



University of
Texas Libraries



e-revist@s



Centro Unversitário Santo Agostinho

revistafsa

www4.fsnet.com.br/revista

Rev. FSA, Teresina, v. 17, n. 9, art. 2, p. 27-47, set. 2020

ISSN Impresso: 1806-6356 ISSN Eletrônico: 2317-2983

<http://dx.doi.org/10.12819/2020.17.9.2>

DOAJ DIRECTORY OF
OPEN ACCESS
JOURNALS

WZB
Wissenschaftszentrum Berlin
für Sozialforschung



Zeitschriftendatenbank



MIAR



Body Image of Pregnant Women: A Systematic Review of Predictive Models

Imagem Corporal de Gestantes: Uma Revisão Sistemática de Modelos Preditivos

Solange Riveli de Oliveira

Doutorado pela Universidade Federal de Minas Gerais
Mestre em Administração pela Universidade Federal de Lavras
Professora da Universidade Federal de Juiz de Fora
E-mail: solangeriveli.oliveira@ufjf.edu.br

Pedro Henrique Berbert de Carvalho

Doutor em Psicologia pela Universidade Federal de Juiz de Fora
Professor da Universidade Federal de Juiz de Fora
E-mail: pedro.berbert@ufjf.edu.br

Ricardo Teixeira Veiga

Doutor em Administração pela Universidade Federal de Minas Gerais
Professor da Universidade Federal de Minas Gerais
E-mail: ricardo.necc@gmail.com

Endereço: Solange Riveli de Oliveira

Universidade Federal de Juiz de Fora, Instituto de Ciências Sociais Aplicadas, Campus Governador Valadares – Av. Doutor Raimundo Monteiro Rezende, 330, Centro, Governador Valadares/MG, Brasil.

Endereço: Pedro Henrique Berbert de Carvalho

Universidade Federal de Juiz de Fora, Instituto de Ciências da Vida, Campus Governador Valadares – Rua Manoel Byrro, 241, Vila Bretas, Governador Valadares/MG, Brasil.

Endereço: Ricardo Teixeira Veiga

Universidade Federal de Minas Gerais, Faculdade de Ciências Econômicas, Departamento de Ciências Administrativas - Av. Antônio Carlos, 6627 - 4o. andar - sala 4047, Pampulha, Belo Horizonte/MG, Brasil.

Editor-Chefe: Dr. Tonny Kerley de Alencar Rodrigues

Artigo recebido em 28/04/2020. Última versão recebida em 12/05/2020. Aprovado em 13/05/2020.

Avaliado pelo sistema Triple Review: a) Desk Review pelo Editor-Chefe; e b) Double Blind Review (avaliação cega por dois avaliadores da área).

Revisão: Gramatical, Normativa e de Formatação



ABSTRACT

Body is an integral part of an existing sociocultural context, which shapes how it is valued (Figueiredo et al., 2014; Goldenberg & Ramos, 2007). During pregnancy women re-evaluate their appearance-related values to adapt to their changing body (Fuller-Tyszkiewicz, Skouteris, Watson, & Hill, 2013). The aim is to conduct a systematic review of the literature to analyze predictive models involving body image in pregnant women. This research adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guideline – PRISMA (Moher, Liberati, Tetzlaff J, et al., 2009). The search strategy included an online search of the following electronic databases: Scopus, Web of Science and PubMed. After applying all exclusion requirements, 13 articles were considered eligible. Some variables were exhaustively evaluated with pregnant body image such as self-esteem, depression and gestational weight. Many theoretical studies and predictive models applied instruments developed and adapted from other populations.

Keywords: Body Image. Systematic review. Pregnancy. Predictive Models.

RESUMO

O corpo é parte integrante de um contexto sociocultural existente, que molda como ele é valorizado (Figueiredo et al., 2014; Goldenberg & Ramos, 2007). Durante a gestação, as mulheres reavaliam seus valores relacionados à aparência para se adaptar às mudanças corporais (Fuller-Tyszkiewicz, Skouteris, Watson, & Hill, 2013). O objetivo é realizar uma revisão sistemática da literatura para analisar modelos preditivos envolvendo imagem corporal em gestantes. Esta pesquisa seguiu as diretrizes de itens de relatório preferenciais para revisões sistemáticas e meta-análises – PRISMA (Moher, Liberati, Tetzlaff J, et al., 2009). A estratégia de busca incluiu uma pesquisa on-line nas seguintes bases eletrônicas: Scopus, Web of Science e PubMed. Após a aplicação os requisitos de exclusão, 13 artigos foram considerados elegíveis. Algumas variáveis, como autoestima, depressão e peso gestacional foram avaliadas frequentemente com a imagem corporal da gestante. Muitos estudos teóricos e modelos preditivos aplicaram instrumentos desenvolvidos e adaptados de outras populações.

Palavras-chaves: Imagem Corporal. Revisão Sistemática. Gravidez. Modelos Preditivos.

1 INTRODUCTION

Several areas, such as Psychology, Sociology, Anthropology, among others, have contributed for the understanding about body image construct. In spite of the conceptual and methodological difficulties, the number of body image researches have increased between the end of the 20th century and the first decade of the 21st century (Ferreira, Castro, & Morgado, 2014), particularly by the direct and significant relationship between poor body image and negative outcomes for health and quality of life. In this field, some specific populations have received notorious interest from researchers, which is the case of pregnant women (Laus et al., 2014; Meireles, Neves, Carvalho, & Ferreira, 2017).

Negative body image of pregnant women have been associated with depressive symptoms and poor self-esteem (Kamysheva, Skouteris, Wertheim, Paxton, & Milgrom, 2008); and reduction in pre-natal attachment (Krisjanous, Richard, & Gazley, 2014).

Regarding consumption studies, body (Valentim, Falcão, & Campos, 2017) and more specifically pregnant body image is of interest for consumption studies (Krisjanous et al., 2014).

Although some recent studies have identified variables associated with body image in pregnant women (Collings, Hill, & Skouteris, 2018; Han, Brewis, & Wutich, 2016; Hartley, McPhie, Fuller-Tyszkiewicz, Briony Hill, & Helen Skouteris, 2016; Briony Hill, Skouteris, Fuller-Tyszkiewicz, Kothe, & McPhie, 2016; Watson, Fuller-Tyszkiewicz, Broadbent, & Skouteris, 2017) there is a lack of more specific and appropriate body image measures (Meireles, Neves, Carvalho, & Ferreira, 2015; Watson et al., 2017) and models to capture as experiences of this audience in which body shape and appearance change substantially over a relatively short period (Kamysheva et al., 2008).

Thus, this study aimed to conduct a systematic review of the literature and to analyze predictive models involving body image in pregnant women.

2 THEORETICAL FRAMEWORK

2.1 Body and Body Image

For many, the body is neither social nor public, but rather private; thus it makes more sense that it is studied by the physiological or biological sciences. However, besides being studied by such sciences, it is observed that the body is of interest of the studies of society.

As something social, the body interests consumption and moves a great industry of products and services. However, it is important to point out that the body is also a place of consumption, as long as products and services are used to build it, being the body the vehicle that allows a material interaction of the individual with society (Figueiredo et al., 2014; Le Breton, 2007; Oliveira & Ayrosa, 2016; Valentim et al., 2017).

In the social sciences, one of the more obvious ways of seeing the body is being surrounded by the culture of consumption (Goldenberg, 2005; Goldenberg & Ramos, 2007; Shilling, 2006; Tonini & Sauerbronn, 2013), for images of a sexy and thin women body, by social media and advertising. Sociocultural ideals are reinforced and reflected on the means of communication (Cash, 2011; Xavier, Xavier, & Gomes, 2015). Accordingly to Clark et al. (2009) body image is an internal representation of one's outer appearance, and includes cognitive, perceptual, and attitudinal components and it is strongly influenced by socio-cultural sources (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). In this sense, a lot of interest has been noticed by the people that seek to improve their own appearance (Shilling, 2006).

The body seems to provide a firm base for rebuilding a trustworthy sense of self in the world. Furthermore, the shapes, more and more reflexive of the way people relate with their bodies, can be seen as one of the characteristics and the body symbolizes the self in a moment in which value is placed in the young, apparent and sexual body (Le Breton, 2007; Oliveira & Ayrosa, 2016; Shilling, 2006). Thus, consumption gains space for this body to show up. "The rhetoric of the soul is replaced by that of the body under the moral aegis of consumption" (Le Breton, 2007, p. 84).

2.2 Pregnant body and Previous Systematic Reviews

Body image might be considered a key aspect of the pregnancy experience (Walker, Cooney, & Riggs, 1999). During pregnancy, women re-evaluate their appearance-related values to adapt to their changing body (Fuller-Tyszkiewicz, Skouteris, Watson, & Hill, 2013).

The pressure to achieve an ideal physical appearance forces many individuals to engage in a process of rebuilding and manipulating their own body (Pereira & Ayrosa, 2012), which is not different for the pregnant body, slightly pregnant (Brazão, 2011).

Women on the threshold of becoming mothers and new mothers change the practices of consumption when they meet these new "needs", restrictions and advice related to

pregnancy. Women renegotiate their patterns of consumption to make maternity “responsible” (Gram, Hohnen, & Pedersen, 2017).

Pregnancy seen as a role that emphasizes the importance of reproduction and as “transient” and “unique” experience, provides context to this adjustment process, as by allowing women to transition through physical changes experience over culturally defined beauty, women are likely to experience unchanged or even improved body image during pregnancy (Davies & Wardle, 1994).

In 2012, Fuller-Tyszkiewicz et al. (2013) performed a systematic review of the literature focusing on the body dissatisfaction during pregnancy. They searched for total of 8 electronic databases, in which 251 papers were identified. After a full text scrutiny of 56 articles (which met inclusion criteria) the final list of reviewed papers resulted in 22 articles. Searches included the keywords “body image” cross-referenced with “pregnancy”, “gestation”, “woman”, “women”, “mother”, and “maternal”. Thus, we conclude that the authors did not aim to find theoretical models, but correlates of body dissatisfaction during pregnancy.

Zaltzman et al. (2015) review the existing literature on body image in adolescent pregnancy. For it, search terms included “adolescent,” “pregnancy” and “body image”. The search yielded a total of 149 studies, of which six were relevant to the specific topic and age group. The aim was to review literature of body image in adolescent pregnancy and explore concepts about the relationship between the two. Therefore, confining the results to samples of adolescents and the relationship between the two constructs. More recently, Meireles et al. (2015) conducted an integrative review on image and body dissatisfaction in pregnant women. The authors suggest that the contradictions in the findings may be related to differences in the instruments used to measure the body image of pregnant women. Finally, Sun et al. (2018) searched for studies effect size between physical activity and body image dissatisfaction among pregnant women in four databases and only four cohort studies met eligibility criteria of 1,701 articles found (1,322 were screened for the title and abstract review, then, 22 full-text studies were reviewed). They are interesting in relationships and moderator variables about body image and physical activity among pregnant women, therefore, limiting to aspects of physical activity.

3 METHOD

Systematic review have become of great importance for health care system (Moher, Liberati, Tetzlaff J, et al., 2009). This research methodology was chosen in the current study as the means of establishing a baseline study of the literature on predictive model of negative body image of pregnant women. For this purpose, this research used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guideline – PRISMA (Moher, Liberati, Tetzlaff, et al., 2009). The present study was carried out in October 2018 using the following databases: Scopus (article title, abstract, and key words), Web of Science (topic) and PubMed (all fields). In order to encompass a significant amount of scientific production, it was chosen to combine different terms indexed in the thesaurus Health Science Descriptors (Descritores de Ciências em Saúde - DeCS) and/or in the Medical Subject Headings (MeSH). Specific descriptors were used according to PICOS: P (population), “pregnancy” OR “pregnant”; I (intervention), “tripartite model” OR “model”; C (comparator), no descriptor; O (outcome), “body image”; S (study), no descriptor. We chose to search for “tripartite model” since it is a consolidated theoretical model in the investigation of body image. Only one search was performed on each database by using the following description: “Model” AND “body image” AND “pregnan*” (pregnancy or pregnant); “Model” AND “body image” AND “pregnan*” AND “Brazil”; “Tripartite model” AND “Pregnan*” were sought without limit to period.

Regarding the filters, it was chosen to restrict the section "article types" into "journal articles", without limit to a specific period. All these stages were performed by two researchers independently. Any possible divergence regarding the inclusion or the exclusion of articles was resolved by a third researcher.

One document per database was created from the searches performed, containing the titles and the abstracts of all the references that were found. The first stage of the exclusion criteria was the identification and deletion of duplicate articles. The other exclusion criteria were: (a) unavailable abstracts; (b) articles that did not seem encompass directly the subjects of study of this research; (c) non-use of instruments of psychometric measurement of body image; (d) samples including only postpartum women; (e) article in other languages besides English, Spanish and Portuguese; (f) quantitative, but not empirical in design, or qualitative studies; (h) studies confined to studies of obesity or adolescents.

4 RESULTS

A total of 135 papers were identified. All titles were sent to Mendeley and duplicated studies were removed. Studies were screened for eligibility via their titles and abstracts. After applying all exclusion requirements, 13 articles were considered eligible (Figure 1).

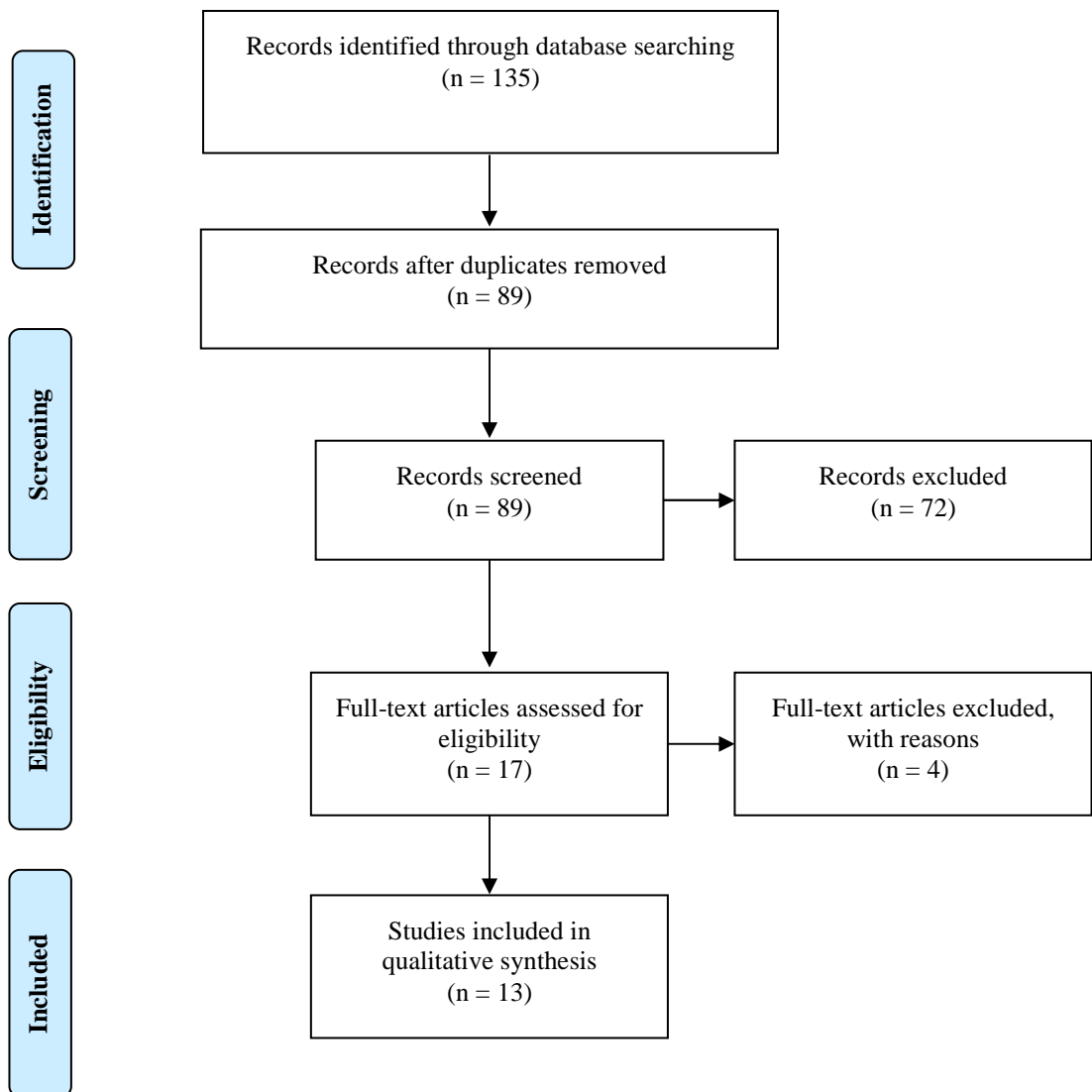


Figure 1. Flowchart summarizing the article screening process.

All selected articles are summarized in Table 1.

Table 1 – Empirically tested predictive models

Reference	Instruments	Other variables tested
(Harris, 1979)	Body Focus Questionnaire (Stomach Focus dimension of the Body Focus Questionnaire (Fisher, 1970): stomach area awareness (eg. head-stomach, stomach-thighs, feet-stomach). Body Distortion Questionnaire (Fisher, 1970): variety of distortion or unusual ways of experiencing one's body. Seven subscales: Large; Small; Boundary Loss; Dirty; Blocked Openings; Skin; and depersonalization.	Attitudes toward Pregnancy, Baby, and Me Need or wish to be held
(Walker et al., 1999)	Body Cathexis Scale (BCS) (Robinson & Shaver, 1973; Secord & Jourard, 1953): satisfaction with bodily sites, such as hips, and functions, such as appetite.	Health Behaviors in Early Pregnancy Psychosocial Stress Social Support Depressive Symptoms Beliefs About Control of Fetal Health Commitment to the Pregnancy Motherhood
(Kamysheva et al., 2008)	BAQ (Ben-Tovim & Walker, 1991): 1) feeling fat, 2) attractiveness, 3) strength/fitness, and 4) salience of weight and shape.	Physical symptoms Sleep quality Depression Self-esteem
(Kazmierczak & Goodwin, 2011)	The Body Image Questionnaire (Mirucka, 2005): four dimensions: 1) acceptance of one's body, 2) disclosure of femininity, 3) experience of intimate relations with persons of the opposite sex, 4) attitude towards eating and body weight.	Feminine Gender Role Stress Gender role orientation Self-esteem
(Shloim,	Stunkard Figure Rating Scale (Body Image	

<p>Hetherington, Rudolf, & Feltbower, 2015a)</p>	<p>Scale): self-perception and satisfaction towards their body. This scale contains nine body shapes from the slimmest to the largest (Stunkard et al., 1983; Thompson and Altabe, 1991).</p> <p>Body Image Disturbance Questionnaire: levels of disturbance in body image, related to general appearance rather than disfigurement</p>	
<p>(Krisjanous, Richard, & Gazley, 2014)</p>	<p>Adapted version of DiPietro et al.'s (DiPietro, Millet, Costigan, Gurewitsch, & Caulfield, 2003) scale on attitudes to pregnancy and weight gain: dissatisfaction with changes and appearance of their gravid body.</p>	<p>Pregnant Celebrity Attraction Usual concern for physical Appearance Pregnancy Weight Worry Prenatal Attachment</p>
<p>(Hill, Skouteris, Fuller-Tyszkiewicz, Kothe, & McPhie, 2016)</p>	<p>Body Attitudes Questionnaire (BAQ; (Ben-Tovim & Walker, 1991) four subscales: 1) feeling fat, 2) attractiveness, 3) strength/fitness, and 4) salience of weight and shape.</p> <p>Pregnancy Figure Rating Scale (PFRS): assessed body dissatisfaction through women's perceived current and idealised scores for their busts, pregnant bellies, and buttocks (Skouteris et al., 2005): pregnancy figure rating – bust pregnancy figure rating – belly pregnancy figure rating – buttocks</p>	<p>GWG Self-esteem Maternal depressive symptoms Maternal anxiety and stress Past psychiatric history Knowledge of GWG Social support Marital/relationship quality Coping skills Self-efficacy Motivation Physical activity and eating behaviours</p>
<p>(Watson et al., 2017)</p>	<p>Body Image in Pregnancy Scale 7 dimensions): 1) preoccupation with physical appearance, 2) dissatisfaction with strength-related aspects of</p>	<p>Self-esteem Depressive symptoms</p>

	<p>one's body, 3) dissatisfaction with complexion, F4 = sexual attractiveness, 5) prioritization of appearance over function, 6) appearance-related behavioral avoidance, 7) dissatisfaction with body parts.</p> <p>Body Attitudes Questionnaire- Short Form (BAQ; Ben-Tovim & Walker, 1991)</p>	
(Collings et al., 2018)	<p>Body Attitudes Questionnaire (Ben-Tovim & Walker, 1991): 1) feeling fat, 2) attractiveness, 3) strength/fitness, and 4) salience of weight and shape.</p>	<p>Postpartum Weight retention (PPWR)</p> <p>Psychological distress</p> <p>Maternal physiological and physical weight factors</p> <p>Pre-pregnancy BMI</p> <p>Gestational weight gain</p> <p>Sleep quality</p> <p>Social support</p> <p>Self-esteem</p> <p>Maternal depressive symptoms</p> <p>Maternal anxiety and stress</p> <p>Past psychiatric history</p> <p>Knowledge of GWG</p> <p>Social support</p> <p>Marital/relationship quality</p> <p>Coping skills</p> <p>Self-efficacy</p> <p>Motivation</p> <p>Physical activity and eating behaviours</p>
(Fawcett, 1977)	<p>Topographic device, to measure perceived body space; and a figure drawing test, to measure articulation of body concept.</p>	<p>Strength of identification</p> <p>Articulation of body concept</p>

Muller (1993)	Maternal Adjustment and Maternal Attitude Scale (MAMA, Kumar, Robson, and Smith, 1984) (subscales: 1) body image, 2) Somatic Symptoms, 3) Marital Relations, 4) Attitudes to sex, and 5) Attitudes to the Pregnancy and baby to measure pregnancy adaptation	Prenatal Attachment Concurrent validity of the PAI Marital satisfaction
(Clark, Skouteris, Wertheim, Paxton, & Milgrom, 2009)	Four subscales from the Body Attitudes Questionnaire (BAQ; Ben-Tovim and Walker (Ben-Tovim & Walker, 1991)) at five time points, beings 2 pregnancy times . 1) feeling fat, 2) attractiveness, 3) strength/fitness, and 4) salience of weight and shape.	Depression
(Hartley et al., 2016)	Body Attitudes Questionnaire (BAQ; Ben-Tovim and Walker (Ben-Tovim & Walker, 1991)): three subscales relevant to pregnancy: 1) feeling fat, 2) attractiveness, 3) strength/fitness	Anxiety and stress (Psychological distress) Depressive symptoms (Psychological distress) Self-esteem Self-efficacy Gestational weight gain (GWG)

Source: survey data

4.1 Models and nomological net

Specifically related to the objective of analyzing the predictive models involving body image in pregnant women some models were discussed.

Fawcett (1977) presents an attempt to derive a theoretical model from an abstract conceptual framework of nursing which was based on the conceptual framework of the family as a living open system (Fawcett, 1975). Unlike what was brought up in other researches, Fawcett (1977) considers the space matter. Components of the body image are related to the amount of perceived space that a individual occupies and the way in which the relationship between individual body boundaries and the environment is perceived by him (Fawcett, 1975, 1977; Fisher, 1970).

Body image is a picture of own body formed in own mind, or is the way in which the body appears to ourselves (Schilder, 1950), develops through the continuing interaction between the body and its environment (Fawcett, 1977). Therefore, it considers that the experience of pregnancy is not limited to the woman. In light of this, in his model Fawcett (Fawcett, 1977) proposed analyzing the variables in spouse's patterns of change in perceived body space, identification between spouses (strength of identification) and articulation of body concept.

Fawcett's model (Fawcett, 1977), though well reasoned, was not responsive for the pregnant audience. The pattern of change in perceived body space was different for each spouse. Also, examination of spouses' strength of identification scores for the first data collection period suggested the sample could be divided into three groups. Finally, there was no evidence of a pattern of change in articulation of body concept for either wives or husbands, whether taken as entire groups or when segregated into the three strength of identification groups into which the sample was divided. Fawcett's previous hypotheses were not supported. In this way, differently from what was expected, since pregnancy is a time of profound change to the body, the theoretical model proposed did not confirm what would occur in an alteration in the relationship between an individual's body and the environment, as measured by the articulation of body concept that would occur (Fawcett, 1977).

The model proposed by Kamysheva et al. (2008), were focused in understanding the negative aspect of the body image, based on Thompson et al. (1999). Thus, authors proposed a multi-factorial model that covers bio-psycho-social and physical elements (Thompson et al., 1999). The authors collected data that measured body attitudes before pregnancy and thus could evaluate the time before and during pregnancy. In other words, data analysis took under consideration the pre-pregnancy (retrospectively reported) body image. The proposed model sought to reach associations among these physical, psychological and physiological factors, adhering to a multi-factorial approach to body image. All of this was based in findings of past studies examining associations among the factors depression and sleep quality (Jomeen & Martin, 2007), physical symptoms and depression or self-esteem (Chou, Lin, Cooney, Walker, & Riggs, 2003), or depression and the four different body attitudes outlined above (Skouteris, Carr, Wertheim, Paxton, & Duncombe, 2005).

A series of hierarchical multiple regression analyses were conducted to construct a path analysis model of predictors of body attitudes. They proposed that physical symptoms would be related to body attitudes and that depression, sleep quality and self-esteem would be associated with feeling fat, less attractive, and less strong and fit, and with greater salience of

weight and shape. Furthermore, they proposed that depressive symptoms and lower self-esteem would be linked to negative body attitudes either directly or via a path that links depression to self-esteem and then self-esteem to body attitudes. Also, pregnancy-related physical symptoms may be mediated by well-being (depression and self-esteem) to dimensions of body image. Sleep quality has also been associated with depressive symptoms. Hence, a path from physical symptoms to sleep quality and then to body attitudes via depression was also proposed.

The results presented different relationships from those initially proposed (see (Kamysheva et al., 2008) and pointed out that more negative physical symptoms having paths to poorer quality of sleep and depression; and poorer sleep having a path to depression, which in turn had a path to self-esteem. The authors concluded that depression, self-esteem and the body mass index could unleash negative body attitudes in pregnant women. Self-esteem mediated the relationships between depression/sleep quality and three of the body image variables, with lower self-esteem associated with feeling fatter and less attractive and with greater salience of shape and weight. Given that reported pre-pregnancy body image was controlled, the findings support a conceptualization of these aspects of body image reflecting an individual's general self-esteem level; which may be influenced by one's current state of well-being (depression and sleep difficulties).

Kamysheva et al. (2008) report that there is no association between physical symptoms in pregnancy and feeling fat or unattractive. The authors point out that the results from Chou and colleagues' (2003) showed no association between physical symptoms and the total Body Cathexis Scale (BCS) score (Secord & Jourard, 1953). Body dissatisfaction levels related to feeling fat and unattractive (as well as salience of shape and weight) appear to be fairly resilient to effects of pregnancy symptoms. However, Kamysheva et al. (2008) consider themselves to have expanded on past research by including four separate dimensions of body image, enabling a direct association between greater physical symptoms and lesser perceived strength and fitness to emerge, a relationship that may have been masked by use of a composite body dissatisfaction score in Chou et al.'s study (2003).

For Walker et al. (1999) until then there was no predictive models of health behaviors in early pregnancy, and so, authors used regressions to explore sets of psychosocial and demographic variables to predicted healthcare behaviors. Stress and related variables such as depression and social support have shown to be associated with women's health behaviors at various times during pregnancy. Body image is considered to be a psychosocial variable and psychosocial variables are predictors of health behaviors (Self-Care Inventory – SCI), but, in

an exploratory regression analysis, body image did not count as a predictor of health behaviors. While lower social support, higher levels of depressive symptoms, and lower internal locus of control for fetal health were related to less favorable overall health behavior symptoms and lower internal locus of control for fetal health were related to less favorable overall health behaviors in early pregnancy. Commitment to the pregnancy/motherhood and body image showed low and nonsignificant correlations with health behaviors in early pregnancy.

In regards to the other found models, the statistical models that were tested (via modeling of structural equations or regression methods), it was observed that the more frequently used variables were self-esteem, depression and gestational weight. Self-esteem (Collings et al., 2018; Hartley et al., 2016; Hill et al., 2016; Kamysheva et al., 2008; Kazmierczak & Goodwin, 2011; Shloim, Hetherington, Rudolf, & Feltbower, 2015; Watson et al., 2017); variables related to depression: depressive symptoms (Collings et al., 2018; Han, Brewis, & Wutich, 2016; Hartley et al., 2016; Hill et al., 2016; Walker et al., 1999; Watson et al., 2017), or depression (Clark, Skouteris, Wertheim, Paxton, & Milgrom, 2009; Kamysheva et al., 2008); variables related to gestational weight: weight gain (Collings et al., 2018; Hartley et al., 2016), Pregnancy Weight Worry (Krisjanous et al., 2014), Weight change (Han et al., 2016), Postpartum Weight retention (outcome variable), Maternal physiological and physical weight factors (Collings et al., 2018).

5 DISCUSSION

In the present study, three models stood out for approaching an attempt to analyze a more robust theoretical model involving body image and the pregnant public. Fawcett (1977) and Kamysheva et al. (2008) demonstrated that that body image appeared to be relatively stable during pregnancy.

Thus, Fawcett's model (1977), though well reasoned, was not responsive for the pregnant audience. Kamysheva et al's model (2008) sheds light on the model of body image to be proposed to the pregnant audience and also recommends further exploration about sociocultural influences to better explain body dissatisfaction (Kamysheva et al., 2008).

Regarding sociocultural influences, Lovering et al. (2018), based on the sociocultural model of body image and eating concerns, test factors influence body dissatisfaction in postpartum women. Their study tested an adaptation of the Tripartite Influence Model (Thompson et al., 1999). Lovering et al. (2018) added partner influence and consider

sociocultural pressures which often result in body dissatisfaction, anxiety, depression, and body related distress (Skouteris et al., 2005), with the addition of drive for muscularity.

Fawcett (1977), as well as Harris (1979), based on Fisher (1970) to explain the concept and Fawcett (1977) also in Schilder (1950). According to Cash and Smolak (2011), historically, Seymour Fisher is one of the most important body image scholars (Cash, 2011).

According to Bailey et al. (2017), Shontz was the first to regard the body experience as multidimensional. He emphasized the use of different scientific methods, integrated theory and data about cognitive and perceptual, encouraging an integration of theoretical developments, especially Gestalt psychology, and cognitive theory (Bailey et al., 2017; Cash, 2011). It is observed that even though the body image did not have a robust theory, the concept was already being built since the beginning of the past century.

According to Cash (2011) body image presents diverse and wide-ranging perspectives, such as sociocultural, evolutionary, genetic and neuroscientific, cognitive-behavioral, and feminist (objectification theory) viewpoints, also positive psychology about body image. Therefore, being relevant the theoretical model to fundament the conducted studies (Cash, 2011; Thompson et al., 1999).

Among the models tested using body image, some variables were very frequent in the study with pregnant women, such as self-esteem, depression and gestational weight. According to Skouteris (2011), when consider body image issues in obstetrics and gynecology, body image issues impact negatively on women's health and well-being. In an integrative revision of literature about body image and satisfaction in pregnant women, Meireles et al. (2015) also found that the researches have been interested in the study of the relation between weight gain and body dissatisfaction, being able to help in reducing the health problems related to pregnancy. Furthermore, Meireles et al. (2015) identified that the researchers have been studying the relation between depressive symptoms with body dissatisfaction, and it is relevant to point out that these psychological factors are important to improve women's pregnancies and their psychological health post-partum. Finally, low self-esteem has been associated with a negative body image (Meireles et al., 2015).

6 FINAL CONSIDERATIONS

Many theoretical studies and models applied instruments developed and adapted from other populations. It is worth noting that in the field of body image, specific measures for the pregnant public are required (Meireles et al., 2015, 2017; Watson et al., 2017).

In some cases, dimensions of body image were directly and exclusively related to the physical changes of pregnancy (Harris, 1979), or (dis)satisfaction with bodily sites (Walker et al., 1999). And more recently, dimensions have clearly involved aspects such as the behaviors, the feelings, and potential shifts in focus from the importance of aesthetic aspects of one's body to considerations of physical functioning (Clark et al., 2009; Hartley et al., 2016; Kamyshva et al., 2008; Watson et al., 2017). Given the complexity of the construct, other studies have used more than one measure to measure body image (Hill et al., 2016).

There are several limitations to this work. This study considered merely empirical studies and construct "body image" insert in a model (statistical or theoretical attempt). The present study was based on some databases, which covers mainly articles in journals falling under rather exclusive criteria. Furthermore, clinical studies, just with clinical and anthropometric measurements were not considered. Future research may investigate the relationship between body perception and consumption intentions to enhance or reconstruct the body itself during ou after pregnancy.

REFERENCES

- Bailey, K. A., Gammage, K. L., & van Ingen, C. (2017). How do you define body image? Exploring conceptual gaps in understandings of body image at an exercise facility. *Body Image, 23*, 69–79. <https://doi.org/10.1016/j.bodyim.2017.08.003>
- Ben-Tovim, D. I., & Walker, M. K. (1991). The development of the Ben-Tovim Walker Body Attitudes Questionnaire (BAQ), a new measure of women's attitudes towards their own bodies. *Psychological Medicine, 21*(3), 775–784. <https://doi.org/10.1017/S0033291700022406>
- Brazão, M. A. (2011). *Ligeiramente grávidas : sobre a gestação em tempos de culto ao corpo*. Pontifícia Universidade Católica do Rio de Janeiro.
- Cash, T. F. (2011). *Body Image: a handbook of Science, Practice, and Prevention* (2nd ed.; T. F. Cash & L. Smolak, Eds.). New York: The Guilford Press.
- Chou, F.-H., Lin, L.-L., Cooney, A. T., Walker, L. O., & Riggs, M. W. (2003). Psychosocial Factors Related to Nausea, Vomiting, and Fatigue in Early Pregnancy. *Journal of Nursing Scholarship, 35*(2), 119–125. <https://doi.org/10.1111/j.1547-5069.2003.00119.x>
- Clark, A., Skouteris, H., Wertheim, E. H. E. H., Paxton, S. J. S. J. S. J., & Milgrom, J. (2009). The relationship between depression and body dissatisfaction across pregnancy and the postpartum: A prospective study. *Journal of Health Psychology, 14*(1), 27–35. <https://doi.org/10.1177/1359105308097940>
- Clark, A., Skouteris, H., Wertheim, E. H., Paxton, S. J., & Milgrom, J. (2009). The

relationship between depression and body dissatisfaction across pregnancy and the postpartum: A prospective study. *Journal of Health Psychology*, 14(1), 27–35. <https://doi.org/10.1177/1359105308097940>

Collings, R., Hill, B., & Skouteris, H. (2018). The influence of psychological factors on postpartum weight retention 12months post-birth. *Journal of Reproductive and Infant Psychology*, 36(2), 177–191. <https://doi.org/10.1080/02646838.2018.1424323>

Davies, K., & Wardle, J. (1994). Body image and dieting in pregnancy. *Journal of Psychosomatic Research*, 38(8), 787–799. [https://doi.org/10.1016/0022-3999\(94\)90067-1](https://doi.org/10.1016/0022-3999(94)90067-1)

DiPietro, J. A., Millet, S., Costigan, K. A., Gurewitsch, E., & Caulfield, L. E. (2003).

Psychosocial influences on weight gain attitudes and behaviors during pregnancy. *Journal of the American Dietetic Association*, 103(10), 1314–1319. [https://doi.org/10.1016/S0002-8223\(03\)01070-8](https://doi.org/10.1016/S0002-8223(03)01070-8)

Fawcett, J. (1975). The family as a living open system: An emerging conceptual framework for nursing. *Int. Nurs.*, 22, 11–116.

Fawcett, J. (1977). The relationship between identification and patterns of change in spouses' body images during and after pregnancy. *International Journal of Nursing Studies*, 14(4), 199–213. [https://doi.org/10.1016/0020-7489\(77\)90021-9](https://doi.org/10.1016/0020-7489(77)90021-9)

Ferreira, M. E. C., Castro, M. R., & Morgado, F. F. R. (Eds.). (2014). *Imagem corporal: Reflexões, diretrizes e práticas de pesquisa*. Juiz de Fora, MG: Editora UFJF.

Figueiredo, B., Ourahmoune, N., Rojas, P., Pereira, S. J. N., Scaraboto, D., & Ferreira, M. C. (2014). *The Branded and Gendered Brazilian Body: Material and Symbolic Constructions in an Overlooked Context*. <https://doi.org/10.1108/S0885-211120140000016013>

Fisher, S. (1970). *Body Experience in Fantasy and Behavior*. New York: Appleton-Century-Crofts.

Fuller-Tyszkiewicz, M., Skouteris, H., Watson, B. E. B. E., & Hill, B. Body dissatisfaction during pregnancy: A systematic review of cross-sectional and prospective correlates. , 18 *Journal of Health Psychology* § (2013).

Fuller-Tyszkiewicz, M., Skouteris, H., Watson, B. E., & Hill, B. (2013). Body dissatisfaction during pregnancy: A systematic review of cross-sectional and prospective correlates. *Journal of Health Psychology*, 18(11), 1411–1421. <https://doi.org/10.1177/1359105312462437>

Goldenberg, M. (2005). Gênero e corpo na cultura brasileira. *Psicologia Clínica*, 17(2), 65–80.

Goldenberg, M., & Ramos, M. S. (2007). A civilização das formas: O corpo como valor. In *Nu e Vestido. Dez antropólogos revelam a cultura do corpo carioca*. (2nd ed.). Rio de Janeiro: Record.

Gram, M., Hohnen, P., & Pedersen, H. D. (2017). “You can’t use this, and you mustn’t do

that”: A qualitative study of non-consumption practices among Danish pregnant women and new mothers. *Journal of Consumer Culture*, 17(2), 433–451. <https://doi.org/10.1177/1469540516646244>

Han, S.-Y., Brewis, A. A., & Wutich, A. (2016). Body image mediates the depressive effects of weight gain in new mothers, particularly for women already obese: Evidence from the Norwegian Mother and Child Cohort Study. *BMC Public Health*, 16(1). <https://doi.org/10.1186/s12889-016-3363-8>

Han, S.-Y. S. Y., Brewis, A. A. A., & Wutich, A. (2016). Body image mediates the depressive effects of weight gain in new mothers, particularly for women already obese: Evidence from the Norwegian Mother and Child Cohort Study. *BMC Public Health*, 16(1). <https://doi.org/10.1186/s12889-016-3363-8>

Harris, R. (1979). Cultural differences in body perception during pregnancy. *British Journal of Medical Psychology*, 52(4), 347–352. <https://doi.org/10.1111/j.2044-8341.1979.tb02535.x>

Hartley, E., McPhie, S., Fuller-Tyszkiewicz, M., Briony Hill, & Helen Skouteris. (2016). Psychosocial factors and excessive gestational weight gain: The effect of parity in an Australian cohort. *Midwifery*, 32, 30–37. <https://doi.org/10.1016/j.midw.2015.09.009>

Hill, B., Skouteris, H., Fuller-Tyszkiewicz, M., Kothe, E. J. E. J., & McPhie, S. (2016). A path model of psychosocial and health behaviour change predictors of excessive gestational weight gain. *Journal of Reproductive and Infant Psychology*, 34(2), 139–161. <https://doi.org/10.1080/02646838.2015.1118021>

Hill, B., Skouteris, H., Fuller-Tyszkiewicz, M., Kothe, E. J., & McPhie, S. (2016). A path model of psychosocial and health behaviour change predictors of excessive gestational weight gain. *Journal of Reproductive and Infant Psychology*, 34(2), 139–161. <https://doi.org/10.1080/02646838.2015.1118021>

Jomeen, J., & Martin, C. R. (2007). Replicability and stability of the multidimensional model of the Edinburgh Postnatal Depression Scale in late pregnancy. *Journal of Psychiatric and Mental Health Nursing*, 14(3), 319–324. <https://doi.org/10.1111/j.1365-2850.2007.01084.x>

Kamysheva, E., Skouteris, H., Wertheim, E. H., Paxton, S. J., & Milgrom, J. (2008). Examination of a multi-factorial model of body-related experiences during pregnancy: The relationships among physical symptoms, sleep quality, depression, self-esteem, and negative body attitudes. *Body Image*, 5(2), 152–163. <https://doi.org/10.1016/j.bodyim.2007.12.005>

Kazmierczak, M., & Goodwin, R. (2011). Pregnancy and body image in Poland: Gender roles and self-esteem during the third trimester. *JOURNAL OF REPRODUCTIVE AND INFANT PSYCHOLOGY*, 29(4), 334–342. <https://doi.org/10.1080/02646838.2011.631179>

Krisjanous, J., Richard, J. E., & Gazley, A. (2014). The Perfect Little Bump: Does the Media Portrayal of Pregnant Celebrities Influence Prenatal Attachment? *Psychology and Marketing*, 31(9), 758–773. <https://doi.org/10.1002/mar.20732>

Krisjanous, J., Richard, J. E. J. E., & Gazley, A. (2014). The Perfect Little Bump: Does the Media Portrayal of Pregnant Celebrities Influence Prenatal Attachment? *Psychology and*

Marketing, 31(9), 758–773. <https://doi.org/10.1002/mar.20732>

Laus, M. F., Kakeshita, I. S., Costa, T. M. B., Ferreira, M. E. C., Fortes, L. de S., & Almeida, S. S. (2014). Body image in Brazil: Recent advances in the state of knowledge and methodological issues. *Revista de Saude Publica*, 48(2), 331–346. <https://doi.org/10.1590/S0034-8910.2014048004950>

Le Breton, D. (2007). *A Sociologia do Corpo* (2nd ed.). Petrópolis, RJ: Vozes.

Lovering, M. E. M. E., Rodgers, R. F. R. F., George, J. E. J. E., & Franko, D. L. D. L. (2018). Exploring the Tripartite Influence Model of body dissatisfaction in postpartum women. *Body Image*, 24, 44–54. <https://doi.org/10.1016/j.bodyim.2017.12.001>

Meireles, J. F. F., Neves, C. M., Carvalho, P. H. B. de, & Ferreira, M. E. C. (2015). Insatisfação corporal em gestantes: uma revisão integrativa da literatura. *Ciência & Saúde Coletiva*, 20(7), 2091–2103. <https://doi.org/10.1590/1413-81232015207.05502014>

Meireles, J. F. F., Neves, C. M., Carvalho, P. H. B. de, & Ferreira, M. E. C. (2017). Imagem corporal, atitudes alimentares, sintomas depressivos, autoestima e ansiedade em gestantes de Juiz de Fora, Minas Gerais, Brasil. *Ciência & Saúde Coletiva*, 22(2), 437–445. <https://doi.org/10.1590/1413-81232017222.23182015>

Mirucka, B. (2005). Kwestionariusz Ja Ciesnego (Skala J-C). [The Body Image Questionnaire]. *Przegląd Psychologiczny [Review of Psychology]*, 48(3), 313–329.

Moher D, Liberati A, Tetzlaff J, et al. (2009) Reprint—preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Phys Ther.*, 89(9),873–880

Oliveira, R. C. de A. de, & Ayrosa, E. A. T. (2016). O Colecionador de Tatuagens: Consumo Curatorial e Identidade. *Revista Pensamento Contemporâneo Em Administração*, 10(2), 110–123. <https://doi.org/http://dx.doi.org/10.12712/rpca.v10i2.734>

Paul Schilder. (1950). *The Image and Appearance of the Human Body*. New York: International Universities Press.

Pereira, S. J. N., & Ayrosa, E. A. T. (2012). Between two worlds: An ethnographic study of gay consumer culture in Rio de Janeiro. *BAR - Brazilian Administration Review*, 9(2), 211–228. <https://doi.org/10.1590/S1807-76922012000200006>

Robinson, J. P., & Shaver, P. R. (1973). *Measures of social psychological attitudes*. Ann Arbor, MI: Institute of Social Research.

Secord, P. F., & Jourard, S. M. (1953). The appraisal of body- cathexis: Body-cathexis and the self. *Journal of Consulting Psychology*, 17, 343–347.

Shilling, C. (2006). The Body and Social Theory. In Mike Featherstone (Nottingham Trent University) (Ed.), *SAGE* (2nd ed.). <https://doi.org/10.1111/j.1467-9566.2006.00497b.x>

Shloim, N., Hetherington, M. M., Rudolf, M., & Feltbower, R. G. (2015a). Relationship between body mass index and women's body image, self-esteem and eating behaviours in

pregnancy: A cross-cultural study. *Journal Of Health Psychology*, 20(4), 413–426. <https://doi.org/10.1177/1359105313502568>

Shloim, N., Hetherington, M. M., Rudolf, M., & Feltbower, R. G. (2015b). Relationship between body mass index and women's body image, self-esteem and eating behaviours in pregnancy: A cross-cultural study. *JOURNAL OF HEALTH PSYCHOLOGY*, 20(4), 413–426. <https://doi.org/10.1177/1359105313502568>

Skouteris, H. (2011). Body Image Issues in Obstetrics and Gynecology. In T. F. Cash & Linda Smolak (Eds.), *Body Image: a Handbook of Science, Practice, and Prevention* (2nd ed.). New York: Spring Street.

Skouteris, H., Carr, R., Wertheim, E. H., Paxton, S. J., & Duncombe, D. (2005). A prospective study of factors that lead to body dissatisfaction during pregnancy. *Body Image*. <https://doi.org/10.1016/j.bodyim.2005.09.002>

Sun, W., Chen, D., Wang, J., Liu, N., & Zhang, W. (2018). Physical activity and body image dissatisfaction among pregnant women: A systematic review and meta-analysis of cohort studies. *European Journal of Obstetrics Gynecology and Reproductive Biology*, 229, 38–44. <https://doi.org/10.1016/j.ejogrb.2018.07.021>

Thompson, J. K., Heinberg, L. J., Altabe, M. N., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington: American Psychological Association.

Tonini, K. A. D., & Sauerbronn, J. F. R. (2013). Mulheres e Corpo: uma Investigação Acerca dos Valores de Consumo do Corpo Feminino. *Revista Brasileira de Marketing*, 12(03), 77–101. <https://doi.org/10.5585/remark.v12i3.2428>

Valentim, P. P., Falcão, R. P. de Q., & Campos, R. D. (2017). O Corpo nos estudos de consumo: uma revisão bibliográfica sobre o tema. *Consumer Behavior Review*, 1(Edição Especial), 32–48.

Walker, L. O., Cooney, A. T., & Riggs, M. W. (1999). Psychosocial and demographic factors related to health behaviors in the 1st trimester. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN / NAACOG*, 28(6), 606–614. <https://doi.org/10.1111/j.1552-6909.1999.tb02169.x>

Watson, B., Fuller-Tyszkiewicz, M., Broadbent, J., & Skouteris, H. (2017). Development and validation of a tailored measure of body image for pregnant women. *Psychological Assessment*, 29(11), 1363–1375. <https://doi.org/10.1037/pas0000441>

Xavier, R. N., Xavier, L. N., & Gomes, A. M. de A. (2015). Beleza Destruída: Percepções Dos Profissionais Da Saúde Sobre A Imagem Distorcida Que As Pacientes Com Anorexia Têm De Si. *Revista FSA*, 12(6), 157–172. <https://doi.org/10.12819/2015.12.6.10>

Zaltzman, A., Falcon, B., & Harrison, M. E. (2015). Body Image in Adolescent Pregnancy. *Journal of Pediatric and Adolescent Gynecology*, 28(2), 102–108. <https://doi.org/10.1016/j.jpag.2014.06.003>

Como Referenciar este Artigo, conforme ABNT:

OLIVEIRA, S. R; CARVALHO, P. H. B; VEIGA, R. T. Body Image of Pregnant Women: A Systematic Review of Predictive Models. **Rev. FSA**, Teresina, v.17, n. 9, art. 2, p. 27-47, set. 2020.

Contribuição dos Autores	S. R. Oliveira	P. H. B. Carvalho	R. T. Veiga
1) concepção e planejamento.	X	X	
2) análise e interpretação dos dados.	X		
3) elaboração do rascunho ou na revisão crítica do conteúdo.	X	X	X
4) participação na aprovação da versão final do manuscrito.	X	X	X