

Depression, anthropometric parameters, and body image in adults: a systematic review

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SUMMARY

OBJECTIVE: To evaluate the association between depression, anthropometric parameters and body image in adults through a systematic review of the literature.

METHOD: Medline, Lilacs and PsycInfo databases were searched by two independent reviewers up to August 2018, without language restriction, including cross-sectional, case-control, and cohort studies in adults (18–65 years), of both genders. The quality of the studies was assessed using the Newcastle-Ottawa Scale instrument. The PRISMA standards were adopted for the conduct of this review, whose protocol is registered in PROSPERO, number CRD42018105248.

RESULTS: The search resulted in 1,770 articles; however, a total of 5 articles were included in this review, whose designs were transversal. Quality scores ranged from 8 to 9 points. The association between depression, anthropometric parameters, and body image was found in all included studies, regardless of the different statistical methods employed. Women perceived their body larger than it really was by idealizing a lean body, whereas in men the perception of being underweight or dissatisfaction was observed by idealizing a larger body, both conditions were associated with the presence of depression or depressive symptoms and body mass index in the same time.

CONCLUSION: Depression, anthropometric parameters and body image were associated. It is necessary to conduct other studies, especially longitudinal studies to elucidate the relationship among depression, weight, body image, and other associated factors.

KEYWORDS: Body image. Depression. Body mass index. Obesity. Review.

INTRODUCTION

Body image is one of the components of personal identity and can be defined as the figure that one has on their own anthropometric measurements, shapes, and contours of the body, and the feelings related to these factors that influence the satisfaction with the body shape or specific parts of the body¹. Cultural, social, cognitive, affective, and biological aspects, as well as individual attitudes in relation to weight and body shape, and the presence of psychopathologies should also be considered in the assessment of body image².

The dissatisfaction with body image (IIC) has been

attributed to a discrepancy between the perception of body shape and its idealized image³, with an association to characteristics such as sex^{4,5}, nutritional state⁶, eating disorders⁷, in addition to other unfavorable outcomes in health, such as the presence of depressive symptoms⁸.

Depression and obesity are public health problems that have bidirectional association^{9,10}. Both can influence the perception of body image and promote or aggravate comorbid clinical conditions, such as worse general health conditions or eating

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disorders¹¹⁻¹⁴. Obese individuals are generally more dissatisfied with their body image¹³, while those with depression tend to distort it negatively¹¹. Only a Dutch study has investigated the joint role of overweight and the severity of the depressive episode in the self-assessment of body image. A higher diagnosis and severity of depression and Body Mass Index (BMI) are associated with dissatisfaction with body image (DBI), both in isolation and in comorbidity¹⁴.

Most studies about body image and health have been conducted with adolescents¹⁵⁻¹⁸ with the assumption that the perception of body image is affected by pubertal development. However, the physical changes that occur in adulthood also have the potential to affect body image, since, in this stage, body shape can move away from the aesthetics of sociocultural ideals of physical beauty¹⁹.

Thus, we identified the need to better understand what are the factors that influence the perception of body image among adults and how these factors relate among themselves. The objective of this study is to evaluate the association between depression, anthropometric measurements, and body image in adults, from a systematic review of the scientific literature.

METHODS

The present study is a systematic review of the literature, and its protocol is registered in the Prospero International Prospective Register of Systematic Reviews under CRD42018105248. We adopted the standards of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) for conducting the study and obtaining and presenting the results²⁰.

The process of searching and evaluating the articles was conducted independently by two reviewers (DAS and LOF) and, in case of inconsistencies, a consensus was reached between them, or they sought the opinion of a third reviewer (MCV).

The databases consulted were Medline, Lilacs, and PsycInfo using boolean operators (*and/or*) for the combination of the following keywords: *body image, adults, depression**, *body mass index, body size, body weights, and measures*. There was no restriction of language or date, and the process was conducted in August 2018, contemplating articles published until the date of the search.

The inclusion criteria adopted were studies with adults (18 to 65 years old), of both sexes, and with cross-sectional, case-control, or cohort design. We

excluded studies performed with specific groups or that included individuals with associated medical and clinical conditions, pregnant women, women in postpartum, and hospitalized population. We also excluded interventional studies, letters, editorials, case reports, databases of theses and dissertations, summaries of congresses, and opinion articles.

The selection process comprised the identification of titles, the evaluation of abstracts, and the reading of the studies in full. Subsequently, information identifying the authors and year of publication, place of study, population, form of assessment of body image and depression, anthropometric parameter investigated, objectives of the study, measures of association evaluated, and main results were extracted from the studies selected.

The quality of the studies included in this review was assessed using the Newcastle-Ottawa Scale (NOS), which comprises the assessment of selection, comparability, and outcomes of each study^{21,22}. The total score assigned corresponded to the number of positive items in the NOS, with a maximum of 10 points.

RESULTS

The search process resulted in 1,770 scientific articles, of which 620 were from Medline, 1,142 from PsycInfo, and 8 from Lilacs. After the assessment by means of the inclusion and exclusion criteria, 12 studies were read in full and, of these, five were included in this systematic review^{12,14,23-25}. The reasons for exclusion were: studies that evaluated the three factors of interest simultaneously (3/7), focused on the role of self-esteem (1/7) or stigma (1/7), presented a mean age at the stage of adolescence (1/7) and had an experimental design (1/7). The process of selection of articles is described in Figure 1.

The characterization and the main methodological aspects of the five studies included in this review are presented in Table 1. We observed that all publications started in 2010, and two were published in 2018. Also, we found that two studies were conducted in the United States of America (USA).

The methods for analyzing body image was different among studies. One used an instrument validated and specific for each sex¹⁴, and in four studies, the assessment was performed by means of a specific question, and in only one²⁵ body image was compared with BMI, calculated from measurements taken. Thus, two dimensions of body image were

studied: the perception of body image and satisfaction with body image, and one of the 14 studies investigated both (Table 1).

The instrument most often used for the assessment of depression was the Patient Health Questionnaire (PHQ). All studies used BMI as an anthropometric indicator and, in most of them (3/5), this index was calculated from the weight and height measured (Table 1).

The quality scores of the studies ranged from 8 to 9 (Table 1). The item “description of the response rate or characteristics of respondents and non-respondents” was the evaluation criterion with lower scores.

Objectives, measures of association, and the main results of the studies are described in Table 2. It is noteworthy that two of the five studies had as objective to investigate the mediating role of DBI in the asso-

ciation between depression and obesity^{23,24}, and most presented results separated by sex. The measure of association most often employed was the Odds Ratio.

It is important to emphasize that, with the exception of Richard et al.¹² and Gaskin et al.²⁴, all the other studies excluded individuals with BMI < 18.5 kg/m², classified as low weight, due to the possible association with eating disorders, small sample size, or for considering it a specific group with different characteristics from those with normal weight or excess weight.

An association between depression, anthropometric indicators, and self-image was found in all studies included, although the variables and methods of statistical analysis employed differed among them. Regarding the method for analyzing the association between depression and anthropometric indicators and

TABLE 1. CHARACTERIZATION OF THE STUDIES INCLUDED IN THE SYSTEMATIC REVIEW REGARDING DESIGN, PROCEDURES, ASSESSMENT TOOLS AND SCORE OF THE METHODOLOGICAL QUALITY.

Author/Year	Country	Study design	Population	Self-body image and dimension evaluated	Depression	Anthropometric indicator	NOS score
Gavin et al. ²³ (2010)	USA	Cross-sectional	4,543 women enrolled in the <i>Group Health Cooperative</i> , 40 years old or older	Score of 0 (always) to 5 (never) to the statement “I feel satisfied with my body shape” Satisfaction with body image	PHQ-9	BMI (self-reported weight and height)	8
Gaskin et al. ²⁴ (2013)	USA	Cross-sectional	13,548 participants from Nhanes, 18 years old or older	“Do you consider yourself to be underweight, overweight or with an appropriate weight?” Self-perception of body image	PHQ-9	BMI (weight and height measured)	8
Richard et al. ¹² (2016)	Switzerland	Cross-sectional	15,975 participants from SHS, 18 years old or older	“Are you satisfied with your body?” Satisfied (absolutely satisfied or very satisfied) and dissatisfied (rather dissatisfied or absolutely dissatisfied) Satisfaction with body image	PHQ-9	BMI (self-reported weight and height)	8
Kim et al. ²⁵ (2018)	Korea	Cross-sectional	Participants of Knhanes VI-2 from 19 to 65 years old	“How would you describe your body image?” (Very thin/slightly thin, normal, slightly/very obese) Comparison of body self-image with BMI measured: Accurate perception (perceived weight = measured); Overestimation (perceived weight > measured) and underestimation (perceived weight < measured). Self-perception of body image	PHQ-9K (Korean version)	BMI (measured weight and height)	8
Paans et al. ¹⁴ (2018)	Netherlands	Cross-sectional	1,452 participants of the Wave 9 of Nesda, 18 to 65 years old	Stunkard Adult Figure Rating Scale, specific for sex, containing 9 figures (very thin=1 and very heavy=9) -Circle the figure that shows your body today (Self-perception of body image) -Circle the figure that shows the body that you would like to have (idealized body image) Categories: 1) Individuals who would like to have a larger silhouette; 2) Individuals who were satisfied with their body; 3) Individuals who would like to have a smaller silhouette Satisfaction with body image	Cidi for diagnosis of depression IDS-SR for assessing the severity of depression	BMI (measured weight and height)	9

USA: United States of America; Nhanes: National Health and Nutrition Examination Survey; Knhanes VI-2: Sixth Korea National Health and Nutrition Examination Survey; Nesda: Netherlands Study of Depression and Anxiety; SHS: Swiss Health Survey; PHQ: Patient Health Questionnaire; Cidi: Composite International Diagnostic Interview (Cidi), BMI: Body Mass Index, NOS: Newcastle-Ottawa Scale.

TABLE 2. OBJECTIVES, MEASURES OF ASSOCIATION, AND MAIN RESULTS OF THE STUDIES INCLUDED IN THE SYSTEMATIC REVIEW.

Authors	Objectives	Measure of Association	Main Results
Gavin et al. ²³ (2010)	<p>-To evaluate the association between obesity and depression in a population sample of middle-aged women</p> <p>-To evaluate if the dissatisfaction with body image has a mediator role in this association and whether this varies with the level of formal education</p>	Odds Ratio (OR)	<p>Obesity and Depression</p> <p>-Adjusted by dissatisfaction with body image and stratified by level of formal education</p> <p><16 years of formal education: OR= 1.81; CI 95% 1.15; 2.86*</p> <p>>=16 years of formal education: OR= 1.25; CI 95% 0.85; 1.85</p> <p>-Adjusted by dissatisfaction with body image and other sociodemographic co-variables and smoking, stratified by level of formal education</p> <p><16 years of formal education: OR= 1.75; CI 95% 1.11; 2.77*</p> <p>>=16 years of formal education: OR= 1.15; CI 95% 0.77; 1.72</p>
Gaskin et al. ²⁴ (2013)	<p>-To evaluate the strength of the association of depression with weight and the self-perception of body image</p> <p>-To evaluate whether the relationship between excess body weight and depression was mediated or confounded by the perception of body image</p>	Odds Ratio (OR)	<p>Women</p> <p>-Depression and BMI adjusted for self-perception of body image</p> <p>Obesity (vs eutrophy): OR= 1.72; CI 95% 1.01; 2.92*</p> <p>Overweight (vs eutrophy): OR= 1.62; CI 95% 1.01; 2.60*</p> <p>Low weight (vs eutrophy): OR= 0.92; CI 95% 0.19; 4.42</p> <p>-Depression and self-perception of body image with adjustment for BMI</p> <p>Overweight (vs eutrophy): OR= 1.73; CI 95% 1.14; 2.61*</p> <p>Low weight (vs eutrophy): OR= 2.75; CI 95% 1.47; 5.14*</p> <p>Men</p> <p>-Depression and BMI adjusted for self-perception of body image</p> <p>Obesity (vs eutrophy): OR= 1.24; CI 95% 0.62; 2.49</p> <p>Overweight (vs eutrophy): OR= 0.77; CI 95% 0.39; 1.50</p> <p>Low weight (vs eutrophy): OR= 0.46; CI 95% 0.13; 1.63</p> <p>-Depression and self-perception of body image with adjustment for BMI</p> <p>Overweight (vs eutrophy): OR= 1.47; CI 95% 0.81; 2.67</p> <p>Low weight (vs eutrophy): OR= 2.80; CI 95% 1.42; 5.54*</p>
Richard et al. ¹² (2016)	-To evaluate the association between dissatisfaction with body image and depression among men and women of different age subgroups	Odds Ratio (OR)	<p>Dissatisfaction with body image and depression</p> <p>-Adjusted by BMI and other sociodemographic and clinical variables, stratified by sex</p> <p>Total sample: OR= 2.04; CI 95% 1.66; 2.50*</p> <p>Men: OR= 1.85; CI 95% 1.34; 2.56*</p> <p>Women: OR= 2.25; CI 95% 1.71; 2.96*</p> <p>-Adjusted by BMI and other sociodemographic and clinical variables, stratified by age range</p> <p>Young people: OR= 1.78; CI 95% 1.16; 2.74*</p> <p>Adults: OR= 2.10; CI 95% 1.61; 2.74*</p> <p>Elderly: OR= 2.34; CI 95% 1.30; 4.23*</p> <p>-Adjusted for sociodemographic and clinical variables, stratified by nutritional state</p> <p>Low weight: OR= 5.2; CI 95% 1.77; 15.26*</p> <p>Eutrophy: OR= 1.89; CI 95% 1.39; 2.59*</p> <p>Overweight: OR= 2.0; CI 95% 1.41; 2.83*</p> <p>Obesity: OR= 1.97; CI 95% 1.1; 3.51*</p>
Kim et al. ²⁵ (2018)	-To investigate the association between perception of body weight and depressive symptoms among Korean adults and potential differential association by gender	Regression coefficient (β)	<p>Women</p> <p>-Underestimation of weight status (vs accurate perception) and depressive symptoms</p> <p>Total sample: β =0.19; CI 95% -0.40; 0.76</p> <p>Obese: β =-1.25; CI 95% -2.44; -0.01*</p> <p>Eutrophic: β =0.14; CI 95% -0.55; 0.84</p> <p>-Overestimation of weight status (vs accurate perception) and depressive symptoms</p> <p>Total sample: β =0.45; CI 95% 0.10; 0.79*</p> <p>Obese: not informed</p> <p>Eutrophic: β =1.00; CI 95% 0.54; 1.45*</p> <p>Men</p> <p>-Underestimation of weight status (vs accurate perception) and depressive symptoms</p> <p>Total sample: β =0.14; CI 95% -0.25; 0.52</p> <p>Obese: β =0.01; CI 95% -0.62; 0.64</p> <p>Eutrophic: β =0.30; CI 95% -0.25; 0.85</p> <p>-Underestimation of weight status (vs accurate perception) and depressive symptoms</p> <p>Total sample: β =-0.09; CI 95% -0.62; 0.44</p> <p>Obese: not informed</p> <p>Eutrophic: β =-0.21; CI 95% -0.78; 0.38</p>
Paans et al. (2018)	<p>14 -To examine whether depressive disorder, depressive symptoms, and BMI are associated with the self-perception of body image and dissatisfaction with body image</p> <p>-To evaluate the association between depression and obesity along with body size, perception of body image, and dissatisfaction with body image</p>	Regression coefficient (β)	<p>Depression and self-perception of body image (Outcome 1)</p> <p>-Diagnosis of depression, adjusted for BMI</p> <p>Healthy controls: Reference</p> <p>Patients in remission: β=0.07 p=0.25</p> <p>Patients with current depression: β=0.14 p=0.08</p> <p>-Severity of depression, adjustment for BMI:</p> <p>Severity of depression: β=0.07 p=0.007*</p> <p>Depression and dissatisfaction with body image (Outcome 2)</p> <p>-Diagnosis of depression, adjustment for BMI</p> <p>Healthy controls: Reference</p> <p>Remitted patients: β=0.12 p=0.01*</p> <p>Current patients: β=0.21 p=0.001*</p> <p>-Severity of depression, adjustment for BMI</p> <p>Severity of depression: β=0.11 p< 0.001*</p>

body image, only one of the papers²⁵ considered the combination of the assessment of body image and nutritional state (derived from the calculation of the BMI) to build the variable of interest related to the accuracy of self-perception of body image, according to the results presented in Table 2.

In general, women perceived their body as larger than it really was or were dissatisfied with their body image, possibly due to the idealization of a slimmer body, and both the distortion of body image as the DBI were associated to the presence of depression. In the case of men, the perception of being underweight or the DBI due to the idealization of a larger body proved to be associated with the presence of depressive symptoms. A study found there was a reduction of depression scores among obese women who underestimated their body weight²⁵ (Table 2).

Paans et al.¹⁴ analyzed two outcomes, the perception of body image and dissatisfaction with body image, both evaluated through the identification of silhouettes. The associations with depression and BMI were tested in two multivariate models, whereas, in one of them, the diagnosis of depression was considered and, on the other, the severity of the clinical condition. In the first model, only BMI was associated with a body image considered large. In the second model, this association was observed for both the highest severity of depression and high values of BMI. However, when DBI was evaluated, significant associations were obtained in the two models, both with the diagnosis of depression and BMI, as well as with the severity of depression and BMI¹⁴, showing that the presence of depression and greater severity of clinical manifestations appear to be more related to the dissatisfaction with body image, regardless of BMI, than with the perception of a large silhouette, which seems to be a reflection of the BMI.

Among the studies that performed analyzes stratified by age^{12,25}, one¹² identified a significant association between DBI and depression (with adjustment for BMI) in all age ranges studied, with increasing magnitude of OR with increasing age (Young individuals: OR= 1.78; CI 95% 1.16; 2.74; Adults: OR= 2.10; CI 95% 1.61; 2.74; Elderly: OR= 2.34; CI 95% 1.30; 4.23). In contrast, Kim et al.²⁵ found that, in individuals with normal weight, the magnitude of the association between overestimation of body image (vs. accurate perception) and depression was higher in younger individuals (19 to 40 years) than among older individuals (41 to 65 years) (average PHQ score of

1.04, 95% CI: 0.49-1.60 and mean PHQ score of 0.63, 95% CI, 0.22-1.05, respectively; values that were not described in Table 2, since the objective of the study did not include the evaluation per age).

Another study²³ conducted analyses stratified by level of formal education to investigate the association between depression and obesity, with models adjusted for DBI only and including other covariates. An association was found only among those with less formal education in both models (adjustment only for DBI: OR=1.81; 95% CI 1.15; 2.86; adjustment including other covariates: OR= 1.75; CI 95% 1.11; 2.77). In participants aged 16 years or with more years of formal education, there was no association between depression and obesity in the analysis adjusted for body image²³.

DISCUSSION

This systematic review identified associations between depression, anthropometric indicators, and body image in adult individuals with differentiated standards for different sexes. Among women, the associations found were between depression, higher BMI or overweight/obesity, and dissatisfaction with body image due to excess weight or the perception of being overweight. In men, there were also associations identified, but with dissatisfaction due to low weight or the perception of being underweight. These differences in the pattern of DBI between sexes, in which women often idealize a slim body while men value a muscular body, have been reported in the literature^{26,27}.

It is important to highlight that this is the first systematic review to investigate, in adults, the association between depression, anthropometric indexes, and body image combined. We included studies published in different databases, without restrictions on language and date of publication, contemplating population-based samples representative of different parts of the world.

A slim body is, as a rule, revered as the standard of beauty and dissatisfaction with body image is observed even among eutrophic individuals²⁸. In addition to the lack or excess weight, other forms of dissatisfaction with the body could be observed, such as dissatisfaction with body structure, size of certain parts of the body, or fat distribution.

Dissatisfaction with one's own body and with its self-perception can become even more intense in the presence of depression since negative self-per-

ception, and low self-esteem are part of the clinical scenario of the disease. In addition, changes in appetite may also be present, both as part of the symptoms, as resulting from the treatment of the disease, with consequent changes in weight and nutritional status²⁹. Atypical depression, more frequent among women, often presents as increased sleepiness and appetite and, consequently, weight gain, and has been shown to be associated with overweight and obesity³⁰. Thus, it is supposed that the atypical depression can also be more associated with DBI than other subtypes of depression. However, no studies were found that assess subtypes of depression and body image in adults, highlighting the need for research with that purpose.

There was a reduction in magnitude or absence of the association between depression and body image (when adjusted for BMI) and between depression and BMI (when adjusted for body image), which may explain the differences found among the studies^{23,24,31}. There is no consensus on the role of body image in the relationship between depression and BMI, nor of BMI in the relationship between depression and body image, being regarded as mediators in some studies and confounding variables in others. Following the Directed Acyclic Graph (DAG), mediating variables should not be included as an adjustment in causal models³². It is also possible that BMI and body image are indicators (manifest) of a same condition (latent variable) and that, in association with depression,

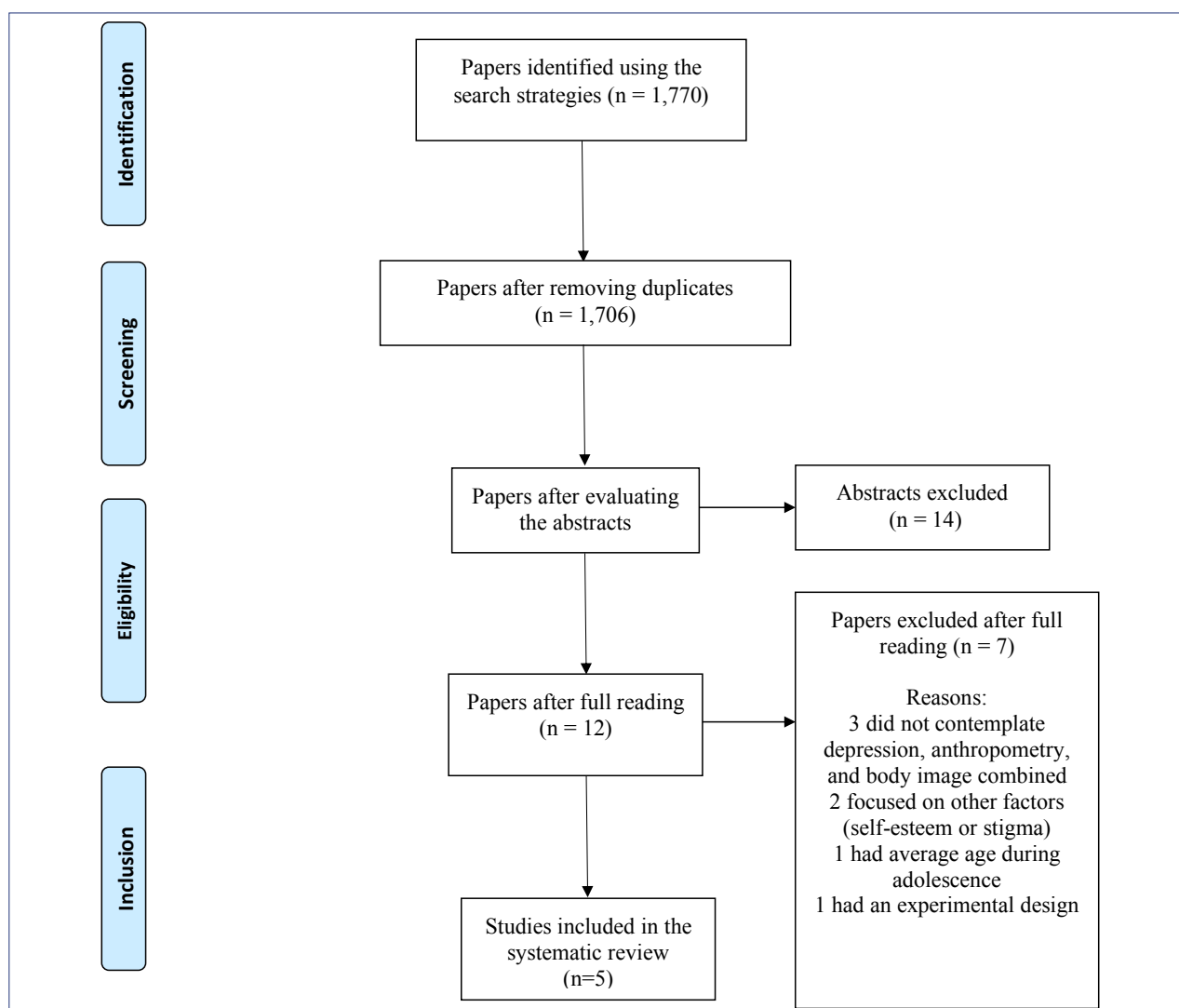


FIGURE 1. FLOWCHART OF THE PROCESS FOR SELECTION OF PAPERS: IDENTIFICATION, SCREENING, ELIGIBILITY AND INCLUSION OF SCIENTIFIC PAPERS IN THE SYSTEMATIC REVIEW, BASED ON PRISMA (2019).

can operate in different ways in different groups, for example, in the presence of obesity and in individuals with normal weight.

In most of the studies included in this review, the magnitude of the associations between depression and self-perception or dissatisfaction with body image was more robust than between depression and the actual nutritional state, obtained from BMI, which demonstrates the importance of subjective aspects in the investigation of the association between depression and weight^{24,25,33}. In this sense, it was observed that an accurate perception of weight among obese women might represent a marker of increased risk of depression²⁵.

This systematic review had as limitations the weaknesses of the studies selected, such as the method for obtaining anthropometric data, since some studies used self-reported measurements, and the assessment of body image, which was investigated in several studies by means of just one question. Furthermore, most studies excluded individuals with BMI < 18.5 kg/m², preventing the verification of the association of depression and body image in these individuals. The studies included in this review are cross-sectional, which does not allow the identification of the temporal sequence of the variables studied, emphasizing the need for longitudinal research on the subject.

We observed a good methodological quality of the articles included in this study, guaranteeing the reliability of the results obtained. All articles were published less than a decade ago, which shows recent in-depth interest on this topic regarding the adult population since most of the previous studies had been conducted on adolescents. The scarcity of studies on adults is reported by sever-

al authors^{12,24,34} and, moreover, discrepant results have been found when the role of other variables, such as gender, age, and formal education, among others, were investigated^{12,25}. Thus, the relevance of this study and the need for future investigations is highlighted.

The negative impact of depression and obesity on social life, work, life habits, and health of individuals is already well documented^{14,29,35,36}. In situations where both conditions are present, the severity could be even greater, associated with other clinical conditions, such as eating disorders or cardiovascular diseases^{9,29,37}.

Considering the obesity epidemic worldwide³⁸, the estimate that depression will contribute to the greatest global burden of diseases in the year of 2030,³⁹ and the bidirectional association between depression and obesity^{9,10}, it is essential and urgent that resources are invested allowing for the planning and implementation of interventions in public health and clinical practice with the purpose of preventing and controlling these diseases.

CONCLUSION

This review identified an association between depression, anthropometric indicators, and body image on representative samples of adults from different parts of the world, with specific patterns for different sexes.

We found a recent interest in the study of this topic in adults and the need of other studies, especially of a longitudinal design, for greater understanding of the relationship between depression, weight, body image, and other associated factors.

RESUMO

OBJETIVO: Avaliar a associação entre depressão, indicadores antropométricos e autoimagem corporal em adultos por meio de uma revisão sistemática da literatura.

MÉTODOS: Foi realizada busca nas bases de dados Medline, Lilacs e PsycInfo por dois revisores independentes, até agosto de 2018, sem restrição de idioma, incluindo estudos de delineamento transversal, caso-controle e de coorte, avaliando adultos (18-65 anos), de ambos os sexos. A qualidade dos estudos foi aferida por meio do instrumento Newcastle-Ottawa Scale. Esta revisão sistemática foi conduzida de acordo com as normas do Prisma e foi registrada no Prospero (CRD42018105248).

RESULTADOS: A busca resultou em 1.770 artigos, dos quais cinco foram incluídos nesta revisão, todos de desenho transversal. Os escores de qualidade dos estudos variaram de 8 a 9 pontos, num total de 10. A associação entre depressão, medidas antropométricas e autoimagem corporal foi encontrada em todos os estudos incluídos, independentemente dos diferentes métodos estatísticos empregados. No geral, as mulheres percebiam o seu corpo maior do que realmente era ou estavam insatisfeitas por desejarem ter um corpo mais magro, enquanto que, entre os homens, a percepção de estar abaixo do peso ou a insatisfação com a imagem corporal foram observadas, principalmente, por desejarem ter um corpo maior. Tanto a percepção distorcida ou a insatisfação com a imagem corporal se mostraram associadas à depressão e ao índice de massa corporal conjuntamente.

CONCLUSÃO: Depressão, indicadores antropométricos e autoimagem corporal se mostraram associadas. Destaca-se a necessidade da condução de outros estudos, especialmente de desenho longitudinal, para maior elucidação desta relação.

PALAVRAS-CHAVE: Imagem corporal. Depressão. Índice de massa corporal. Obesidade. Revisão.

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