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Relationship between fear of childbirth and the sense of cohesion with the attachment of pregnant mothers to the fetus

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Abstract:

INTRODUCTION: Maternal–fetal attachment is a term used to describe the emotional relationship that a pregnant woman has with her developing fetus. Mental care for pregnant women (fear of childbirth and a sense of cohesion of pregnant women) is one of the most important aspects of prenatal care that affects the mother’s attachment to the fetus. If fear and anxiety are relieved, psychological and physical relaxation will be replaced. Therefore, the present study was conducted with the aim of determining the relationship between fear of childbirth and the sense of cohesion with the attachment of pregnant mothers to the fetus.

METHODS: The present study is a descriptive study that was performed by multi-stage sampling method on 500 pregnant mothers who referred to health centers in Isfahan in 2017. The study participants completed the following questionnaires: fear of childbirth, sense of cohesion, and mother’s attachment to the fetus. The data were analyzed by descriptive and analytical statistical methods (Pearson correlation) using SPSS software version 22.

RESULTS: The results showed that there was a significant negative relationship between the overall score of maternal attachment to the fetus and fear of childbirth ($r = -0.153$, $P = 0.001$). However, there is a significant positive relationship between the overall score of maternal attachment to the fetus and the sense of cohesion ($r = 0.112$, $P = 0.01$). The results also showed a significant negative relationship between the fear of childbirth and the dimensions of maternal attachment to the fetus, including interaction with the fetus ($P = 0.04$), self-sacrifice ($P = 0.04$), and attributing characteristics to the fetus ($P = 0.05$). There was a positive and significant relationship between the sense of coherence and the subsequent acceptance of the maternal role of maternal attachment to the fetus ($P = 0.004$).

CONCLUSION: More attention of prenatal care provider to the psychological issues of the pregnant mother and their fears and worries can lead to appropriate interventions in this field, and as a result, mothers’ attachment to their fetus has increased so that they can take proper care during and after pregnancy.

Keywords:

Fear of childbirth, mother’s attachment to the fetus, sense of cohesion

Introduction

Attachment theory is one of the most useful conceptual frameworks for understanding interpersonal relationships and emotional regulation. The relationship

between the mother and her child is organized from the prenatal period.^[1] Maternal–fetal attachment is a term used to describe the emotional relationship a pregnant woman has with her developing fetus that affects

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her feelings, cognitions, and behaviors.^[2-4] Muller and Pillite believe that this attachment is created from the beginning of pregnancy and gradually increases so that it reaches its peak in the second trimester and continues until after delivery and plays an important role in the mother's successful adaptation to pregnancy.^[5,6] The process of emotional attachment, which gradually begins to develop as the mother's attachment to the fetus develops, motivates her to gain competence and satisfaction in the role of motherhood after childbirth. Maternal and fetal attachment can be affected by the following issues: social support, psychological status, gestational age, maternal age, number of births, marital status, income, education, and high-risk pregnancies.^[7] As maternal and fetal attachment increases, the mother is more likely to engage in healthy behaviors during pregnancy.^[8] Mental health care for pregnant women is one of the most important aspects of prenatal care that has been somewhat overlooked.^[9] Anxiety events in the prenatal period not only affect children's mental health during childhood but are also associated with mental health problems in adulthood.^[10] High levels of cortisol, which is affected by maternal anxiety and stress, are associated with risks and psychological damage, psychological disorders, and low infant development.^[11] High levels of anxiety and stress are associated with an increased risk of premature birth, low birth weight, spontaneous abortion, and neonatal abnormalities.^[12] Anxiety and clinical problems in pregnant women both reduce the health of infants.^[13] Some researchers believe that the rate of anxiety in pregnant women is high in the first trimester, decreases in the second trimester, but returns to its original level in the third trimester of pregnancy as labor approaches. The last trimester of pregnancy is more stressful and anxious.^[14] With the gradual entry of women into the third trimester of pregnancy, the thought of reaching the time of childbirth makes the pregnant woman anxious. Fear of childbirth is also associated with psychological complications so that fear of childbirth is significantly associated with depression, anxiety, and eating disorders.^[15,16] Approximately 33% of women have a fear of childbirth and anxiety in the last trimester of pregnancy.^[17] Fear, anxiety, and pain are the three factors that play an important role during childbirth. If fear and anxiety are removed, it will be replaced by psychological and physical relaxation.^[18] Every woman who becomes pregnant for the first time and expresses fear of childbirth needs special care to be able to manage the pregnancy and to have a pleasant and safe experience of childbirth.^[19] Fear of childbirth is a common problem in pregnant women.^[16] High levels of fear of childbirth and anxiety are a strong predictor of postpartum depression. In the face of a stressful factor, a person with a strong sense of cohesion will be able to understand and manage the situation using the resources available, and this will lead to his or her progress and health.^[20-22] The sense of coherence is a general orientation to life rather than a fundamental

personality trait. There are three factors to the concept of a sense of cohesion: perceptibility (a person's perception that situations and events are structured and obvious), controllability (a person's belief in having the basic skills to engage and face life's challenges), Significance (life challenges are worth the investment and conflict). This feature protects a person's health in the face of life's stressful events.^[23] People with a strong sense of cohesion are more resilient and hardworking than those with a poor sense of cohesion.^[24] Attachment styles have a direct effect on personality variables such as emotional well-being.^[25] The attachment system is important in integrating emotional, motivational, cognitive, and behavioral dimensions. The feeling of psychological cohesion is a personal orientation to life that, as an internal source, strengthens physical and mental health.^[26] Fear of childbirth, known as an anxiety disorder, is likely to reduce the mother's attachment to the fetus. Fear increases avoidant attachment and anxiety, which, in turn, is associated with lower scores on cohesiveness. Mothers with a higher sense of cohesion are expected to be better able to cope with the fear of childbirth, and reducing the fear of childbirth can increase the mother's attachment to the fetus. Reducing the worries and anxieties of pregnancy increases the mother's opportunity to engage in activities related to her fetus. According to the contents of the study and the lack of study on the relationship between the sense of cohesion and fear of childbirth and the mother's attachment to the fetus, the researcher decided to determine the relationship between the fear of childbirth and sense of cohesion with the attachment of mothers to the fetus.

Methods

This study is a descriptive study with the aim of determining the relationship between the sense of cohesion and fear of childbirth with maternal attachment to the fetus on 500 pregnant mothers referring to health centers (Nawab, Motahhari, and Amir Hamzeh) in Isfahan in 2017. The number of sample sizes was estimated to be 500, taking into account $Z = 1.96$, $P = 0.5$, $\alpha = 0.05$, and including 10% of the sample loss. Sampling in this study was multistage. At first, health centers were randomly selected using a table of random numbers. Then, pregnant women were selected from each urban health center based on the sample size available. Criteria for entering the study are Iranian and Muslim pregnant women living in Isfahan, physical and mental desire to participate in the study, having written consent to participate in the study, first pregnancy, and having a pregnancy of 28 weeks and above. The criteria for not entering the study were taking drugs that affect the psyche, experiencing an unfortunate or stressful accident (death of first-degree relatives, severe family and marital disputes, financial problems, and leaving the spouse from home) during pregnancy, and having

a medical illness (thyroid, diabetes, high blood pressure, cardiovascular disease, kidney, nerve, etc.). The data collection tool was questionnaire. The questionnaires included individual and midwifery characteristics, fear of childbirth, sense of cohesion, and mother's attachment to the fetus.

The individual/fertility profile questionnaire included 11 questions.

The Harman Questionnaire (Childbirth Attitude Questionnaire) had 16 questions that were rated on a 4-point Likert scale. In this questionnaire, the minimum score is 14 and the maximum score is 56. The content validity and reliability of this questionnaire have been confirmed by Tanglakmankhong (2010) in Taiwan with $r = 0.83$. Taheri *et al.* have examined and validated the validity and reliability of the maternity fear questionnaire in Iranian society.^[27,28] In the present study, the reliability of this questionnaire was examined by retesting test method, which was confirmed by $r = 0.84$.

The sense of cohesion questionnaire had 29 seven-choice questions. The score on the Likert scale ranged from 1 to 7, and the 13-question scoring method was reversed. In this questionnaire, the minimum and maximum score that can be obtained for the participant is between 20 and 293. Alipour (2012) has confirmed the validity and reliability of this questionnaire.^[29] In the present study, the reliability of this questionnaire was examined by retest-test method, which was confirmed by $r = 0.76$.

The maternal attachment questionnaire was developed in 1981 by Cranley. It consists of 24 phrases that are graded on a scale of one to five. The validity of the Maternal-Fetal Cranial Attachment Scale through content validity and reliability through Cronbach's formula of 0.83 have been confirmed in the study of Taavoni *et al.*^[10] In the present study, the reliability of this questionnaire was examined by retest-test method, which was confirmed by $r = 0.88$.

The present study was conducted after approval by the University's Ethics Committee (IR. MUMS.REC.1396.337 ethics code) and obtaining a sampling license in health centers affiliated with Isfahan University of Medical Sciences. Initially, all pregnant mothers with study 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 final research information would be provided if they so wished. Finally, the collected information was encoded and entered into the SPSS software version 22 (IBM, SPSS Inc., Chicago, Illinois, USA). After confirming the normality of the data, data analysis was performed with descriptive statistical tests and Pearson correlation test.

Results

The results of the data study showed that the average age of pregnant mothers participating in the study was 26.66 ± 6.09 years and the average age of their spouses was 32.33 ± 6.50 years. Most of the participants had undergraduate and graduate degrees (263 = 54.6%). The average income level of most participants was medium to low (462.6 = 92.6%). Most participants had a female fetus (253 = 51.6%) [Table 1].

The mean score of maternal attachment to the fetus in participants in the study was 98.43 ± 9.09 . Frequency distribution of total score and dimensions of maternal attachment to the fetus, fear of childbirth, and sense of cohesion during pregnancy is listed in Table 2.

The results of the data study showed that there was a significant negative relationship between the fear of childbirth and maternal attachment to the fetus, while there was a significant positive relationship between sense of cohesion and maternal attachment to the fetus [Table 3].

The results also showed that there was a significant negative relationship between the fear of childbirth and the dimensions of attachment to the fetus, including interaction with the fetus ($P = 0.04$), self-sacrifice ($P = 0.04$) and attributing characteristics to the fetus ($P = 0.05$). There was a positive and significant relationship between the sense of coherence and the subsequent acceptance of the maternal role of the mother's attachment questionnaire to the fetus ($P = 0.004$) [Table 3].

Discussion

Considering the importance of maternal attachment during pregnancy, the present study examined two

Table 1: Relative and absolute frequency of some demographic characteristics of the study participants

Variable	Absolute frequency	Relative frequency
Level of education		
High school	102	20/4
Diploma	161	32/2
College education	237	47/4
Baby sex		
Girl	253	51/6
Boy	247	49/4
Income level		
Low	200	40/0
Medium	263	52/6
Much	37	7/4
Job		
Housewife	385	77/0
Manual worker	45	9/0
Employee	70	14/0

Table 2: Abundant distribution of total score and dimensions of maternal attachment to the fetus, fear of childbirth, and sense of cohesion during pregnancy

Variables	Mean±SD	Minimum	Maximum
General score of attachment	98.43±9.09	77	139
Dimensions of attachment			
Interaction with the fetus	20.58±2.46	11	25
Sacrifice	20.57±2.50	15	25
Distinguish between yourself and the fetus	16.51±2.72	12	20
Assigning characteristics to the fetus	24.66±3.73	18	74
Accepting the role of mother	16.08±2.14	12	20
Fear of childbirth	42.46±6.48	16	85
Sense of coherence	105.82±15.50	66	143

SD=Standard deviation

Table 3: Relationship between the maternal attachment to the fetus and its dimensions with fear of childbirth and sense of cohesion during pregnancy

Variables	Fear of childbirth		Sense of coherence	
	Correlation coefficient	P	Correlation coefficient	P
Interaction with the fetus	-0.202	0.04	0.032	0.49
Sacrifice	-0.091	0.04	0.032	0.49
Distinguish between yourself and the fetus	0.003	0.95	0.006	0.15
Assigning characteristics to the fetus	-0.090	0.05	0.065	0.16
Accepting the role of mother	0.179	0.001	0.132	0.004
General score of attachment	-0.153	0.001	0.112	0.01

factors: coherence and fear of childbirth during pregnancy on maternal attachment to the fetus during pregnancy.

The results of the data analysis showed that the mean score of maternal attachment to the fetus in the participants in the study was 98.43 ± 9.09 . The lowest score obtained from this questionnaire was related to the acceptance of the maternal role with an average of 16.08 ± 2.14 and the highest score obtained from this questionnaire was related to the interaction with the fetus with an average of 20.58 ± 2.46 . In a study by Ghalichi *et al.* (2016), the mean score of maternal attachment to the fetus in women with normal pregnancies was 95.93 ± 8.52 , and in women with alternative pregnancy, it was 86.06 ± 15.12 . In women with uterine replacement, the lowest score was related to the attribution of specific characteristics to the fetus and the highest score was related to the area of interaction with the fetus.^[24] A study by Tafazoli *et al.* (2014) showed that the mother's attachment score to the fetus was 89.31 ± 13.5 .^[25] According to the results of the study of Tarshiri *et al.*, the mean score of attachment was 90.63 ± 9.23 and the highest score was related to the area of self-sacrifice and the lowest score was related to the attribution of specific characteristics to the fetus.^[26] In Jamshidi Manesh *et al.*'s study, the mean score of maternal attachment to the fetus was 84.72 ± 16.72 . Furthermore, in the study of the domains of the mother's attachment behaviors to the fetus, the highest score was related to the acceptance of the parental role and the lowest score was related to

the field of interaction with the fetus.^[27] Ghalichi study scores in women with normal pregnancies were close to the present study, and the rest of the studies reported scores lower than the present study. The reason for the difference in the mentioned scores can be attributed to the number of sample size and the difference in the culture of the studied people. Furthermore, in Jamshidi Manesh's study, two questions were removed from the Cranley questionnaire.

The results of the data study showed that there was a significant negative relationship between the overall score of maternal attachment to the fetus and the fear of childbirth so that by reducing the fear of childbirth, the mother's attachment to the fetus increases. However, there was a significant positive relationship between the mother's sense of cohesion and attachment to the fetus so that as the pregnant mother's sense of cohesion increases, the mother's attachment to the fetus increases. According to the results of this study, increasing the sense of cohesion can reduce the fear of childbirth and thus increase the mother's attachment to the fetus. Due to numerous searches in various databases with different Persian and English keywords and the lack of studies to investigate the fear of childbirth and the feeling of coherence with or without each other on the mother's attachment to the baby or fetus, other studies were examined.

A study by Akbarzadeh *et al.* (2012) showed that teaching attachment behaviors to pregnant mothers can reduce their anxiety.^[12] Furthermore, the results of the study

of Toosi *et al.* (2011) showed that teaching attachment behaviors reduce the level of anxiety of the pregnant mother and increase the degree of attachment of the mother to the baby.^[28] The results of Ghobari-Banab *et al.*'s (2015) study showed that there is a significant relationship between secure attachment, anxiety attachment and avoidant attachment with indicators of depression, anxiety and stress.^[29] The results of a study by Rahimian Boogar *et al.* (2007) showed that the stress level of individuals with safe attachment style was lower than that of individuals with avoidant and ambivalent attachment styles. Attachment style can well predict job satisfaction and job stress.^[30] Furthermore, the results of Sadri Damirchi *et al.*'s (2018) study showed that there is no significant relationship between safe and avoidance attachment style and variables of depression, anxiety, and student stress, but there is a significant positive relationship between the two-way attachment style with the variables of depression, anxiety, and student stress ($P < 0.01$). Also, the results of stepwise regression analysis showed that ambivalent attachment style predicted 14% of cases of student depression, 58% of cases of student anxiety and 26% of cases of student stress.^[31]

The results of a study by Ghaedifar *et al.* (2013) showed that there is a relationship between safe and two-way attachment styles with a sense of cohesion, but there is no significant relationship between avoidance attachment style and cohesiveness.^[19] The results of the study by Arghabaei *et al.* showed that the style of attachment and the tendency to use drugs are directly related. Also, the style of attachment and tendency to use drugs through the sense of cohesion has indirect effects on the tendency to use drugs.^[32] All of these studies, despite differences in the samples studied with the present study, confirmed the results of the present study.

Undoubtedly, the parent-child interaction during the first years of life has profound effects on the formation of personality traits. A warm relationship and parental acceptance create a sense of self-worth, a belief in being acceptable and worthy of love, a sense of security, and confidence in the outside world in the baby. As a result, infants can respond to more constructive methods with stressful situations, and this leads to the development and promotion of a sense of psychological cohesion in these individuals.^[33-36] As a result, the mother's sense of cohesion and attachment during pregnancy and after childbirth affects the child's sense of cohesion and attachment in future. Throughout a woman's life, there are stages that have a profound effect on her life. Pregnancy and postpartum are associated with very important physiological and psychological changes that, despite the pleasure of motherhood, are sometimes accompanied by intense stress and fear. Pregnancy is

the most stressful time in a woman's life. The severity of this stress is higher in the third trimester. Even the stress of the birth of the first child in the psychosocial stress tables is classified as severe stress. According to the metacognitive model, metacognitions are responsible for the healthy and unhealthy control of the mind. What determines emotions and how they are controlled is how one thinks. The sense of cohesion is a structure that shows the general orientation of mothers toward life and the feeling of trust and continuous dynamism in life and the world around them. This structure allows the mother to perceive the internal and external stimuli received in life in an organized, predictable, and explainable way. In other words, a sense of cohesion refers to a mother's perception and feelings that make life understandable, controllable, and meaningful to her and increase her ability to cope with stressful situations such as childbirth. As a result, increasing the sense of cohesion in pregnant mothers can reduce the fear of childbirth and increase the mother's attachment to the fetus.

Conclusion

The results of this study showed that there is a significant negative relationship between the score of fear of childbirth and the mother's attachment to the fetus and there is a positive and significant relationship between the sense of cohesion and the mother's attachment to the fetus. As a result, more attention from pregnant women caregivers to the psychological issues of the pregnant mother and her fears and worries can lead to appropriate interventions in this area. As a result, mothers' attachment to their fetus increases so that they can have proper care during pregnancy and subsequently in the postpartum period and have a stronger relationship with their child. Ultimately, children's mental health is ensured at every stage of life.

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Conflicts of interest

There are no conflicts of interest.

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