

Physical Activity and Body Image Perception in Women: A Systematic Review

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Abstract:

Background: Body dissatisfaction occurs if an individual internalizes the ideal body, the culturally determined one, and by social comparison this individual concludes that his body disagrees of that ideal. Studying potential beneficial effects that satisfaction with body image (BI) can have is relevant and it was recently demonstrated. Studies conducted in different countries have suggested that BI influences the reactions linked to changes in body mass and in the attitudes linked to its control. Thus, erroneous perception of BI could lead to inappropriate behaviors, generating changes in body mass. Several authors have constructed some different instruments for BI evaluation. This study aimed to identify publications which have associated physical activity levels and BI perception evaluation in women in order to identify current state of researches related to this issue.

Materials and Methods: A sequential systematic search in MEDLINE and SciELO comprising the period from 2010 to 2020 January was performed. After the completed search, the authors revised the selected papers in order to confirm if the subject of interest in the studies revised was related to BI perception among women associated to physical activity.

Results: In this systematic review from total number of studies selected after searching, 11 studies presented the inclusion criteria; in other words, they were studies evaluating women BI perception and physical activity levels.

Conclusion: High prevalence of body image dissatisfaction, especially in overweight women who present low physical activity levels, indicates the importance of the development of more studies dealing with this subject. Possibly, it could be especially important and relevant to investigate different physical exercise modalities and intensity levels associated with BI perception variation.

Key Word: Behavior; overweight; physical exercise.

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I. Introduction

Body image (BI) can be understood as a multidimensional construction that broadly describes the internal representations of our body structure and physical appearance, in relation to ourselves and the others¹. Body dissatisfaction occurs if an individual internalizes the ideal body, the culturally determined one, and by social comparison this individual concludes that his body disagrees of that ideal^{2,3}.

Studying potential beneficial effects that satisfaction with BI can have is relevant and it was recently demonstrated⁴. Studies conducted in different countries have suggested that BI influences the reactions linked to changes in body mass and in the attitudes linked to its control. Thus, erroneous perception of BI could lead to inappropriate behaviors, generating changes in body mass^{5,6}. Some authors have constructed different instruments for BI evaluation^{7,8}. In a study carried out in Brazil evaluating university students of both sexes, self-perception of body image was considered adequate, mainly in active and very active individuals, which did not occur among those classified as sedentary or irregularly active⁹. According to Turtelli et al. (2002), a greater awareness of body image, in various situations, can only be achieved through movement¹⁰.

Still, since misperceived self-perception is a condition that can lead to the tendency in develop physical and psychological problems¹¹ and the instruments for body image perception evaluation can depend on the ethnic and cultural characteristics of the population^{12,13}, the perception of body self-image should be evaluated. The mistaken perception of self-image can lead to problems of a physical and psychological nature. The instruments for the evaluation of the self-image can help in the detection of this type of occurrence and, therefore, it is important to use this type of resource to evaluate the perception of the body's own image¹⁴.

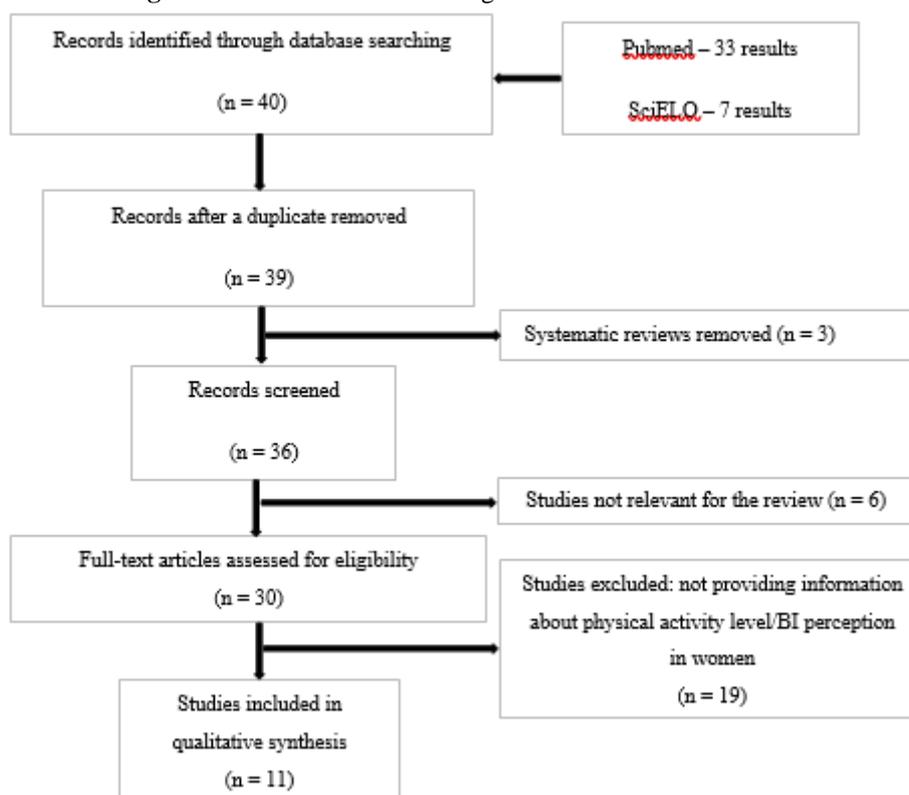
An important information to be taken in account is the fact of researchers had been demonstrated man and women reporting to be satisfied with their body size were regularly active¹⁵. Besides, it was demonstrated that irrespective of actual weight, those who are satisfied with their body size tend to be more likely to engage in

regular physical activity than those less satisfied⁴. Thus, this study aimed to identify publications which have associated physical activity levels and BI perception evaluation in women in order to identify current state of researches related to this issue.

II. Material and Methods

Firstly, a sequential systematic search in MEDLINE and SciELO comprising the period from 2010 to 2020 January was performed. The results were obtained through the following equations in MEDLINE: “body image” [MeSH Terms] OR (“body” [All Fields] AND “image” [All Fields] OR “body image” [All Fields] AND (Physical Exercise OR “Physical Activity” OR Sports) AND (Women OR Woman OR “Women's Groups”)), and in SciELO: (body image) AND (physical exercise) AND (women). After the completed search, the authors revised the selected papers in order to confirm if the subject of interest in the studies revised was related to BI perception among women associated to physical activity. No language limits for the publications, age, or gender were determined.

Figure 1. Flow chart of the management and selection of studies



III. Results

From total number of studies selected after searching, 11 studies presented the inclusion criteria; in other words, they were studies evaluating women BI perception and physical activity levels. Characteristics of selected studies are described in Table 1, including a description of methods used for evaluation of BI perception and physical activity levels.

Table 1. Selected studies according to the inclusion criteria

Reference	Country (year)	Method used to evaluate BI perception	Physical activity levels
Fermino et al. ¹⁵	Brazil (2010)	Stunkard Scale, with figures	Frequency control by university sports center, regularity ≥ 3 times per week for attendance in activities that could be weight training, ergometry, indoor cycling, and gymnastics

Benkeser et al. ¹⁶	Republic of Ghana (2012)	Stunkard Scale, with figures	Twenty-five section household questionnaire
Bittar et al. ¹⁷	Brazil (2013)	BSQ	Questionnaire with codes and method of calculation of scores on habitual physical activity
Przybyłowicz et al. ¹⁸	Poland (2014)	Nutritional/Eating Behavior Questionnaire	Questionnaire was extended by the authors to include details on body mass, how often slimming diets were adopted, and physical activity levels
Zaccagni et al. ¹⁹	Italy (2014)	Silhouette matching technique, with nine female figures	Determined on the basis training hours during a typical week, as declared by the subject. Effect of physical activity practice on body image perception was divided into three tertiles: 1) subjects with poor physical activity (absent or low), 2) subjects with medium physical activity, and 3) subjects with high physical activity. 1st tertile included those practicing physical activity ≤ 2 hours/ week; 3rd tertile included those practicing physical activity ≥ 6 hours/ week
Martín et al. ²⁰	Spain (2014)	Ad hoc questionnaire	Multidimensional Body Self Relations Questionnaire (MBSRQ)
Costa et al. ²¹	Brazil (2015)	BSQ	Commitment Exercise Scale [used to assess the degree of adherence of individuals to physical exercise even in adverse conditions (e.g., injury), taking in account not only the frequency, but also the commitment to exercise]
Mintem et al. ²²	Brazil (2015)	Stunkard Scale, with figures	International Physical Activity Questionnaire-long version
Medeiros et al. ²³	Brazil (2017)	BSQ	Structured questions about physical exercises frequency and duration
Bibiloni et al. ²⁴	Spain (2017)	Stunkard Scale, with figures	International Physical Activity Questionnaire 2.0 in the short form
Rica et al. ²⁵	Brazil (2018)	Adapted Stunkard Scale, with figures	Program performed for six months (three one-hour sessions of resistance exercises on nonconsecutive days).

Concerning the methods used to evaluate BI perception, half of selected studies used the Stunkard Scale, with figures⁷. The other half of studies used BSQ or any other questionnaire in order to investigate BI perception. To investigate physical activity levels, the majority of participants used questionnaires, and 20% of the questionnaires here referred to the International Physical Activity Questionnaire.

IV. Discussion

The present study aimed to identify publications where physical activity levels and BI perception evaluation in women were associated. One of the studies assessed in this review highlighted the consistent evidence that exercise provides improvement in psychological well-being, self-esteem, and BI, being confirmed already that this is a common goal among individuals who initiate exercise programs. The study also pointed to the fact that individuals who are unsatisfied with their own body image tend to search for weight control activities¹⁵.

Silhouette scales have been used as a technique to assess nutritional status and also BI perception. This technique has been performed in different countries and the silhouette scales for adults used by the majority of studies selected in this review are among the most used. However, as can be observed in the present work, some questionnaires have also been used to assess BI¹⁷⁻²¹.

High frequency of dissatisfaction with BI in women attending academies was observed from data analysis obtained by the BSQ. Authors have argued the fact that it is known that females present highest body dissatisfaction levels²¹. In another study, in a physically active group, lower scores were observed in the BSQ, indicating improvement in BI perception in women studied¹⁸.

Concerning BI dissatisfaction, women had a higher score, as did “at risk” (high body fat levels) and “overweight” (BMI) participants. The authors defended that it is important to keep in mind that these variables

are associated to body dissatisfaction and that the higher the index, the greater the dissatisfaction¹⁵. Another of the selected studies for the present review revealed that greater dissatisfaction and higher weight status perception consistency were observed in the females who were evaluated. According to these authors, research has evidenced a correlation in dissatisfaction and discrepancy with ideal body image in women, among overweight ones, with lower levels of physical activity¹⁹.

Examining a large sample of women in order to determine if ideal body size of West African women influences their current weight, almost half of women desired to be lighter in weight, with some of them trying to decrease weight by exercising or dieting¹⁶. Another research investigated if women who regularly practiced sport in sports centers of the community of Madrid (Spain) had exaggerated eating habits related to what they called “excessive health food” and the researchers concluded that some factors such as physical exercise practice influence BI and perception of BI²⁰.

Mintem et al. (2005) in their study discussed that body dissatisfaction is associated with behaviors such as smoking, physical inactivity, and poor dietary habits as well as with health and psychological related factors, including psychosomatic status, depressive symptoms, and nutritional status²². In this study, the presence of minor psychiatric disorders remained associated with body dissatisfaction in both directions in men and women.

Body dissatisfaction among women attending gym clubs was verified and authors defended the possible explanation for the low dissatisfaction score among women that was found in their studies as maybe being the fact of the population in analysis who attended the academy going also, according to the authors, to the gym, needing a minimum of acceptance of the body and motivation for exercise practice²³. Indeed, recently, after a significant portion of the volunteers investigated report no worries about body weight, a study concluded that females were more likely to be concerned about their body weight status compared with males and the practice of physical activity was a positive factor in self-perception²⁴. In relation to BI perception, a recent study pointed that physically active lifestyle helps elderly women make their own judgments related to self-assessment and BI. The authors concluded that the positive evaluation about current silhouettes among active women may be related to their active lifestyles, supporting the use of physical activity to improve BI²⁵.

V. Conclusion

There are few publications investigating possible associations between physical activity levels and BI perception evaluation in women. However, high prevalence of body image dissatisfaction, especially in overweight women who presented low physical activity levels, indicates the importance of the development of more studies dealing with this subject. Possibly, it could be especially relevant to investigate different physical exercise modalities and intensity levels associated with BI perception variations.

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