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The relationship between perfectionism and body image with eating disorder in pregnancy

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Abstract:

INTRODUCTION: Mental health is very important during pregnancy, and perfectionism, body image, and eating disorder are three important factors in mental health. Given that eating disorders are very dangerous in pregnancy, the aim of this study was to determine the relationship between perfectionism and body image with eating disorder in pregnancy.

METHODS: This descriptive study was performed on 200 pregnant women referred to Isfahan Health Centers in 2017. The research units, if met the inclusion criteria, completed the Eating Attitudes Questionnaire, Multidimensional Relationships of their Body Questionnaire, and Perfectionism Questionnaire. Finally, the data were analyzed by SPSS software version 22, with a significance level of 0.05.

RESULTS: The results showed that there was a significant negative relationship between positive perfectionism with symptoms of eating disorder, anorexia nervosa, and nervous longing to eat. There was a significant positive correlation between negative perfectionism with symptoms of eating disorder, anorexia nervosa, and nervous longing to eat. The results also showed a significant negative relationship between body image and its dimensions with symptoms of eating disorder, anorexia nervosa, and neurasthenia.

CONCLUSION: Perfectionism and body image and its dimensions are psychological problems related to eating disorder in pregnancy. For this reason, it seems that taking classes for pregnant women and their spouses can reduce the incidence of this disorder.

Keywords:

Body image, eating disorder, perfectionism, pregnancy

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Introduction

Eating disorders are problems that are closely related to the lifestyle and culture of the community. The overwhelming desire of some cultures, especially Western cultures for beauty, slimming, and fitness, often forces them to adopt strict, overwhelming diets. Some of them even resort to other activities such as vigorous exercise, deliberate vomiting, and taking laxatives.^[1,2] Symptoms of eating disorders are among the factors affecting general health. The prevalence of eating disorders has increased over the last few

decades.^[3] Eating disorders are divided into four general categories, namely concerns about body shape, concerns about body weight, concerns about eating, and avoiding eating.^[3,4] Eating and eating disorders are characterized by persistent eating disorders or eating-related behaviors that lead to changes in consumption, food intake, and significant damage to physical health and psychosocial functioning. Anorexia and high appetite for eating are associated with abnormal symptoms such as restricted eating or cleansing behaviors, body-image perturbations, weight loss and weakness, and resistance to intervention. People with anorexia and psychosis are

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characterized by features such as perfectionism, mood swings, and obsessive-compulsive disorder. People with high-anxiety appetite psychosis, stressful emotional and esthetic experiences and austerity, and psychosis tend to be sensitive and aroused. These symptoms often begin in childhood and before eating disorders.^[4,5]

Symptoms of eating disorders in many pregnant women improve due to fear of injury to the fetus, while younger pregnant women are less likely to gain weight during this period. Pregnant women with eating disorders are at greater risk of miscarriage, electrolyte abnormalities, preterm labor and instrumental labor, intrauterine growth restriction, and inadequate weight gain during pregnancy. All pregnant women with eating disorders in the postpartum period are also more vulnerable. In fact, the symptoms of eating disorders increase during pregnancy, while they improve in the postpartum period.^[3] Obesity, weight gain, and body size during pregnancy are associated with dissatisfaction and can lead to concerns about weight gain.^[6] Having a negative body image during pregnancy can be worrying. This negative image may lead to behaviors such as dieting and starvation, which may lead to overweight, preterm birth, low birth weight, delayed child development, and, in some cases, maternal and fetal death.^[7]

The body image is one's way of seeing one's self and the perception of how one is viewed by others.^[6] During pregnancy, women will experience changes in body shape, weight, and, therefore, body image. It is hypothesized that because of these changes, assessment of their body, which is, in fact, an assessment of one's attitude toward the existing body image and ideal body image of the society, will increase. According to some cultures, slim women are very beautiful, and during pregnancy, women will experience a great deal of decline in the ideal culture, resulting in a decrease in their satisfaction with their body image.^[8] The issue of body image is more of a cultural matter that relates to the society's values and norms. Changes in these cultural components cause changes in the behaviors of the members of the society. These changes can have a profound effect on one's personality, behavior, and social activities, and the body is used as a means of controlling social relationships.^[9,10]

Trindade and Ferreira (2014) examined eating disorder from a psychopathological point of view and stated that dissatisfaction with body image and social comparison are effective on eating disorder, and this relationship is mediated by cognitive perturbations associated with physical perception.^[11]

People with deformity disorder have significantly higher rumination rates than that of healthy individuals. They

compare themselves to others and engage in comparisons beyond themselves, or choose goals that are unrealistic ideals for comparison. Most of these individuals have normal traits and characteristics, but may tend to have unrealistic and perfectionistic standards.^[12]

Perfectionism is defined as the individual's enduring tendency to set complete and unattainable standards and to strive for their fulfillment with critical appraisals of personal performance.^[13] Perfectionism can be both compatible and incompatible. Adaptive perfectionism is an attempt to achieve high standards that increase one's self-esteem, whereas maladaptive perfectionism is seen as an attempt to achieve extremely high and unrealistic standards and severe critical behavior about their performance. Although the goal of normal and abnormal perfectionists is to achieve success, abnormal perfectionism has a negative effect on individuals.^[14] Perfectionism is a personality trait that is characterized by striving to be impeccable and to set very high standards for performance and a tendency to critically evaluate one's own and others' behavior.^[15] The perfectionist creates a set of strict, unrealistic, and high standards. When evaluating his/her performance, such a person becomes involved in the thinking of everybody and considers the condition of success to meet these standards. Perfectionism is expected to affect different aspects of mental health.^[16]

A study by Yavarian *et al.* (2017) showed that perfectionism is one of the predictors of mental health.^[17] Soltani *et al.*'s (2017) study also reported a significant negative relationship between mental health and body image.^[18] The study by Mollazadeh Esfanjani *et al.* also reported a significant relationship between anxiety (health) and eating disorder.^[19]

People with eating disorders have many concerns about mistakes, which is one of the components of perfectionism. Perfectionism is also a precursor to anorexia, nervous disorders, and eating habits. The combination of high personal standards and concerns about errors and concerns about evaluation, as two dimensions of perfectionism, are associated with symptoms of eating disorder. Neurotic perfectionism correlated significantly with symptoms of neural deficits.^[20-22]

Mental health is very important during pregnancy. Perfectionism, body image, and eating disorders are three important factors in mental health. In addition, based on studies that have reported a relationship between perfectionism and body image with eating disorder during nonpregnancy,^[12] the researcher aimed to conduct a study to determine the relationship between perfectionism and body image with eating disorder in pregnancy.

Methods

This is a descriptive study that was performed on 200 pregnant women referred to Isfahan health centers (Navab, Motahari, and Amir Hamzeh) in 2017. The sample size was calculated using G*Power software (G power version 3.1.4, Faul, F., Erdfelder, E., Buchner, A., and Lang, A.-G. (2009)) due to the lack of a similar study. The sample size was 187 individuals with 95% confidence level and 80% test power. Given the 7% probability of sample loss, the final sample count was 200 individuals. The sampling method was multistage. First, health centers were randomly selected using a random number table, and then pregnant women from each urban health center were selected based on the sample size. Inclusion criteria included Iranian nationality and Islam religion, Isfahan residence, physical and psychological willingness to participate in the study, written consent to participate in the study, first pregnancy, and pregnancy of 28 weeks and above, and exclusion criteria included taking psychotropic drugs; experiencing an unfortunate, stressful, or stressful accident (death of first-degree relatives, severe family and marital disputes, financial problems, and leaving a spouse) during pregnancy; and medical illness (thyroid, diabetes, hypertension, cardiovascular disease, kidney disease, nervous and etc.). Data-gathering tool was a questionnaire including demographic and midwifery questionnaire, the Eating Attitudes Questionnaire, the Multidimensional Relationships Questionnaire, and the Perfectionism Questionnaire.

The demographic/fertility questionnaire consisted of 11 questions.

The EAT-26 Eating Attitudes Questionnaire (Garner *et al.*, 1979) was used for data collection.^[23] The questionnaire consists of 26 items measuring attitudes and behaviors related to eating. The questionnaire was scored on a Likert scale (always = 3, most of the time = 2, often = 1, sometimes and rarely and never = 0). The range of the scores of this questionnaire is from 0 to 87. A score above 20 indicates the likelihood of eating disorder. Nervous overeating is diagnosed if the answer to question 9 in the questionnaire "I vomit after eating" is always or almost always. Anorexia or anorexia nervosa is diagnosed if the answer to the question "I avoid eating even when I'm hungry" is always, or almost always. The content validity of the Persian form of the EAT-26 questionnaire was desirable, and its validity was reported using the test-retest method (0.91).^[1] In this study, the reliability of the questionnaire was estimated to be 0.89 and 0.79, using the test-retest method.

The Multidimensional Self-body Relationship Questionnaire is a 46-item self-report scale developed by Cash, Winstead, and Janda in the 1986-1987 for the assessment of body image. In this study, the final form developed by Cache in 1997 was used. The tool has six subscales as follows: (1) appraisal of appearance, (2) appearance tendency, (3) suitability assessment, (4) tends to fit, (5) overweight or subjective concern, and (6) satisfaction with physical areas. In this study, a subscale of appearance assessment was used to assess body image. The questionnaire is scored on a 5-point scale. The validity of this questionnaire was calculated by Cronbach's alpha method. A high score on this scale indicates that the individual is dissatisfied with his or her appearance. The total validity and subscales validity of assessment of appraisal of appearance, appearance tendency, suitability assessment, tends to fit, overweight, subjective concern, and satisfaction with physical areas was 0.88, 0.67, 0.79, 0.57, 0.83, 0.83, and 0.84, respectively.^[1] The validity of this questionnaire was estimated to be 0.79 in the evaluation of appraisal of appearance in this study.

In the study of Bardone-Cone and Rezaei the Perfectionism Questionnaire was used to measure positive and negative perfectionism; the questionnaire consists of 40 items, 20 of which measure positive perfectionism and the other 20 items measure negative perfectionism. This questionnaire is based on a 5-point Likert scale ranging from strongly agree to strongly disagree.^[24-25]

Twenty items (2, 3, 9, 6, 14, 16, 18, 19, 21, 23, 24, 25, 28, 29, 30, 32, 34, 35, 37, and 40) evaluate positive perfectionism and the other twenty items (1, 4, 5, 7, 8, 10, 11, 12, 13, 15, 17, 20, 22, 26, 27, 31, 33, 36, 38, and 39) evaluate negative perfectionism. Items on a 5-point Likert scale ranged from 1 to 5 on two levels of positive and negative perfectionism. The minimum score for each of the test scales will be 40, and the maximum score for each of the test scales will be 200. In Sadaty (2008) study, the alpha coefficient for positive and negative perfectionism scales was 0.87 and 0.85, respectively.^[20]

The present study was initiated after being approved by the university's ethics committee and obtaining sampling permission in health centers affiliated to Isfahan University of Medical Sciences. Initially, all pregnant mothers satisfying the inclusion criteria were asked to complete the questionnaires if they had written consent to participate in the study. They were also assured that their information would be kept confidential and that the final research information would be made available if they so desired.

Finally, the collected information was coded and entered into SPSS (IBM, SPSS Inc, Chicago, Illinois,

USA) software version 22. After confirmation of data normality, data were analyzed by descriptive statistics and Pearson's test.

Results

The results showed that the mean age of the participants was 26.09 ± 6.09 years, and the mean age of their spouses was 32.33 ± 6.50 years. Most of the participants had a high school diploma and a under diploma ($263 = 54.9\%$). The average income level of most participants was low to medium ($834 = 86.6\%$). The majority of participants had a female fetus ($253 = 51.1\%$).

The mean scores of perfectionism, body image, and eating disorders in pregnant mothers participating in the study are summarized in Table 1.

The results showed that there was a significant negative relationship between positive perfectionism and symptoms of eating disorder, anorexia nervosa, and nervous longing to eat. There was a significant positive correlation between negative perfectionism with symptoms of eating disorder, anorexia nervosa, and nervous longing to eat. The results also showed a significant negative relationship between body image and its dimensions with the symptoms of eating disorder, anorexia nervosa, and nervous longing to eat [Table 2].

Discussion

Eating disorders in pregnancy are one of the most important issues in maternal and fetal health. The purpose of this study was to determine the relationship between perfectionism and body image with eating disorder in pregnancy.

The results showed that the mean score of positive perfectionism was 57.7 ± 5.65 , negative perfectionism was 55.5 ± 9.89 , symptoms of eating disorder was $14/15 \pm 4/52$, and body image score was $238/89 \pm 26/53$.

Table 1: Mean overall scores and dimensions of perfectionism, body image, and eating disorders during pregnancy

Variables	Mean \pm SD
Positive perfectionism	57.7 \pm 5.65
Negative perfectionism	55.55 \pm 9.89
Nervous appetite	11.34 \pm 4.40
Nervous longing to eat	3.95 \pm 1.09
Symptoms of eating disorder	14.15 \pm 4.52
Body image	238.89 \pm 26.53
Dimensions of body image	
The body itself	188.15 \pm 18.85
Body satisfaction	35.43 \pm 5.20
One's attitude about weight	15.31 \pm 2.48

SD=Standard deviation

The study by Mashalpourfard *et al.* (2014) which aimed to determine the relationship between social anxiety, body-image perception, perfectionism, and depression with eating disorder in youth showed perfectionism score of 66.05 ± 10.57 , body-image perception score of 171.07 ± 32.29 , and eating disorders score of 9.13 ± 4.31 .^[12] In addition, in the study by Sousa Fortes *et al.* which aimed to determine the symptoms of eating disorder, correlation with perfectionism characteristics in 368 male adolescents yielded a score of 13.77 ± 9.34 and a perfectionism score of 142.09 ± 28.93 .^[26] That difference in scores is due to differences in all the three questionnaires used.

The results showed a significant negative relationship between negative perfectionism and symptoms of eating disorder, symptoms of anorexia nervosa, and symptoms of neurasthenia. There was a significant positive relationship between positive perfectionism with symptoms of eating disorder, symptoms of anorexia nervosa, and symptoms of neurotic overload. In other words, eating disorders can be improved by decreasing the negative perfectionism score and increasing the positive perfectionism score.

In this regard, a study by Ariapooran *et al.* (2012) which aimed to determine the relationship between perfectionism, body worthiness, and worry with eating disorder symptoms in 181 women with exercise activity showed a positive correlation between perfectionism and negative perfectionism with symptoms. Eating disorder, symptoms of anorexia nervosa, and symptoms of nervous longing to eat were significantly correlated.^[27] Rezaei *et al.*'s study which aimed to determine the role of perfectionism prediction and body mass index on eating disorders mediated by body dissatisfaction in 302 female students showed that perfectionism alone can predict eating disorder.^[24] Mashalpourfard *et al.*'s study noted a significant relationship between perfectionism and eating disorder.^[12] A study by Bardone-Cone *et al.* (2007) also pointed to the role of perfectionism in the development of anorexia nervosa.^[23] A study by Sousa Fortes *et al.* showed that there was a significant relationship between perfectionism score and eating disorders.^[26] In addition, the results of studies by Boone *et al.* and Welch *et al.* confirmed the present study results.^[25,28]

A perfectionist is one who looks for irrational and very high standards of personal goals and expectations. People with negative perfectionism have a negative attitude toward their mistakes, are more likely to blame themselves, and feel a mismatch between their performance and their expectations. Because of the negative association of positive perfectionism with eating disorders, it can be said that people with positive perfectionism achieve the desired goal and have higher

Table 2: The relationship between perfectionism and body image with eating disorders during pregnancy

Variables	Eating disorders (<i>r</i>)		
	Symptoms of eating disorder	Symptoms of anorexia nervosa	Symptoms of nervous longing to eat
Positive perfectionism	-0.238*	-0.246*	-0.447*
Negative perfectionism	0.335*	0.45*	0.381*
Body image	-0.501*	-0.500*	-0.467*
Dimensions of body image			
The body itself	-0.485*	-0.576*	-0.485*
Body satisfaction	-0.658*	-0.428*	-0.658*
One's attitude about weight	-0.352*	-0.420*	-0.352*

Pearson's correlation coefficient * $P < 0.05$, statistically significant

self-confidence.^[26] Therefore, pregnant women with positive perfectionism are not worried about weight gain and weight loss and do not blame themselves. This makes them less likely to have an eating disorder.

Having very high irrational standards of personal goals and expectations as perfectionism on the negative side can lead women to make inaccurate assessments of body weight and appearance, forcing them to behave in the form of inappropriate diets and exercise to reduce weight-related problems. This can play an important role in increasing the symptoms of an eating disorder. Other results showed that there was a significant negative relationship between body image and its dimensions with the symptoms of eating disorder, anorexia nervosa, and neurasthenia. The symptoms of eating disorder, anorexia nervosa, and neurotic overload decrease with increased positive body image and increased body satisfaction. In line with this study, the study by Mashalpourfard *et al.* showed that there is a significant relationship between body-image perception and eating disorder.^[12]

The study of Mashalpourfard *et al.* also showed that there is a significant negative relationship between body worthiness, appearance value, and body value (whole) with the symptoms of anorexia nervosa, nervous longing to eat, and eating disorder.^[12] A study by Ferrand *et al.* showed that there is no significant relationship between body value and eating disorder.^[1]

Physical attraction is important for women, so women with low physical attractiveness have low physical value. This allows them to eat a low diet that increases the incidence and severity of the symptoms of eating disorder.

One of the important aspects of mental health is the normality of one's body image in the mind. Pregnancy is an important period in a woman's life that imposes many changes in her psyche and the society. In addition, during pregnancy, women will experience changes in body shape, weight, and, therefore, body image. It is hypothesized that because of these changes, assessment

of their body, which is, in fact, an assessment of one's attitudes toward the existing body image and the ideal body image of the society, will increase.^[7] For this reason, pregnant women are expected to develop nutritional disorders. Given the complex role of individual, familial, and social contexts and the interaction of these factors in each of the two disorders that can lead to physical and psychological symptoms, the prevention and early detection of disorders should be carefully considered by all physicians and team members, especially midwives. Those who are in direct contact with pregnant mothers should be educated about the basic nutritional needs, the effects of restrictive diets, and the effects of using cleansing and alerting agents on their nutrition and familiarity with nutrition. On the other hand, increasing the self-esteem of pregnant mothers can help to prevent body image disorder. Pregnant mothers' self-esteem can be raised directly by midwives or indirectly through in-home training of pregnant mothers. On the other hand, interventions can be taken to prevent these disorders. As the notion of the body goes back to the values and norms of society. There are other variables such as the use of media, the pregnant woman's view of her husband's body during pregnancy, and the ideal definition of female beauty in the study community, which have not been addressed in this study. Perhaps, this lack of relevance is due to the association of these factors with uncontrolled factors and is one of the limitations of this study. There was also no study to evaluate the association between perfectionism and body image in pregnant women, thus limiting the comparison of this result with that of other studies. Therefore, we emphasize descriptive and analytical researches in different groups of pregnant women.

Conclusion

According to the results of this study, perfectionism and body image and its dimensions, which are among psychological problems, are significantly associated with eating disorder in pregnancy. Mental health of pregnant women is of particular importance. As a result, it seems that taking classes for pregnant women and their spouses can reduce the incidence of this disorder.

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Conflicts of interest

There are no conflicts of interest.

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