EATING BEHAVIOR AND BODY IMAGE PERCEPTION OF PREGNANT WOMEN ATTENDING A HIGH-RISK OUTPATIENT CENTER

Comportamento alimentar e percepção da imagem corporal de gestantes atendidas em um ambulatório de alto risco

Conducta alimentaria y percepción de la imagen corporal de embarazadas asistidas en un ambulatorio de alto riesgo

Original Article

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ABSTRACT

Objectives: To investigate the eating behavior and body image perception in pregnant women attending a high-risk outpatient center. **Methods:** A quantitative, cross-sectional, observational study conducted with 28 overweight pregnant women attending the first consultation in the nutrition outpatient center of a maternity hospital in Fortaleza-CE, from December 2010 to February 2011. It has been used a pre-established form containing data on the characterization of the sample (socioeconomic, obstetric, and nutritional), the BES (Binge Eating Scale) to assess binge eating and BSQ (Body Shape Questionnaire) to assess the severity or absence of body image disorder. The variables were presented as mean ± standard deviation and simple frequency and percentage. The Pearson's correlation was used to verify the relation between body image and binge eating, considering $p < 0.05$. **Results:** The pregnant women studied had a mean age of 29.4 ± 6.3 years and mean gestational age of 24.6 ± 8.2 weeks. It was found a prevalence of 71.5% (n=20) of body image disorder and 17.8% (n=5) of binge eating. It was also observed a direct and significant correlation between the body image perception and the degree of binge eating (r=0.4358, p=0.020). **Conclusion:** The high rate of body image disorder positively related to a significant binge eating indicates an unfavorable adjustment of this group of pregnant women to alterations in weight and body shape and size, which are inherent to pregnancy, standing out as group that needs special attention by the professional team.

Descriptors: Pregnant Women; Body Image; Binge-Eating Disorder.

RESUMO

Objetivo: *Investigar o comportamento alimentar e a percepção da imagem corporal em gestantes atendidas em um ambulatório de alto risco.* **Métodos:** *Estudo quantitativo, observacional e transversal que incluiu 28 gestantes acima do peso atendidas na primeira consulta no ambulatório de nutrição em uma maternidade de Fortaleza-CE, nos meses de dezembro de 2010 a fevereiro de 2011. Utilizou-se um formulário pré-estabelecido, contendo dados de caracterização da amostra (socioeconômicos, obstétricos e nutricionais) e os questionários Binge Eating Scale (BES) para avaliar a compulsão alimentar e o Body Shape Questionnaire (BSQ) para a gravidade ou ausência de distúrbio de imagem corporal. As variáveis foram apresentadas como média ± desvio padrão e frequência simples e percentual. Através da correlação de Pearson verificou-se a relação entre a imagem corporal e a compulsão alimentar, considerando-se p<0,05.* **Resultados:** *As gestantes analisadas apresentaram uma média de 29,4±6,3 anos e idade gestacional média de 24,6±8,2 semanas. Encontrou-se uma prevalência de 71,5% (n=20) de distúrbio de imagem corporal e de 17,8% (n=5) de compulsão alimentar. Observou-se também uma correlação direta e significativa entre a percepção da imagem corporal e o grau de compulsão alimentar (r=0,4358; p=0,020).* **Conclusão:** *A alta taxa de distúrbio da imagem corporal relacionada positivamente com uma considerável compulsão alimentar indica uma adaptação não favorável deste grupo de gestantes às alterações de peso, forma e tamanho corporal, próprias da gestação, configurando um grupo com necessidade de atenção especial por parte da equipe de profissionais.*

Descritores: *Gestantes; Imagem corporal; Transtorno da Compulsão Alimentar.*

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RESUMEN

Objetivo: *Investigar la conducta alimentaria y la percepción de la imagen corporal de embarazadas asistidas en un ambulatório de alto riesgo.* **Métodos:** *Estudio cuantitativo, observacional y transversal con 28 embarazadas con sobrepeso asistidas en La primera consulta del ambulatorio de nutrición de una maternidad de Fortaleza-Ce entre los meses de diciembre de 2010 y febrero de 2011. Se utilizó un formulario pre-establecido con datos para la caracterización de la muestra (socioeconómicos, obstétricos y nutricionales) y los cuestionarios BES (Binge Eating Scale) para evaluar la compulsión alimentaria y el BSQ (Body Shape Questionnaire) para evaluar la gravedad o ausencia del distúrbio de la imagen corporal. Las variables fueron presentadas como media ± desviación típica, frecuencia simple y porcentaje. A través de la correlación de Pearson se verificó la relación de la imagen corporal y la compulsión alimentaria considerando el p<0,05.* **Resultados:** *Las embarazadas evaluadas presentaron una media de 29,4±6,3 años y edad gestacional media de 24,6±8,2 semanas. Se encontró una prevalencia del 71,5% (n=20) de disturbio de imagen corporal y del 17,8% (n=5) de compulsión alimentaria. Se observó también una correlación directa y significativa de la percepción de la imagen corporal y el grado de compulsión alimentaria (r=0,4358; p=0,020).* **Conclusión:** *La tasa elevada de disturbio de la imagen corporal relacionada positivamente com una considerable compulsión alimentaria indica una adaptación no favorable de este grupo de embarazadas a los cambios de peso, forma y tamaño corporal propias del embarazo lo que caracteriza un grupo con necesidad de atención especial de parte del equipo de profesionales.*

Descriptores: *Mujeres embarazadas; Imagen corporal: Trastorno por Atracón.*

INTRODUCTION

Body image is the internal and subjective concept of the body, which refers not only to the physical appearance, but also to aspects like the body self-perception, attitudes, beliefs and feelings[1,2].

The body weight is the main aspect of body image in western cultures, where women suffer considerable social pressure to be thin, which often causes a constant dissatisfaction with the physical appearance[1,3]. This dissatisfaction can be a characteristic of the body image distortion when it starts to cause irrational concerns about defects in some part of the body, indicating the individual's altered body perception[4].

The body image distortion is part of the etiology of eating disorders (ED), which are characterized by deep alterations in eating patterns and behaviors that may lead to the development of anorexia nervosa, bulimia nervosa, or the binge eating disorder (BED)[1,5].

Considered by the WHO as a public health concern[6], the BED is an eating disorder characterized by recurrent episodes of eating large amounts of food in a short period of time (up to two hours) followed by a sense of lack of control over eating during the binge. To characterize the BED, these episodes should occur at least two days per week for six months and they should not be followed by any compensatory behaviors to prevent weight gain, as in the bulimia nervosa[7].

Eating disorders are relatively rare in the general population (prevalence of 2.51%), probably because of the tendency to deny or hide the disorder and avoid professional help, which contributes to a possible underestimation of data of epidemiologic studies on this issue[8,9].

A research using data from the World Health Organization, conducted with 24,124 participants from 14 countries, including Brazil, revealed a BED prevalence of 1.9% and 4.7% in Brazil (São Paulo), mainly among women[6]. In Northeastern Brazil, data from Bahia show a BED prevalence of 5% in the general population, with a higher prevalence among women (5.2%) and self-proclaimed obese individuals (13.3%)[10]. The prevalence of BED found among pregnant women was 8.8%[11].

Pregnancy and puerperium are periods of a woman's life that require especial attention since they involve, in a relatively short period (about 40 weeks), numerous physical, hormonal, psychic and social changes[2,12]. The changes in weight, shape and body size during pregnancy can generate negative feelings about body perception, influencing the eating behavior in a such a way that the findings of ED for pregnant women have become increasingly common[2,11,13,14].

Given the fact that there are few studies on compulsive overeating and body perception among pregnant women, this research aimed to assess the eating behavior and body image perception among pregnant women receiving care in a high-risk outpatient center.

METHODS

This is an analytical, observational, quantitative cross-sectional study conducted in the high-risk outpatient nutrition center for pregnant women of the *Maternidade Escola Assis Chateaubriand* (Assis Chateaubriand Maternity School), a reference institution specializing in gynecology and obstetrics in the State of Ceará, Brazil.

In all, 28 pregnant women were selected using a non-probability, convenience, consecutive sampling technique during the period from December 2010 to February 2011. The sample comprised obese and overweight women attending their first consultation in the high-risk outpatient center. There were 44 women receiving care in this period;

however, eutrophic or malnourished pregnant women and those with the clinical diagnosis of psychiatric disorders were excluded (n=16).

A structured formulary was used to collect information on socioeconomic data (age, marital status, origin, education and occupation), obstetrical data (pathologies during pregnancy and gestational age) and nutritional data (pre-pregnancy and gestational Body Mass Index – BMI – at the moment of the consultation). The nutritional data collected were analyzed and classified according to the parameters recommended by the Ministry of Health for the assessment of the nutritional status of pregnant women[15].

Body image and compulsive overeating were assessed using the validated and self-administered questionnaires Body Shape Questionnaire (BSQ)[16] and Binge Eating Scale (BES)[17]. The latter was administered with the help of a nutrition researcher.

According to the results of the BSQ, which was composed of 34 items that were assessed using specific scores for body image, the pregnant women were classified as having no body shape disorder (≤80), mild disorder (81-110), moderate disorder (111-140) and severe disorder (>140)[18].

The compulsive overeating among pregnant women was assessed by the BES, a self-administered tool composed of 16 items assessing aspects related to behavioral manifestations, feelings and cognitions involved in episodes of compulsive overeating. According to the sum of the scores, the participants were classified as having severe (scoring ≥27), moderate (scoring 18-26) and no binge eating disorder (scoring ≤17)[18].

Quantitative variables were presented using mean ± standard deviation and qualitative variables using simple frequency and percentage. Pearson' correlation was used to verify the relation between the results of the BSQ and BES with a significance level of 5% ($p< 0.05$) using the Primer of Biostatistics 4.0 program.

The study was approved by the Research Ethics Committee of the Assis Chateaubriand Maternity School under protocol No. 18/11 in agreement with Resolution 196/96 of the *Comissão Nacional de Ética em Pesquisa – CONEP* (National Commission for Research Ethics) of the *Conselho Nacional de Saúde – CNS* (National Health Council).

RESULTS

The mean age of the pregnant women assessed by this study was 29.4±6.3 years, and they were mostly married (n=11; 39.3%), from the capital (n=28, 100.0%), had complete secondary education (n=20, 71.4%) and were unemployed (n=15, 53.6%) (Table I).

Table I - Characterization of pregnant women receiving care in a high-risk outpatient center. Fortaleza-Ceará, 2011.

Variable	n (%)
Marital Status	
Married	11 (39.3%)
Single	6 (21.4%)
Divorced	11 (39.3%)
Origin	
Capital	28 (100%)
Education	
Primary education	6 (21.4%)
Secondary education	20 (71.4%)
Higher education	2 (7.1%)
Occupation	
Yes	13 (46.4%)
No	15 (53.6%)

Table II - Obstetrical data of pregnant women receiving care in a high-risk outpatient center. Fortaleza-Ceará, 2011.

Variable	n (%)
Complications during pregnancy	
None	7 (21.9%)
Multiple births	2 (6.3%)
Previous hypertension	4 (12.5%)
Preeclampsia	11 (34.4%)
Diabetes	5 (15.6%)
Urinary infection	1 (3.1%)
Others*	2 (6.3%)
Gestational age	
1st trimester	3 (10.7%)
2nd trimester	13 (46.4%)
3rd trimester	12 (42.9%)

*Others: Anemia, placenta previa.

Regarding the obstetrical data, the most frequent complication was the preeclampsia (n=11, 34.4%). The gestational age of the participants was 24.6±8.2 weeks and 46.4% (n=13) of them was in the second trimester of pregnancy (Table II)

According to the pre-pregnancy nutritional assessment, the mean BMI of the women was 34.8±9.1 kg/m^2, with 85.8% (n=24) of them having obesity and 42.9% (n=12) having class I obesity. This pattern continued during the consultation, when the participants presented a mean BMI of 38.1±5.7 kg/m^2, with a high prevalence of obese women (n=24, 85.7%) (Table III).

Table III - Nutritional profile of pregnant women receiving care in a high-risk outpatient center. Fortaleza-Ceará, 2011.

Variable	n (%)
BMI* pre-pregnancy#	
Overweight	3 (11.1%)
Class I obesity	12 (44.4%)
Class II obesity	4 (14.8%)
Class III obesity	8 (29.6%)
Gestational BMI	
Overweight	4 (14.3%)
Obesity	24 (85.7%)

*BMI – Body Mass Index. #n=27 because one patient did not present data on pre-pregnancy weight.

The BSQ results showed a mean scoring of 92.6±27.5, and more than half of the sample (n=20, 71.5%) presented some degree of body image disorder, with a high prevalence of mild disorders (n=14, 50.0%) (Table IV).

The application of the BES revealed a mean scoring of 10.6±6.6 and a considerable percentage of 17.9% (n=5) of pregnant women with moderate binge eating disorder (Table IV).

Table IV - Assessment of body image through the Body Shape Questionnaire (BSQ) and binge eating through the Binge Eating Scale (BES) in pregnant women receiving care in a high-risk outpatient center. Fortaleza-Ceará, 2011.

Variable	n (%)
BSQ (Body Shape Questionnaire)	
No body image disorder	8 (28.6%)
Mild disorder	14 (50.0%)
Moderate disorder	5 (17.9%)
Severe disorder	1 (3.6%)
BES (Binge Eating Scale)	
No binge eating	23 (82.1%)
Moderate binge eating	5 (17.8%)

The body dissatisfaction was directly and significantly associated with the degree of binge eating (r=0.4358; p=0.020).

DISCUSSION

Pregnancy is a delicate time when body changes occur, especially weight alterations, which can either cause body dissatisfactions that can evolve to an eating disorder or contribute to an improvement of body satisfaction, according to the divergences found in the literature on this issue[19,20].

The results found in the study sample suggest that overweight women with risk pregnancy are dissatisfied with body image, since more than half of them (71.5%) presented some degree of body image disorder, mainly the mild degree. This result corroborates a previous study that has also found a high percentage of pregnant women with mild body image distortion (90% and 70%, active women and irregularly active women, respectively)[12]. Additionally, there was an inversely proportional relationship between body image and self-esteem (r=-0.61), showing that higher BSQ scores are associated with lower self-esteem of pregnant women[12]. According to this finding, it is possible to imply that the high mean scoring found in the present study (92.6±27.5) may explain the low self-esteem of these pregnant women.

A research conducted with pregnant women with many nutritional diagnoses showed that overweight pregnant women got higher mean scores (74.94±23.36) in the BSQ when compared to eutrophic women (62.95±22.8, $p<0.05$), indicating a higher prevalence of negative concerns about body image among overweight women[3]. This finding may justify the high mean scoring found in this study sample, which is exclusively composed of obese and overweight pregnant women.

Within this context, maternal BMI has been pointed as a predictor of self-esteem and eating behavior, being associated with body image dissatisfaction and restrictive feeding practices[21,22]. One of the studies that assessed overweight pregnant women revealed that 70% of them did not recognize they had a BMI above what is recommended, and those who reported being dissatisfied with body shape and size were more likely to gain excessive weight during pregnancy[22]. Thus, it can be noticed that the provision of early care to this group is important, and the monitoring of the BMI, weight gain, and eating behavior is a key to nutritional care. The finding revealing that overweight women are more likely to have negative changes in the body image shows that this group requires a targeted treatment that could be more effective.

It is believed that a greater concern about the body image of pregnant women may also result from several other factors like depressive symptoms, tendency to compare one's body with others', sociocultural pressure to be thin and peer pressure[2]. Given that, it is noteworthy the need to understand the whole context where the woman is inserted in order to guide the conduct of professionals who must work in a multidisciplinary team for a successful treatment.

Regarding the beginning of the nutritional follow-up during prenatal care, the high percentages found at the beginning of the second and third gestational trimester (n=13, 46.4% and n=12, 42.9%, respectively) caused great

concern. It has been shown that women are more likely to present high degrees of body dissatisfaction from the beginning of pregnancy to the half of the third trimester, and, if this happens, they are more likely to keep this dissatisfaction during the third trimester in association with depressive symptoms[2,23]. This reinforces the importance of the early follow-up of pregnant women in order to detect and treat potential complications in advance and promote a healthy and positive body image in this group[23].

Pregnancy precipitates several problems, especially those relating to eating behavior, which can generate a feeling of lack of control of the amount of food consumed and the weight[24].

There is no consensus in the literature on whether pregnancy contributes to the onset or aggravation[24-26] of ED symptoms, or whether it has a reductive or remissive[27-29] effect on the existing symptoms of the pre-gestational period[30]. A study conducted with a sample of 72,435 women revealed that the onset of BED symptoms can either occur during pregnancy (1.7%) or start before it and continue during gestation (2.1%), and their intensity can also decrease (1,3%)[29]. The continuation of symptoms during pregnancy has been associated with excessive concern about the weight before and during pregnancy[14]. Additionally, overweight women are more likely to present a remission of a previous case of BED during pregnancy[29]. There is a versatility of forms of incidence of this disorder in pregnant women.

The research sample presented a higher percentage of lack of binge eating disorder (82.1%). This finding is believed to be influenced by the low education level of some patients, who may have had difficulties to understand the complex language of the questionnaire even with the help of the researcher. According to the authors who validated and translated the questionnaire (BES) into Portuguese, patients with low education level have difficulties to answer the questionnaire because they think it is extensive and/or very complex. They also have difficulties to read and understand some questions[17].

The prevalence of moderate binge eating disorder found in this study was 17,9% (n=5). Bearing in mind the association between BED and obesity, female sex and body dissatisfaction[10,14], one could expect a higher percentage of binge eating considering the profile of the study sample, which is composed of overweight women who are mostly obese and dissatisfied with their body image.

However, this percentage was considered significant and deserves attention from the healthcare team, especially because of possible obstetrical complications that can result from BED, like maternal hypertension, longer labor duration and macrosomia, putting the mother and the fetus at risk[31].

Therefore, a pregnant woman who presents body dissatisfaction and eating disorders needs a multidisciplinary treatment, especially during prenatal care, focusing on her eating habits and concerns about body weight and shape[27]. Thus, the early assessment and diagnosis of ED during pregnancy are important to the establishment of more effective interventions in order to reduce behaviors that can harm the mother and the fetus[5,10,28].

Some of the limitations of this study are the small sample size, which resulted from the short period for data collection, and the low education level of some patients in addition to the complex writing and the extensive length of the BES questionnaire. Further studies should be conducted with larger samples and screening for other types of eating disorders (bulimia and anorexia nervosa).

CONCLUSION

The high rate of body image disorder positively related to a significant binge eating disorder suggests an unfavorable adaptation of this group of pregnant women to changes in body weight, shape and size, which are common during pregnancy. Thus, these women stand out as a group that needs special attention from the healthcare team.

REFERENCES

1. Stenzel LM. A influência da imagem corporal no desenvolvimento e na manutenção dos transtornos alimentares. In: Nunes MA, Appolinario JC, Galvão AL, Coutinho W. Transtornos alimentares e obesidade. Porto Alegre: Artmed; 2006. p. 73-81.

2. Skouteris H, Carr R, Wertheim EH, Paxton SJ, Duncombe D. A prospective study of factors that lead to body dissatisfaction during pregnancy. Body Image. 2005;2(4):347-61.

3. Fox P, Ymaguchi C. Body image change in pregnancy: a comparison of normal weight and overweight primigravidas. Birth. 1997;24(l):35-40.

4. Schomer EZ, Kachani AT. Imagem Corporal. In: Cordás TA, Kachani AT. Nutrição em psiquiatria. Porto Alegre: Artmed; 2010. p. 107-18.

5. Dunker KLL; Alvarenga MS; Alves VPO. Transtornos alimentares e gestação – Uma revisão. J Bras Psiquiatr. 2009; 58(1):60-8.

6. Kessler RC, Berglund PA, Chiu WT, Deitz AC, Hudson JI, Shahly V, et al. The prevalence and correlates of

binge eating disorder in the World Health Organization World Mental Health Surveys. Biol Psychiatry. 2013;73(9):904–14.

7. Pisciolaro F, Azevedo AP. Transtorno da compulsão alimentar periódica. In: Cordás TA, Kachani AT. Nutrição em psiquiatria. Porto Alegre: Artmed; 2010. p. 167-80.

8. Smink FRE, Hoeken D, Hoek HW. Epidemiology of eating disorders: incidence, prevalence and mortality rates. Curr Psychiatry Rep. 2012;14(4):406-14.

9. Preti A, Girolamo G, Vilagut G, Alonso J, Graaf R, Bruffaerts R, et al. The epidemiology of eating disorders in six european countries: results of the ESEMeD-WMH project. J Psychiatr Res. 2009;43(14):1125-32.

10. Mascarenhas MTL, Almeida MMG, Araújo TM, Prisco APK. Transtornos alimentares na população de 20 a 59 anos de Feira de Santana (BA), 2007. Cad Saúde Colet. 2011; 19(2):179-86.

11. Easter A, Bye A, Taborelli E, Corfield F, Schmidt U, Treasure J, et al. Recognising the symptoms: how common are eating disorders in pregnancy? Eur Eat Disord Rev. 2013;21(4):340-4.

12. Teixeira PC; Matsudo SMM; Almeida VS. Auto-estima e imagem corporal de gestantes de acordo com o nível de atividade física. Rev Bras Ciênc Mov. 2008;16(1):547-655.

13. Meltzer-Brody S, Zerwas S, Leserman J, Holle AV, Regis T, Bulik C. Eating disorders and trauma history in women with perinatal depression. J Womens Health (Larchmt). 2011;20(6):863-70.

14. Berg CK, Torgersen L, Holle AV, Hamer RM, Bulik CM, Reichborn-Kjennerud T. Factors associated with binge eating disorder in pregnancy. Int J Eat Disord. 2011;44(2):124–33.

15. Ministério da Saúde (BR), Secretaria de Atenção à Saúde, Departamento de Ações Programáticas Estratégicas. Gestação de alto risco: manual técnico. 5ª ed. Brasília: Ministério da Saúde, 2010.

16. Di Pietro M, Silveira DX. Internal validity, dimensionality and performance of the Body Shape Questionnaire in a group of Brazilian college students. Rev Bras Psiquiatr. 2008;31(1):21-4.

17. Freitas SR, Lopes CS, Coutinho W, Appolinario JC. Tradução e adaptação para o português da Escala de Compulsão Alimentar Periódica. Rev Bras Psquiatr. 2001;23(4):215-20.

18. Freitas SR. Instrumentos para a avaliação dos transtornos alimentares. In: Nunes MA, Appolinario JC, Galvão AL, Coutinho W. e colaboradores. Transtornos alimentares e obesidade. Porto Alegre: Artmed; 2006. p. 241-7.

19. Dunker KLL, Alvarenga M. Transtornos alimentares e gestação. In: Alvarenga M, Scagliusi FB, Philippi ST. Nutrição e transtornos alimentares: avaliação e tratamento. Barueri: Manole; 2010. p. 221-33.

20. Lotha KA, Bauera KW, Wallb M, Bergec J, Neumark-Sztainera D. Body satisfaction during pregnancy. Body Image. 2011;8(3):297–300. Disponível em: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3124621/

21. Shloim N, Hetherington M, Rudolf M, Feltbower R. Adjusting to motherhood: the importance of BMI in predicting maternal well-being, eating behaviour and feeding practice within a cross cultural setting. Appetite. No prelo 2014.

22. Sui Z, Turnbull D, Dodd J. Effect of body image on gestational weight gain in overweight and obese women. Women Birth. 2013;26(4):267-72.

23. Rauff EL, Downs DS. Mediating effects of body image satisfaction on exercise behavior, depressive symptoms, and gestational weight gain in pregnancy. Ann Behav Med. 2011;42(3):381-90.

24. Hubin-Gayte M, Squires C. Étude de l'impact de la grossesse sur les comportements alimentaires à travers l'utilisation du questionnaire SCOFF. Evol Psychiatr (Paris). 2012;77(2):201–12.

25. Cardoso JP, Pires AP. Perturbações do comportamento alimentar na gravidez: uma revisão. Psicol Reflex Crít. 2012:25(1):139-46.

26. Coker EL, Mitchell-Wong LA, Abraham SF. Is pregnancy a trigger for recovery from an eating disorder? Acta Obstet Gynecol Scand. 2013;92(12):1407-13.

27. Soares RM, Nunes MA, Schmidt MI, Giacomello A, Manzolli P, Camey S et al. Inappropriate eating behaviors during pregnancy: prevalence and associated factors among pregnant women attending primary care in southern Brazil. Int J Eat Disord. 2009;42(5):387-93.

28. Harris AA. Practical advice for caring for women with eating disorders during the perinatal period. J Midwifery Womens Health. 2010;55(6):579-86.

29. Ulman TF, Holle AV, Torgersen L, Stoltenberg C, Reichborn-Kjennerud T, Bulik CM. Sleep disturbances and binge eating disorder symptoms during and after pregnancy. Sleep. 2012;35(10):1403-11.

30. Santos AM, Piccolotto GB, Benute GRG, Santos NO, Lucia MCS, Francisco RPV. Transtorno alimentar e

picacismo na gestação: revisão de literatura. Psicol Hosp. 2013;11(2):42-59.

31. Linna MS, Raevuori A, Haukka J, Suvisaari JM, Suokas JT, Gissler M. Pregnancy, obstetric, and perinatal health outcomes in eating disorders. Am J Obstet Gynecol. 2014;211(4):1-8.

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