The Relation of Pre and Postnatal Depression and Anxiety with Exclusive Breastfeeding

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Abstract

Introduction: Studies on the relationship between prenatal psychosocial risk factors and breastfeeding are disjointed. Maternal health status has a great influence on breastfeeding, growth, and general health of the neonates. The aim of this study was to ascertain the relation between maternal mental health and breastfeeding status of mothers in Kazerun (Fars province, Iran).

Methods: This cross-sectional study was conducted on a total of 92 pregnant women recruited from clinics in Kazerun in 2015. Participants were divided into two groups subject to exclusive breastfeeding. Spielberger Anxiety Inventory, Beck Depression Inventory and Edinburgh Postnatal Depression Scale (EPDS) were used for data collection. Data analysis was performed by the SPSS version 16 using descriptive statistics, Chi-square, and Fisher's exact test.

Results: The average of state anxiety score according to Spielberger Anxiety Inventory was 1.97 ± 0.51 in the exclusive breastfeeding group versus 1.77 ± 0.66 in the non- exclusive breastfeeding group ($p = 0.229$). The mean trait anxiety score according to Spielberger Anxiety Inventory was 1.98 ± 0.44 in the exclusive breastfeeding group versus 2.22 ± 0.44 in the non- exclusive breastfeeding group ($p=0.132$). An average of Beck Depression Inventory score was 1.35 ± 0.84 totally (1.33 ± 0.81 in the exclusive breastfeeding group vs. 1.33 ± 1.00, $P=0.584$). An average of EPDS score was 1.65 ± 1.11, 1.64 ± 1.11, and 1.44 ± 0.88 in total, in the exclusive breastfeeding and non-exclusive breastfeeding groups, respectively ($p=0.604$).

Conclusions: Screening anxiety and depression before and during pregnancy appeared to be necessary.

Keywords: Breast feeding, Anxiety, Depression, Iran

1. Introduction

It has been proven that exclusive breastfeeding, which is confirmed to be the best source of nutriment for the first six months of an infant's life, has a positive effect on both infant and mother's health (1-3). According to a number of studies, psychosocial agents are a better predictor to anticipate the duration of exclusive breastfeeding, compared with demographic factors (4). Pre-partum anxiety and depression, which can lead to postpartum anxiety and depression, have an effect on breastfeeding cessation. (5, 6). Based on a number of other studies, there is an inverse association between breastfeeding frequency and maternal anxiety level (7). Breastfeeding cessation is also a cause of intensification of anxiety and depression (5). Optimal outcome is reported from mothers with exclusive breastfeeding (8). According to studies in countries outside of Iran, only slightly more than half of mothers would continue to exclusively breastfeed their infants until four months of age (9). A number of factors can lead to early cessation of breastfeeding. A mother's assumption that there is insufficient milk, infant agitation and crying, advice from friends and family, or a doctor's prescribed medicine. A decision to breastfeed is influenced by a mother's confidence, her ability to be discreet, her body image, previous experience, her child's age acceptance of female role,

culture and child health status influence (10). Some factors such as anxiety, stress, and depression play an important role in failure to breastfeed (11). In addition, in mothers with higher levels of depression and anxiety, possibility of breastfeeding cessation increases (12).

2. Material and Methods

2.1. Research design and setting
This cross-sectional study was conducted on a total of 92 pregnant females recruited from Kazerun Clinics in Kazerun (Fars province, Iran) in 2015. The Participants were selected by convenient sampling strategy.

2.2. Inclusion and exclusion criteria
We considered a gestational age of 38-39 weeks and established absence of anxiety and depression before pregnancy as inclusion criteria. Participants with established anxiety and depression were excluded.

2.3. Measurement tool and data collection
The participants completed the demographic questionnaire and Spielberger Anxiety Inventory, Beck Depression Inventory, and Edinburgh Postnatal Depression Scale (EPDS). Spielberger Anxiety Inventory included two parts: chronic or trait anxiety (a general propensity to be anxious) and temporary or state anxiety (a temporary state varying in intensity)(13). The Beck Depression Inventory is a 21-question multiple-choice self-report inventory, one of the most widely used psychometric tests for measuring the severity of depression (14). The Edinburgh Postnatal Depression Scale (EPDS) is a 10-item questionnaire developed to identify various clinical depression symptoms, such as feeling of guilt, sleep disturbance, low energy, anhedonia, and suicidal ideation (15). Overall assessment is completed by total score determined by adding together the scores for each of the 10 items. Higher scores indicate more depressive symptoms.

2.4. Questionnaire design
Questionnaires were designed by researchers and validated by eight psychiatrist. The reliability of the questionnaires was also checked by 30 pregnant women with a one-week interval. We asked 15 patients to complete the questionnaires two times with a one week interval to evaluate the questionnaire's reliability. For instrument validation, we used the content validity ratio and relevance, clarity, and simplicity content validity index. Pretest-posttest and Cronbach's alpha were used to approve the internal consistency of the questionnaire. The McNemar and Kappa tests were used to prove the reliability of each question. The items of questionnaire were scored for necessity, relevance, clarity, and simplicity by eight psychiatrists with 10 years' experience and the content validity ratio and R- content validity index (CVR R-CVI), C- content validity index (C-CVI) and scale CVI (S-CVI) were measured. Based on Lawshe's table, level of significance was considered 0.75. There were no items with CVR and CVI lower than 0.75. The internal consistency was approved (overall $\alpha = 0.788$. knowledge part $\alpha = 0.755$, attitude part $\alpha = 0.769$, and practice part $\alpha = 0.845$). There were no significant differences between first and second answers. (P>0.05). The Kappa index was not lower than 0.2 in any item.

2.5. Ethical Considerations
The study was approved by the Ethics Committee of Islamic Azad University, Kazerun Branch. Written consent was obtained from all participants.

2.6. Statistical Analysis
Data were analyzed by SPSS version 16 (SPSS Inc., Chicago, Illinois, USA) using descriptive statistics, Chi-square, and Fisher's exact test.

3. Results
Eventually, 92 females with the mean age of 27.51±5.06 and average age of marriage as 21.60 ± 5.89 years underwent analysis. The average age of their husbands was 32.98±7.23. Table 1 shows distribution of demographic data in participants. Table 2 shows abortion and pregnancy history, breastfeeding history, history of nursing knowledge, the first type of nutrition, number of pregnancies, and nutritional status. According to this table, there was no significant relationship between abortion, pregnancy, breastfeeding history, history of breastfeeding knowledge, the first type of nutrition, and number of pregnancies with nutritional status (p> 0.05). Table 3 shows the distribution of anxiety and depression scores. According to this table, an average of state anxiety score according to Spielberger Anxiety Inventory was 1.94±0.56 in all subjects. This rate was 1.97±0.51 in the exclusive breastfeeding group versus 1.77±0.66 in the non- exclusive breastfeeding group. There was no significant difference between the

two groups in terms of nutritional status of infants (p = 0.229). The mean trait anxiety score according to Spielberger Anxiety Inventory was 2.01±0.48 in all subjects. This rate was 1.98±0.44 in the exclusive breastfeeding group versus 2.22±0.44 in the non- exclusive breastfeeding group. There was no significant difference between the two groups in terms of nutritional status of infants (p=0.132). An average of Beck Depression Inventory score was 1.35±0.84 totally (1.33±0.81 in the exclusive breastfeeding group vs. 1.33±1.00, p=0.584). An average of EPDS score was 1.65±1.11, 1.64±1.11, and 1.44±0.88 in total, in the exclusive breastfeeding group, and non-exclusive breastfeeding group, respectively. There was no significant difference between the groups (p=0.604).

Table 1. Demographic Data (n = 92)

Variable		Exclusive breastfeeding	Combined feeding	Artificial feeding	p-value
Age		27.36 ±4.73)	29.77 ±6.77)	22.00	0.229
Living place	City	68 (98.6)	9 (100)	1 (100)	0.873
	Village	1 (1.40)	0 (0.0)	0 (0.0)	
Housing	Private	34 (49.3)	6 (66.7)	1 (100)	0.876
	Mortgage	6 (8.7)	1 (11.1)	0 (0.0)	
	Rent	21 (30.4)	2 (22.2)	0 (0.0)	
	With relatives	8 (11.6)	0 (0.0)	0 (0.0)	
Educational level	Illiterate	0 (0.0)	0 (0.0)	1 (100)	0.089
	Elementary school	8 (11.6)	2 (22.2)	0 (0.0)	
	High school	17 (24.6)	2 (22.2)	0 (0.0)	
	Diploma	26 (37.7)	3 (33.3)	0 (0.0)	
	Academic	18 (26.1)	2 (22.2)	0 (0.0)	
Job	Housewife	68 (98.6)	9 (100)	0 (0.0)	0.025
	Employed	1 (1.4)	0 (0.0)	0 (0.0)	
Husband job	Unemployed	1 (1.4)	0 (0.0)	0 (0.0)	0.559
	Worker	17 (24.6)	2 (22.2)	1 (100)	
	Employee	9 (13.0)	2 (22.2)	0 (0.0)	
	Self-employment	42 (60.9)	5 (55.6)	0 (0.0)	
Earnings	Low	23 (33.3)	2 (22.2)	0 (0.0)	0.783
	Average	41 (59.4)	6 (66.7)	1 (100)	
	High	5 (7.2)	1 (11.1)	0 (0.0)	

Table 2. Previous pregnancies status history (n = 92)

Variable		n (%)
History of abortion	No	79 (85.9)
	Yes	13 (14.2)
Current pregnancy status	Wanted	77 (83.7)
	Unwanted	15 (16.3)
Breastfeeding history	Yes	52 (56.5)
	No	40(43.5)
Breastfeeding knowledge	Yes	66 (71.7)
	No	24 (26.1)
First type of nutrition	Breast milk	63 (68.5)
	Milk powder	14 (15.2)
First lactation	1 hour after Delivery	52 (56.5)
	> 1hour after Delivery	29 (31.5)
Nutritional status	Exclusive breastfeeding	69 (75.0)
	Combined feeding	9 (9.8)
	Artificial feeding	1 (1.1)
Number of pregnancies	One	47 (51.1)
	Two	33 (35.9)
	Three	7 (7.6)
	Four	4 (4.3)
	Five	1 (1.1)

Table 3. Prenatal Anxiety (Spielberger Criteria), Depression, and Postpartum Anxiety by Exclusive Breastfeeding, Combined Feeding and Artificial Feeding

Spielberger		Exclusive breastfeeding	Combined feeding	Artificial feeding	p-value
Mild		10(14.7)	3 (33.3)	1 (100)	0.145
Relatively mild		50 (73.5)	5 (55.6)	0 (0.0)	
Relatively severe		8 (11.8)	1 (11.1)	0 (0.0)	
Spielberger	Mild	7 (10.3)	0 (0.0)	0 (0.0)	0.507
	Relatively mild	55 (80.9)	7 (77.8)	1 (100)	
	Relatively severe	6 (8.8)	2 (22.2)	0 (0.0)	
Beck	Normal	55 (79.7)	8 (88.9)	1	0.514
	Mild	10 (14.5)	0 (0.0)	0 (0.0)	
	Relatively depressed	3 (4.3)	1 (11.1)	0 (0.0)	
	Severe depressed	1 (1.4)	0 (0.0)	0 (0.0)	
EPDS	Normal	48 (70.6)	7 (77.8)	0 (0.0)	0.077
	Mild	6 (8.8)	0 (0.0)	1 (100)	
	Moderate	4 (5.9)	2 (22.2)	0 (0.0)	
	Severe	10 (14.7)	0 (0.0)	0 (0.0)	

EPDS = Edinburgh Postnatal Depression Scale

4. Discussion

We found that state anxiety score was non-significantly higher in the exclusive breastfeeding group in comparison to females with combined feeding. Trait anxiety and Beck Depression score was lower in the exclusive breastfeeding group but EPDS score was higher. Akman et al. (16) showed an association between higher EPDS scores and breastfeeding cessation by four months after delivery. According to Groër et al. (17) study, breast- feeders had lower depression and anger and more positive life events reported, than formula-feeders. Tarayn et al. (6) concluded that prenatal depressive symptoms and high pregnancy-related anxiety were not associated with failure to initiate breastfeeding. This confirmed our result because according to our study, state anxiety score was non-significantly higher in the exclusive breastfeeding group. According to an Ushma study (18), depression and anxiety levels were not found to mediate the association between pregravid BMI and breastfeeding initiation. We did not evaluate the role of BMI in breastfeeding initiation but state anxiety level was not a risk factor for delay in breastfeeding initiation. Tabassum et al. (19) showed that women with high perceived stress in early pregnancy and high anxiety in early pregnancy and mid-pregnancy were less likely to intend to breastfeed. They also concluded that women with minor depression according to EPDS score were less likely to intend to breastfeed compared to women without depressive symptoms. In the recent study, EPDS score was higher in women with exclusive breastfeeding. Figueiredo et al. (20) demonstrated that depression scores at the third trimester, but not at 3 months postpartum, were the best predictors of exclusive breastfeeding duration. Our study confirmed these findings. Assarian et al. (9) linked breastfeeding status with susceptibility to depression. Furthermore, they concluded that there was a significant association between basic characteristics such as maternal occupational status or their respective education with breastfeeding. In our study, there was no significant difference between exclusive and non- exclusive breastfeeding groups in term of occupational status or educational levels. Iran is a large country in the Middle East and different ethnic groups live in different areas. Differences in living conditions in the various regions cause distinct prevalence rates of disorders such as stress and depression. This study was conducted in one of the small towns, so the results of the recent study are not generalizable to large populations and main cities.

5. Conclusions

We concluded that pre and postnatal depression and anxiety had lower incidence in females with exclusive breastfeeding. According to recent study, psychosocial risk factors before pregnancy are important predictors of breastfeeding. In a healthcare setting highly supportive of breastfeeding, women with prenatal depressive symptoms and anxiety were less likely to plan prenatally to breastfeed. According to some different results of our study and previous studies, regarding the importance of mental health issues and the importance of exclusive breastfeeding, it is recommended to evaluate breastfeeding in pregnancy trimesters and also in patients with psychological disorders as case control study.

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