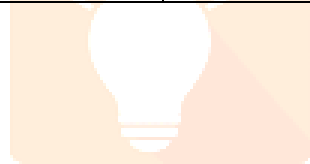


TABLE 2: THE METHODOLOGICAL SCORING SYSTEM USED TO RATE INCLUDED STUDIES.

LONEY SCALE QUESTIONS AND PUNCTUATIONS	SCORING CRITERIA USED
Q.1-Are the study design and sampling method appropriate for the research question?	Cross-sectional design and described study population (1 pt.)
Q.2-Is the sampling frame appropriate?	Prevalence estimates of PRMD were referenced (1 pt.)
Q.3- Is the sample size adequate?	Sample size >33 participants (prevalence estimated=65%; relative precision=25%; 95% CI) (1 pt.)
Q.4-Are objective, suitable and standard criteria used for measurement of the health outcome?	Reliable and standard measurement instrument (1 pt.)
Q.5-Is the health outcome measured in an unbiased fashion?	Reported the steps taken to reduce bias (1 pt.)
Q.6-Is the response rate adequate? Are refusers described?	It was considered an adequate response rate >80%, and refusers were described (1 pt.)
Q.7-Are the estimates of prevalence given with confidence intervals (CI) and in detail by subgroup, if appropriate?	Presented CI for odds ratio and subgroup analysis (1 pt.)
Q.8-Are the study participants and the setting described in detail and similar to those of interest to you?	Study participants described (1 pt.)
PUNCTUATIONS: 0 to 2- Poor methodological quality. 3 to 5- Regular methodological quality. 6 to 8- Good methodological quality.	8 Points.

TABLE 3: SELECTED STUDIES FOR METHODOLOGICAL QUALITY ASSESSMENT.

Sr. No.	Author of the Article and year of Publication	Title of the article	Punctuations								Result
			1	2	3	4	5	6	7	8	
-	-	-	1	2	3	4	5	6	7	8	-
1.	Yeong Jun Ju et.al. 2016	Association between weight control failure and suicidal ideation in overweight and obese adults: a cross-sectional study.	1	1	1	1	1	1	1	1	8 (Good)
2.	Irina Lazarevich et.al. 2016	Relationship among obesity, depression, and emotional eating in young adults.	1	1	1	1	1	1	1	1	8 (Good)
3.	Qunyan Xua et.al. 2011	The relationship between abdominal obesity and depression in the general population-A Systematic Review and Meta-Analysis.	-	-	-	-	1	-	-	-	1 (Poor)
4.	Aline Richard et.al. 2016	Is body weight dissatisfaction a predictor of depression independent of body mass index, sex and age? Results of a cross-sectional study.	1	1	1	1	1	-	1	1	7 (Good)
5.	Miranda J Pallan et.al. 2011	Body image, body dissatisfaction and weight status in south-asian children: a cross-sectional study.	1	1	1	1	-	-	-	1	5 (Regular)
6.	Ahmed Jérôme Romain. et.al. 2018	Impact of obesity and mood disorders on physical comorbidities, psychological well-being, health behaviours and use of health services.	1	1	1	1	1	-	1	1	7 (Good)
7.	Wei Liao et.al. 2020	Age and gender specific association between obesity and depressive symptoms: a large-scale cross-sectional study.	1	1	1	1	1	-	1	1	7 (Good)

8.	Hadia Radwan et.al. 2019	Body Mass Index Perception, Body Image Dissatisfaction and Their Relations with Weight-Related Behaviors among University Students.	1	1	1	1	1	-	-	1	6 (Good)
9.	Sarah E. Jackson. et.al. 2015	Obesity, Perceived Weight Discrimination, and Psychological Well-Being in Older Adults in England.	-	1	1	1	1	-	1	1	6 (Good)
10.	Valter Paulo Neves Miranda et.al. 2017	Body dissatisfaction, physical activity, and sedentary behavior in female adolescents.	1	1	1	1	1	-	1	1	7 (Good)
11.	Laleska Pâmela Rodrigues da Silva et.al. 2019	Dissatisfaction about body image and associated factors: a study of young undergraduate students.	1	1	1	1	-	-	1	1	6 (Good)
12.	Zhongyi Zhao et.al. 2019	Association between depression and overweight in Chinese adolescents: a cross-sectional study.	1	1	1	1	-	1	1	1	7 (Good)
13.	Anna Guerrini Usubini et.al. 2021	The Impact of Psychological Flexibility on Psychological Well-Being in Adults With Obesity.	1	1	1	1	1	-	-	1	6 (Good)
14.	Negar Yazdani et.al. 2018	Relationship between Body Image and Psychological Well-being in Patients with Morbid Obesity.	1	1	1	1	-	-	-	1	5 (Regular)
15.	Esra Tajik et.al. 2015	Unhealthy diet practice and symptoms of stress and depression among adolescents in Pasir Gudang, Malaysia.	1	1	1	1	-	1	1	1	7 (Good)
16.	Ji- yeong Kim et.al. 2007	The Impacts of Obesity on Psychological Well-being: A Cross-sectional Study about Depressive Mood and Quality of Life.	1	1	1	-	-	-	-	1	4 (Regular)

17.	Michael Daly et. al. 2019	Perceived Weight Discrimination Mediates the Prospective Association Between Obesity and Physiological Dysregulation: Evidence from a Population-Based Cohort.	-	1	1	1	1	-	1	1	6 (Good)
18.	Sayedeh Elham Sharafi et.al. 2019	Prevalence of anxiety and depression in patients with overweight and obesity.	1	1	1	1	-	-	-	1	5 (Regular)
19.	Kelli E. Friedman et.al. 2005	Weight Stigmatization and Ideological Beliefs: Relation to Psychological Functioning in Obese Adults.	-	1	1	1	1	1	-	-	5 (Regular)
20.	Zabihollah KavehFarsani et.al. 2020	Study of the effect of family communication and function, and satisfaction with body image, on psychological well-being of obese girls: the mediating role of self-esteem and depression.	1	1	1	1	1	-	-	1	6 (Good)
21.	Ahmed Jérôme Romain et.al. 2017	Impact of obesity and mood disorders on physical comorbidities, psychological well-being, health behaviours and use of health services.	1	1	1	-	1	-	1	1	6 (Good)
22.	Janet Robertson et.al. 2014	Obesity and health behaviours of British adults with self-reported intellectual impairments: cross sectional survey.	1	1	1	-	-	1	1	1	6 (Good)

DISCUSSION:

The current review found consistent evidence that severity of obesity is associated with the relationship between obesity and depression. Individuals with obesity showed poorer well-being in all three domains, although effect sizes were modest. They were also substantially more likely to report weight discrimination. We used mediation models with bootstrapping to test the proposition that associations between obesity and well-being are mediated by weight discrimination and found that approximately 40% of the total effect of obesity on psychological well-being could be explained by perceptions of weight discrimination.

CONCLUSION:

In the present study, emotional eating was identified as a mediator variable between depression and BMI in young men and women. This analysis confirms a reciprocal link between depression and obesity. Obesity was found to increase the risk of depression. In conclusion, weight control failure had an effect on suicidal ideation. Suicidal ideation in obese females was significantly higher than that in other populations. So, we conclude that obesity and overweight are associated with psychological well-being in adults.

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