

Relationship between Attitude towards Breastfeeding and Postpartum Depression in Kerman, Iran

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Abstract

Background: Breastfeeding and mother-infant physical contact play an essential role in the mother's emotional recovery and readjustment. The present study aimed to investigate the association between attitude toward breastfeeding and postpartum depression.

Materials and Methods: The present descriptive cross-sectional and analytical study was conducted on 200 females with postpartum depression referred to rural and urban health centers, Kerman, Iran. The selection was carried out using the convenience sampling method. The mothers who met the inclusion criteria and had the willingness to participate were included in the study. They were called, and if they had inclusion criteria, they were asked to refer to health centers. Data were collected using a questionnaire about baseline characteristics and the Edinburgh Postnatal Depression Scale (EPDS).

Results: This study showed that there was no special baseline effect on total attitude and aspect of depression. The results showed a significant negative relationship of total attitude with anxiety ($r=-0.213$, $p=0.003$), depression ($r=-0.163$, $p=0.022$), and anhedonia ($r=-0.213$, $p=0.003$). There were the strongest and the weakest relationship between anhedonia and depression ($r=0.567$, $p<0.001$), and between total attitude and depression ($r=-0.163$, $p=0.022$), respectively. According to the results of the independent t-test, a significant relationship was observed between scores of depression and total attitude, which means that females with depression had a more negative attitude ($p<0.001$).

Conclusion: The results of this study documented the relationship between the attitude towards breastfeeding with postpartum depression and anxiety.

Key Words: Attitude, Breastfeeding, Postpartum depression.

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1- INTRODUCTION

According to the reports, females in different countries are at high risk for psychological changes during the first year after childbirth (1). Postpartum depression, as a frequent and debilitating social disorder, has adverse effects on mothers, children, and families (2). The World Health Organization (WHO) estimates that this disorder will be the second leading cause of the Global Burden of Disease (GBD) in 2020 (3). Various studies have reported different prevalence of this disorder in different countries, which can be attributed to the use of different measurement methods and tools. According to several studies conducted in Iran, the prevalence of this disorder has been estimated to be 30-40% (4-6).

The short-term complications of this disorder include the mother's inability to take care of the baby and the risk of committing suicide and infanticide. The long-term and subsequent complications of this condition can be persistent maternal depression, marital problems and disruption, impaired mother-infant bonding, and impairment in various aspects of child growth and development (7). Breastfeeding is an effective factor in health (8), growth, and development of children for many years. The breastfeeding alone is the essential form of feeding infants for the first 4-6 months of life, along with other supplemental foods up to 2 years old (9). Mothers have become more aware of the benefits of breastfeeding in recent years, and most often choose to breastfeed for their baby. However, sometimes they discontinue breastfeeding and replace it with formula-feeding, resulting in irreparable physical, psychological, and socioeconomic burden to communities (10, 11). According to UNICEF, more than 3000 children die each day due to infectious diseases caused by bottle feeding, and 1.5 million children die annually due to the lack of

breastfeeding (12). Socioeconomic factors influence breastfeeding, so it has been shown that females from lower socioeconomic groups are less likely to breastfeed (13). On the other hand, some studies have reported that formula-feeding has a direct relationship with postpartum depression (14); others have shown that breastfeeding is shorter in depressed mothers (15, 17). These mothers suffer from more problems and dissatisfaction with breastfeeding, whose consequence can be a change in feeding status so that the risk of discontinuation of breastfeeding in the depressed mothers during the first year of birth is 1.25 times higher than in non-depressed mothers (15). Other findings revealed that depression at different postnatal period is associated with discontinuation of exclusive breastfeeding, use of formula or other compounds, and reduced duration of lactation (15, 18, 19, 20, 22).

The relationship of postpartum depression with breastfeeding status has been studied in several studies. Low self-confidence, low confidence in maternal ability, greater use of soothers such as pacifiers and bottle feeding due to difficulty in breastfeeding (23), lack of spouse and kid support (24), inadequate contact to the infant, negative feelings and resentment towards breastfeeding (25), and having a negative attitude towards breastfeeding are some of the problems of depressed mothers. Moreover, these issues lead to a shortening of the breastfeeding period, changing feeding patterns and poor infant feeding (26, 27). However, some studies have confirmed the direct relationship between formula-feeding and postpartum depression (15,16), while some studies found no significant relationship between these two variables (17,18). In a study, this relationship was observed only during the first month after delivery, and there was no relationship between these two variables in other months (24). Another study showed

that the onset of postpartum depression was before the cessation of breastfeeding in most cases, and this disorder had no effect on discontinuation of breastfeeding (22). Since breastfeeding and mother-infant physical contact plays a vital role in the mother's emotional recovery and readjustment, and increase the maternal feeling of adequacy, sense of motherhood, and the high prevalence of postpartum depression. Considering the prevalence of this depression and also the inconsistent results in several previous studies on the relationship between infant feeding patterns and postpartum depression, the current study aimed to investigate the relationship between attitude toward breastfeeding and postpartum depression.

2- MATERIALS AND METHODS

2-1. Study Design and Sample Population

This cross-sectional study is the initial result of the ongoing research. The study was performed in two parts. Two hundred mothers referred to Kerman rural and urban health centers (Iran) to receive prenatal care. They participated in the first parts of the study assessing the relationship between attitude towards breastfeeding and postpartum depression. In the second part, the effective factors on breastfeeding were evaluated. The samples were selected using multistage sampling. Five centers were selected among health centers, initially. The health records in each center were searched, and the breastfeeding mothers were identified. A list of mothers of all five centers was prepared. Then, 200 mothers were selected using the computer program. Mothers were called, and if they had inclusion criteria, they were asked to refer to health centers. The only one trained-independent researcher completed the questionnaire. The mothers who met the inclusion criteria and had the willingness to participate were included in the study. Data were collected using a

questionnaire, and the Edinburgh Postnatal Depression Scale (EPDS) (20-22).

2-2. Inclusion and Exclusion Criteria

The inclusion criteria were residing in Kerman (a city in Iran), between 18- 35 years old, 4-6 weeks after giving birth. Exclusion criteria were the history of mental illness, depression, and physical illness.

2-3. Sample size

The sample size was determined using a pilot study before the onset of the survey of 20 mothers meeting criteria inclusion. PASS software was used, with a power effect of 0.80, and $r=0.189$ ($\alpha = 0.05$). The sample size was estimated at 175, which was increased to 200 samples.

2-4. Measuring tools

The first part of the questionnaire was about demographic and contextual variables, including age, educational level, and housing status and the second part contained questions was about postpartum depression and attitude towards breastfeeding (20-22).

Edinburgh Postnatal Depression Scale (EPDS)

Postpartum depression was assessed using the Edinburgh Postnatal Depression Scale (EPDS). The instrument was developed and designed using Cox in 1987, containing ten questions on a 4-point Likert scale, with a total score ranging from 0-30. A score higher than ten suggests that minor or major depression may be present (19). Some previous researchers confirmed the validity and reliability of the EPDS (20-22). The overall Cronbach's alpha was reported ($\alpha=0.82$) in the Spanish version (23), the French version ($\alpha=0.76$), and the Iranian versions (0.77- 0.83) (20-22). Validity was satisfactory with a sensitivity of 87% and specificity of 95% (21). We conducted an Exploratory Factor Analysis

(EFA) that findings will publish in another study. EFA identified three factors (anhedonia, depression, and anxiety) with the eigenvalue higher 1.00. Previous studies (20, 24-27) also identified three factors.

Iowa Infant Feeding Attitude Scale (IIFAS)

Attitudes toward breastfeeding were evaluated through the Iowa Infant Feeding Attitude Scale, which was designed and developed by De La Mora and Russell in 1999 to assess and measure the attitude of mothers towards breastfeeding. This scale provides a reliable and valid assessment of attitudes toward various infant feeding practices. A 5-point Likert scale assessed lactation attitudes (ranging from 1 = strongly disagree to 5 = strongly agree) with a score range of 17 to 85 points, indicating higher scores is a positive attitude toward breastfeeding. The items 1, 2, 4, 6, 8, 10, 11, 14, and 17 had inverse scores and acceptable validity and reliability. The reliability of this tool was confirmed using the internal consistency with Cronbach's alpha coefficient of 0.86 (28). Face and content validity were used to determine the validity of the Persian version of the Iowa Infant Feeding Attitude Scale (IIFAS). Ten research units were interviewed face-to-face to determine the level of difficulty and ambiguity of items to perform the validation using the qualitative method. Therefore, the ambiguous words and phrases were corrected, and the content validity was determined via qualitative interviews. Moreover, the opinions of 15 members of midwifery, productive health, psychology, and nursing faculties were used in content validity. The reliability of the tool was confirmed using the internal consistency with Cronbach's alpha coefficient in several studies and ranged from 0.81 to 0.89 (29-31).

2-5. Outcome

Evaluating the relationship between attitude towards breastfeeding and postpartum depression

2-6. Ethical consideration

Sampling began after obtaining ethical approval from the Ethics Committee of Kerman University of Medical Sciences (Ethics code: IR.KMU.REC.1398.055), and after coordination with the authorities of the selected clinics. Informed verbal consent was received from all females. Moreover, those about the confidentiality of information were ensured for all participants' method.

2-7. Data Analyses

Data were analyzed using SPSS software version 16.0 (SPSS Inc., Chicago, IL). ANOVA was used to compare three groups. A value of $p < 0.05$ was considered statistically significant. Pearson correlation was used to determine the total attitude and aspects of EPDS.

3- RESULTS

Two hundred females participated in this study. The mean age of participants was 26.11 ± 4.5 years. Besides, the educational levels were uneducated (2%), primary school (13%), secondary school (13%), high school (47%), and academic (27%). Moreover, 56.5% lived in rented houses, 34% were homeowners, and 9.5% lived with parents. This study showed that there was no baseline characteristics affect total attitude and aspect of depression (**Table. 1**). The results showed a significant negative relationship between the total attitude with anxiety ($r = -0.213$, $p = 0.003$), depression ($r = -0.163$; $p = 0.022$), and anhedonia ($r = -0.213$; $p = 0.003$). According to **Table. 2**, there were the strongest and the weakest relationship between anhedonia and depression ($r = 0.567$, $p < 0.001$), as well as between total attitude and depression ($r = -0.163$; $p = 0.022$), respectively.

Table-1: Association between baseline characteristic and attitude score, anhedonia, depression and anxiety.

Variables		Attitude	P-value	Anhedonia	P-value	Depression	P-value	Anxiety	P-value
Age, Mean \pm SD	26.11 \pm 4.5								
Number of children, Mean \pm SD	3.28 \pm 3.3								
Education level									
Illiterate	4(2%)	35 \pm 2.5	0.12	4.25 \pm 1.8	0.18	6.2 \pm 1.5	0.55	6 \pm .81	0.3
Primary school	13(13%)	35.4 \pm 6		3.5 \pm 2.3		4.3 \pm 2.9		7.6 \pm 2.6	
Secondary school	13(% 13)	32.5 \pm 7		2.8 \pm 2.1		4.4 \pm 3		7.1 \pm 2.6	
High school	94(47%)	36.2 \pm 6		2.7 \pm 1.9		4.2 \pm 3		7.4 \pm 2.1	
University	50(27%)	36.5 \pm 7		3.3 \pm 1.8		4.8 \pm 2		6.8 \pm 1.7	
Income									
> 200 USD	41(20.5)	37 \pm 6	0.37	2.7 \pm 1.9	0.079	4.2 \pm 2.9	0.64	7.3 \pm 2.2	0.43
200-400 USD	138(69)	35.4 \pm 6		2.9 \pm 2.0		4.5 \pm 2.8		7.1 \pm 2.2	
< 400 USD	21(10.5)	35.2 \pm 6		3.95 \pm 1.8		4.9 \pm 2.6		7.7 \pm 1.6	
House statuses									
Rental	113(56.5%)	36.31 \pm 6.3	0.71	3.2 \pm 2.1	0.125	4.7 \pm 3	0.254	7.1 \pm 2.3	0.657
Owen	68(34%)	35.6 \pm 6.4		2.6 \pm 1.8		4 \pm 2.5		7.4 \pm 2	
Lived with parents	19(9.5)	32.4 \pm 9.2		2.8 \pm 2		4.4 \pm 2.4		7.1 \pm 1.8	

Table-2: Association between attitude, anhedonia, depression and anxiety.

Variables	Mean \pm SD	Total attitude	Anhedonia	Depression	Anxiety
Attitude	35.73 \pm 6.72	1			
Anhedonia	3.04 \pm 2.02	r=-0.213 p=0.003	1		
Depression	4.51 \pm 2.8	r=-0.163 p=0.022	r=0.567 p<0.001	1	
Anxiety	7.27 \pm 2.17	r=-0.213 p=0.003	r=0.135 p<0.057	r=0.242 p=0.01	1

4- DISCUSSION

This study aimed to investigate the relationship between attitude toward breastfeeding and postpartum depression. The results showed a significant negative correlation between total attitude with anxiety, depression and anhedonia (p<0.05). In the present study, a significant negative correlation was found between the total attitude of mothers towards

breastfeeding and anhedonia. Several studies have shown that anhedonia is one of the contributing factors in decreasing breastfeeding continuity among mothers (39). Achieving maternal self-efficacy in breastfeeding requires supportive strategies to reduce the symptoms of anhedonia (40). Liu and Tronicki (2013) examined the determinants of maternal postpartum anhedonia and found that the

risks of maternal postpartum anhedonia vary depending on ethnicity and race, and it is imperative to study this event in diverse societies based on past experiences (41). The scores of depression and attitude towards breastfeeding demonstrated a significant inverse correlation between the two variables. The relationship between maternal postpartum depression and formula-feeding has been confirmed in several studies, and the mean depression score in this group of mothers has been reported to be higher, which is somewhat consistent with the results of the present study (18, 42). Other findings of this study showed a significant correlation between two variables of anxiety and attitude towards breastfeeding in mothers.

These findings are consistent with the results of the survey conducted by Karbandi et al. (2014). The findings of this study indicated that the control of the physiological responses, including anxiety while affecting maternal self-confidence, influenced breastfeeding and duration of lactation (43). The results of a systematic review aimed at examining the impact of stress on breastfeeding outcomes revealed a negative association between postpartum anxiety and breastfeeding onset, duration, and exclusive breastfeeding (44).

Although the precise etiology of the disorder is still unknown, there are several possible factors, including biological factors (such as hormonal factors like a sudden drop in estrogen concentrations and increased urinary cortisol excretion, neurotransmitters and genetic theories), psychological factors (such as personality theories) and social factors (such as social support, life stresses, culture, and readiness for newborns) (45). The results of the present study demonstrated that a negative maternal attitude is correlated with postpartum depression. Ghaffari et al. (1999) in Kerman, Iran, indicated that the depression was more prevalent in primiparous mothers, mothers with a

history of miscarriage and a history of child death and in unwanted pregnancies (4), all of which lead to the emergence of negative attitude and anxiety in the mother and consequently the depression. Therefore, the results of the present study are in line with the findings of Ghaffari et al. (1999). Studies have shown that mothers' attitudes toward parental roles are associated with the symptoms of depression and anxiety; accepting this role may even be risk factors in some cases. Sockol et al. (2014) reported that both cognitive and interpersonal factors had moderate to high correlations with the symptoms of depression. These two risk factors can also be unique determinants of symptoms of depression and anxiety, even when other risk factors are controlled. The maternal attitude is a specific risk factor and has predictive validity for depression (46); the results of this study confirm the findings of our studies.

Other studies have shown that postpartum depression is also more common among those who work after childbirth, possibly because of the association between new occupational stress and child care. These multiple roles result in the overload of maternal responsibilities and have adverse effects on the quality of life and psychological well-being of the mother, causing a negative attitude in the mother after childbirth (47, 48).

Perceived stress during pregnancy may be contributing to the onset of symptoms of depression in the prenatal period. The postpartum depression, in addition to the detrimental effects on mother-infant bonding, also disrupts the relationship with the spouse; husbands of depressed women are often depressed, sometimes leading to separation and divorce if left untreated (45). According to the findings, the interventions to reduce postpartum depression not only should be made in the postpartum period but also are of great importance in the prenatal period to

prevent this condition (49). Given the results of the present study and the high prevalence of postpartum depression, it is necessary to provide training to service providers in early detection of the symptoms of postpartum depression and timely referral of patients. Related education is also essential for mothers and their families to prevent depression. Pregnancy preparation classes can be a great platform to provide such training. Participation in these classes should be offered to all pregnant mothers and their spouses.

5- CONCLUSION

The findings of this study documented the association of attitude towards breastfeeding with postpartum depression and anxiety. Health care providers should be aware of the relationship between attitude towards breastfeeding and postpartum depression in performing recommendations to females in the postpartum period.

6- CONFLICT OF INTEREST: None.

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