

The Relationship Between Attachment Style and Depressive Symptoms in Postpartum Women: Findings from Turkey

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SUMMARY

Objective: The present study aimed to investigate the association between depressive symptoms and attachment style in postpartum women in a non-western setting.

Method: This study was conducted with a population of 80 Turkish mothers in their 2nd to 18th postpartum months at local health care centers in April 2004. A sociodemographic data sheet and the Turkish versions of the Edinburgh Postnatal Depression Scale (EPDS) and Adult Attachment Style Questionnaire (AAQ) were administered to the mothers.

Results: On the EPDS, 30% of the sample (n=24) displayed symptoms of depression with a cut-off score of ≥ 11 . Postpartum depressive symptoms were found to be associated with insecure attachment style ($X^2 = 4.42$; $P = 0.035$; $X^2 = 10.81$; $P = 0.001$ for Part 1 and Part 2 of AAQ, respectively).

Conclusion: Maternal insecure attachment behavior, stimulated by the close relationship with the infant may contribute to factors that give rise to symptoms of depression. The present study, performed in a non-western country, confirms the results of previous western studies suggesting a relationship between insecure attachment style and postpartum depression (PPD). Clinicians should pay particular attention to vulnerable women with regard to their attachment style for early identification and treatment of PPD, both in western and non-western societies.

Key Words: Postpartum depression, object attachment, women, cross-cultural comparison

INTRODUCTION

In definition, attachment style is the pattern of an individual in forming relationships with others, which is believed to be determined in the early years of life. According to attachment theorists, when the attachment style forms in infancy as either secure or insecure, it displays a lifelong continuity. There is evidence that shows attachment style formed in early childhood persists during adolescence (Hamilton, 2000). Starting with Bowlby's work (Bowlby, 1973), insecure attachment style has been considered a predictor of psychopathology in later life and secure attachment was associated with healthy processes (Nakash-Eisikovit et al., 2002). The relationship of major depression, social anxiety disorder, obsessive-compulsive disorder, and chronic pain disorder with insecure attachment style has been reported (Eng et al., 2001; Simpson et al., 2003; Ciechanowski et al., 2003; Myhr et al., 2004).

Postpartum depression (PPD) is a serious condition, which places a burden on early childhood; its negative effects on the infant-mother relationship have long-term consequences. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatry Association, 1994), both psychotic major depression and non-psychotic major depression, as well as mania emerging after childbirth are classified as mood disorders, and in order to be specified as "postpartum" they should appear within 4 weeks of delivery.

Depression symptoms, which are reported to be experienced by 42% of Turkish mothers after giving birth, suggest a prevalent health problem (Buğdaycı et al., 2004). Past history of depression is accepted as the most important risk factor for the development of PPD (O'Hara 1996). On the other hand, recent studies showed that there is a relationship between a mother's insecure attachment style and PPD (Bifulco et al., 2004; McMahon et al., 2005).

Although questions about the validity of adult attachment theory in different cultures have arisen, results that have supported the validity of the approach in different cultures, but also highlighted the discriminating points between cultures and within a culture have been reported (Schmitt et al., 2004).

The question about the validity of the PPD phenomenon in different cultures had been responded to with supportive findings gathered from different ethnic groups (Hagen, 1999; Oates et al., 2004). Therefore, the question of the validity of the relationship between a mother's insecure attachment style and PPD in different cultures arises. Although the results of the Bifulco et al. (1994) study was gathered with a cross-cultural design, all data were collected from western countries. To the best of our knowledge, there are no published studies on the relationship between maternal attachment style and PPD in non-western countries.

Although Turkey has adopted western thoughts and values as a republic, traditional, local culture is dominant in many areas of the country. In this study, we aimed to explore the relationship between PPD symptoms and insecure attachment style in a population of Turkish mothers.

METHOD

Procedure

Data were collected from 3 mother-infant local health care centers affiliated with the Turkish Ministry of Health on the Asian side of Istanbul. These centers provide primary care health services to low- and moderate-income families. Collaboration with the managers had been arranged before the initiation of the study. Four medical students who had been trained by a child psychiatry specialist (Dr. O.S.) collected the data. Mothers who were in their 2nd to 18th postpartum month were approached when they came to the centers for vaccinations or

check-ups. Mothers whose babies had chronic illnesses were excluded from the study. After providing information about the importance of PPD and postpartum behavior to the mothers, they were asked to participate in a survey that would take 20 min to complete. Eighty of the 110 mothers (72%) who were asked consented to participate. Supportive care was provided for the babies, when necessary, while the mothers were completing the data collection instruments.

Participants who scored above the cut-off score on the Edinburgh Postnatal Depression Scale (EPDS) were not provided treatment or a psychiatric assessment due to the lack of research funds, the fact that such interventions are clinical in nature and the team was composed of a child psychiatrist and medical students. We observed that in many studies that used EPDS, psychiatric assessment and treatment aspects are lacking. The information provided about the central importance of PPD to infant-mother health to doctors and nurses in the data collection centers stands out as a positive aspect in our study.

Measures

The sociodemographic data sheet

The sociodemographic data sheet that was filled out by the mothers included questions about personal history, family history, and motherhood history was prepared based on related scientific literature. In order to minimize the amount of time the mothers would spend completing the data collection tools, only the most crucial questions were included in this form.

The Edinburgh Postnatal Depression Scale (EPDS) (Cox and Holden, 1987)

This is a scale consisting of 10 questions that require marking one of the 4 choices about how the mother felt during the previous week. Each item is scored between 0 and 3 and the total score is calculated. EPDS is the most frequently used scale in the screening of PPD. It is used starting from 6-8 weeks after birth; in this regard, it is suitable for screening for symptoms that began in the first 4 postpartum weeks according to the DSM-IV criteria. Although it has been recommended to administer EPDS starting from the 6th to 8th week after birth, there are many published reports of the instrument's use during pregnancy. The scale cannot discriminate between different depression

Table I. Sociodemographics of the Population and Analysis of the EPDS Findings (n=80).

Variables	General	EPDS ≥ 11	EPDS <11	t	P Value
Age of the mother (years)	28.60 ± 5.35	29.83 ± 5.77	28.07 ± 5.13	1.35	0.17 (N.S.)
Age of the father (years)	32.65 ± 6.30	34.00 ± 5.04	32.07 ± 6.73	1.25	0.21 (N.S.)
Age of the infant (months)	9.21 ± 5.21	10.16 ± 5.26	8.80 ± 5.18	1.07	0.28 (N.S.)
Duration of lactation (months)	7.15 ± 4.60	8.00 ± 5.05	6.78 ± 4.40	1.08	0.28 (N.S.)
Duratin of the marriage (years)	7.30 ± 4.86	8.29 ± 4.97	6.87 ± 4.80	1.19	0.23 (N.S.)
		Mean EPDS Score		t	P Value
Working condition of the mother: (n%)					
Housewife	50 (62.5)	9.80 ± 5.00		3.36	0.001*
Working	30 (37.5)	6.23 ± 3.78			
Working condition of the father: (n%)					
Freelance	37 (46.3)	9.54 ± 5.01		1.86	0.06 (N.S.)
Payment	43 (53.7)	7.53 ± 4.61			
Gender of the infant: (n%)					
Boy	49 (61.3)	8.36 ± 4.87		0.21	0.82 (N.S.)
Girl	31 (38.8)	8.61 ± 4.95			
Pregnancy planning:(n%)					
Unplanned	9 (11.3)	10.00 ± 5.72		1.00	0.31 (N.S.)
Planned	71 (88.7)	8.26 ± 4.77			
Number of the child:(n%)					
First child	38 (47.5)	7.39 ± 4.19		1.89	0.06 (N.S.)
Following child	42 (52.5)	9.42 ± 5.28			
Previos child loss:(n%)					
Child loss	5 (6.3)	11.40 ± 7.43		1.39	0.16 (N.S.)
No loss	75 (93.7)	8.26 ± 4.66			
Kinship marriage:(n%)					
Yes	12 (1.5)	8.25 ± 5.56		0.16	0.87 (N.S.)
No	68 (8.5)	8.50 ± 4.79			
Problematic pregnancy history:(n%)					
Yes	26 (32.5)	8.65 ± 5.29		0.24	0.80 (N.S.)
No	54 (67.5)	8.37 ± 4.71			
History of delivery: (n%)					
Normal	43 (53.8)	8.39 ± 4.51		0.13	0.89 (N.S.)
Intervened	37 (46.2)	8.54 ± 5.33			
Primary caregiver: (n%)					
Mother	59 (73.8)	9.49 ± 4.82		3.63	0.001*
Other	21 (26.3)	5.57 ± 3.80			

*Statistically significant

(N.S.) Statistically non-significant

types, as it is a period-specific general screening scale. Turkish adaptation of the scale was used in this study (Aydin et al., 2004).

Adult Attachment Style Questionnaire (AAQ)

AAQ is comprised of 2 parts. The first part

Table II. The Relationship Between Edinburgh Post Natal Depression Scale (EPDS) and Adult Attachment Style Questionnaire (AAQ)

	EPDS ≥ 11	EPDS < 11	X ²	P
AAQ (PART I)			4.42	0.035*
Secure [n (%)]	15 (18.8)	47 (58.8)		
Insecure [n (%)]	9 (11.3)	9 (11.3)		
AAQ (PART II)			10.81	0.001*
Secure [n (%)]	11 (13.8)	46 (57.5)		
Insecure [n (%)]	13 (16.3)	10 (12.5)		

*Statistically significant.

was developed by Hazan and Shaver (1987) and includes 3 different expressions about the relationship with parents in childhood and general behavioral characteristics that are used to classify adults as secure, ambivalent, or avoidant. The second part of the scale, developed by Mikulincer et al. (1990), includes 15 items, which are scored between 1 and 7. Each attachment style is represented by 5 items and attachment style of the individuals is determined by verifying which scores are the highest.

The original form of the scale was translated to Turkish by students who had an English language medical education and by a psychologist under the supervision of a child psychiatrist (Dr. O.S.). Afterwards, back translation was performed and another psychiatrist audited the last version of the Turkish form. While the internal consistency of the second part of the scale was found to be acceptable for avoidant and anxious/ambivalent attachment styles (Cronbach's $\alpha = 0.61$ and 0.66 , respectively), as a limitation mentioned in the previous literature (Garbarino, 1998), the internal consistency for secure attachment was weak (Cronbach's $\alpha = 0.42$).

Statistical Analysis

Statistical analyses were conducted using SPSS Windows 10.5. Cronbach's alpha was used in determining the internal consistency of AAQ. Comparison of EPDS with sociodemographic variables and comparison of AAQ scores with EPDS case-ness criteria were conducted using independent groups t-test.

The relationship between AAQ results with cases that had scored above the cut-off point of ≥ 11 in EPDS were analyzed with chi-square test. Correlat-

tion analysis of the second part of AAQ and EPDS scores was computed using Pearson's correlation test. $P < 0.05$ was used as the significance level.

FINDINGS

The sociodemographic variables of the population, family and maternity information, and analysis of this information according to EPDS data are provided in Table I. EPDS results did not vary according to age of the parents, age of the infant, duration of the marriage, kinship marriage, unexpected pregnancy, birth style, being the first child, gender of the infant, duration of lactation, and previous baby loss. Related to the observation of less depression in working mothers in comparison to nonworking mothers, mothers who were not the primary caretakers of their infant, due to their working, reported significantly less depressive symptoms. The mean scores of EPDS for the entire sample and for subjects above cut-off score of ≥ 11 were 8.46 ± 4.87 and 14.54 ± 2.93 , respectively. Based on the cut-off score of ≥ 11 , 30% ($n=24$) of the study population displayed depression symptoms. When the mothers were divided into 2 groups according to their ages (19-30 years old and 31-42 years old), EPDS mean scores were 7.90 ± 4.78 and 9.61 ± 4.96 , respectively, and statistical analysis showed that the age of the mother was not related to depression ($t = 1.48$; $P = 0.14$).

According to the first part of AAQ, 77.5% of the mothers were classified as securely attached, 16.3% displayed avoidant attachment, and 11.3% had anxious/ambivalent attachment styles. According to the second part of the scale, 71.3% of the mothers were classified as securely attached, 17.5% displayed avoidant attachment, and 11.3% had anxious/ambivalent attachment styles. When the findings of attachment style were grouped as secure and insecure, the coherence rate of both parts of AAQ was 77%.

Results determined with EPDS cut-off score were significantly related to the results obtained from both parts of AAQ (Table II). In addition, avoidant and anxious/ambivalent scores obtained from the second part of AAQ and EPDS scores displayed a significant correlation (Table III).

Insecure attachment scores of mothers with depressive symptoms ($EPDS \geq 11$) were significantly higher than mothers without depressive symptoms (AAQ avoidant and anxious/ambivalent attach-

Table III. Pearson's Correlations for the Relationship Between Edinburgh Post Natal Depression Scale (EPDS) and the Second Part of Adult Attachment Style Questionnaire (AAQ).

	Depression Score	Secure Attachment	Avoidant Attachment	Anxious/Ambivalent Attachment
Depression Score	1.000			
Secure Attachment	-.088	1.000		
Avoidant Attachment	.565*	-.124	1.000	
Anxious/Ambivalent Attachment	.490*	.029	.539*	1.000

*Statistically significant on 0.01 level.

ment scores: $t = 5.36$; $P = 0.0001$ and $t = 3.48$; $P = 0.001$, respectively). Secure attachment scores did not differ among the mothers who were above and below the EPDS cut-off score of ≥ 11 ($t = 0.17$; $P = 0.86$).

DISCUSSION

This study showed a relationship between PPD symptoms and insecure attachment style by emphasizing the importance of maternal attachment styles in the prenatal and postnatal periods. Our findings are consistent with the findings of previous scientific literature that has shown the relationship between insecure attachment style and psychopathology, especially PPD (Eng et al., 2001; Simpson et al., 2003; Ciechanowski et al., 2003; Myhr et al., 2004; Bifulco et al., 2004; McMahon et al., 2005). To the best of our knowledge, this is the first study on the relationship between maternal insecure attachment style and PPD in a non-western country.

On the other hand, it should be remembered that the data collection tools used in our study were developed in the west and although adapted to the Turkish culture, they might not have fully reflected the cultural differences. Despite similar results, discrimination points should be looked for without forgetting that every culture is unique.

AAQ is one of the most frequently used tools in the measurement of adult attachment. One of the most important limitations in using such a tool is, as in our study, low or varying reliability results of the scale (Garbarino, 1998); however, despite such a conclusion for the second part of the scale, the significant relationship between both parts of AAQ with EPDS found in our study is important and consistent. In addition, although both parts of AAQ showed a significant relationship with EPDS,

the relationship of the second part with EPDS was stronger. The reason for this, as explained above, is that the first part provides a short and general assessment, whereas the second part is more detailed and longer. Therefore, in the second part of AAQ, insecure attachment scores of mothers with depressive symptoms is an expected finding. In general, finding a higher percentage of secure attachment in the distribution of AAQ data in comparison to previous studies (Hazan and Shaver, 1987; Mikulincer et al., 1990) may be a culture-specific finding and requires further investigation.

The significant correlations found within the second part of AAQ and between insecure attachment dimensions and depression scores were expected results. In addition, the finding that mothers with depressive symptomatology ($EPDS \geq 11$) had higher insecure attachment scores in comparison to mothers without depressive symptomatology is also a parallel finding. Significant findings summarized in Table II were supported with different analyses.

It can be theorized that the depressive schemas activated from a depressive mood may affect AAQ results. Although AAQ is a tool that assesses an individual's attachment style beginning from childhood, it is possible that probable depression symptoms can result in answers skewed towards insecure attachment.

However, longitudinal studies that used self-report scales show that individual attachment style determines depression (Burge et al., 1997; Hankin et al., 2005). In addition, as mentioned in the introduction, the relationship between insecure attachment and psychopathologies other than depression is not compatible with the theory that depressive symptoms affect AAQ results (Nakash-Eisikovits et al., 2002; Myhr et al., 2004).

In studies conducted in Turkey, PPD rates were found to be highly compatible with our results (Inandı et al., 2002; Buğdaycı et al., 2004). Unavoidable effects of untreated PPD on mother-infant mental health necessitates that health workers and society be more aware of the phenomenon. In addition, as we did in our study, it is also important to present predictors of high PPD rates throughout the country.

Although the relationship between insecure attachment and psychopathology is known, the reason for this relationship is unknown when PPD is regarded. It was found that in mothers who display highly ambivalent behavior, their perception of spousal support being insufficient affects PPD symptoms (Simpson et al., 2003). An intimate relationship with the baby in the postnatal period may evoke internal conflicts that are components of the insecure attachment style of the mother and result in depressive emotions. Without disregarding difficulties of infant care relevant to everyone, it can be thought that attachment style is one of the intermediate factors that regulate response to caregiver stress. Although the literature supports the sub finding of working mothers having lower depression scores, (Lane et al., 1997; Inandı et al., 2002; Chaaya et al., 2002), other factors, such as the education level of the mother and spousal support, should be taken into consideration in order to generalize the finding.

The way in which the relationship between attachment and PPD effects working mothers during pregnancy, birth, and postnatally is a dimension that should be examined in longitudinal studies; more clear cut conclusions can be made only in this manner. The contemporary view accepted today is that working mothers should have a satisfac-

tory postnatal period, both for themselves and for their babies, supported with a sufficiently long and paid maternity leave without experiencing the dilemma of choosing between their babies and their work.

Although significant findings have been presented in this study, more definite results can be found with larger populations. As a limitation of our study, it should be remembered that the adaptation of AAQ to Turkish has been conducted during the study and the development phase had not been completed. In addition, assessment of both depression and attachment style with interview tools and choosing a longitudinal study design is important in reaching more robust results in future studies. In addition, how a mother's depressive symptoms affect infant mental health is a dimension that should be explored. The results of PPD treatment in the context of different attachment styles are another subject that should be examined in the future. The fact that the results of this study were consistent with studies conducted in western societies is important; however, discrimination points due to cultural characteristics should always be considered, and highlights the need for the development of special data collection instruments. Similar studies should be repeated in different cultures and different societies.

In conclusion, the relationship between insecure attachment style and PPD symptoms, which has been previously shown in western studies, has been confirmed in a population of Turkish mothers. Clinicians should pay particular attention to vulnerable women with regard to their attachment style, for early identification and treatment of PPD, both in western and non-western societies.

REFERENCES

- American Psychiatric Association (1994) DSM-IV-Diagnostic and Statistical Manual of Mental Disorders -4th Ed. American Psychiatric Association, Washington DC.
- Aydın N, Inandı T, Yiğit A et al. (2003) Validation of the Turkish version of the Edinburgh Postnatal Depression Scale among women within their first postpartum year. *Soc Psychiatry Psychiatr Epidemiol*, 39:483-486.
- Bifulco A, Figueiredo B, Guedeney N et al. (2004) Maternal attachment style and depression associated with childbirth: preliminary results from a European and US cross-cultural study. *Br J Psychiatry Suppl*, 46:31-37.
- Bowlby J (1973) Attachment and loss: Vol. 2. Separation, Anxiety and Anger. New York: Basic Books.
- Buğdaycı R, Şaşmaz CT, Tezcan H et al. (2004) A cross-sectional prevalence study of depression at various times after delivery in Mersin province in Turkey. *J Womens Health (Larchmt)*, 13:63-68.
- Burge D, Hammen C, Davila J et al. (1997) The relationship between attachment cognitions and psychological adjustment in late adolescent women. *Dev Psychopathol*, 9:151-167.
- Chaaya M, Campbell OM, El Kak F et al. (2002) Postpartum depression: prevalence and determinants in Lebanon. *Arch Women Ment Health*, 5:65-72.
- Ciechanowski P, Sullivan M, Jensen M et al. (2003) The relationship of attachment style to depression, catastrophizing and health care utilization in patients with chronic pain. *Pain*, 104:627-637.
- Cox JL, Holden JM (1987) Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale (EPDS). *Br J Psychiatry*, 150:782-786.

- Eng W, Heimberg RG, Hart TA et al. (2001) Attachment in individuals with social anxiety disorder: the relationship among adult attachment styles, social anxiety, and depression. *Emotion*, 1:365-380.
- Garbarino JJ (1998) Comparisons of the constructs and psychometric properties of selected measures of adult attachment. *Measurement & Evaluation in Counselling & Development*, 31:28-45.
- Hagen EH (1999) The functions of postpartum depression. *Evolution and Human Behavior*, 20:325-359.
- Hamilton CE (2000) Continuity and discontinuity of attachment from infancy through adolescence. *Child Development*, 71:690-694.
- Hankin BL, Kassel JD, Abela JR (2005) Adult attachment dimensions and specificity of emotional distress symptoms: prospective investigations of cognitive risk and interpersonal stress generation as mediating mechanisms. *Pers Soc Psychol Bull*, 31:136-151.
- Hazan C, Shaver P (1987) Romantic love conceptualized as attachment process. *J Pers Soc Psychol*, 52:511-524.
- Inandı T, Elçi OC, Öztürk A et al. (2002) Risk factors for depression in postnatal first year, in eastern Turkey. *Int J Epidemiol*, 31:1201-1207.
- Lane A, Keville R, Morris M et al. (1997) Postnatal depression and elation among mothers and their partners: prevalence and predictors. *Br J Psychiatry*, 171:550-555.
- McMahon C, Barnett B, Kowalenko N et al. (2005) Psychological factors associated with persistent postnatal depression: past and current relationships, defense styles and the mediating role of insecure attachment style. *J Affect Disord*, 84:15-24.
- Mikulincer M, Florian V, Tolmacz R (1990) Attachment styles and fear of death: A case of affect regulation. *J Pers Soc Psychol*, 58: 273-280.
- Myhr G, Sookman D, Pinard G (2004) Attachment security and parental bonding in adults with obsessive-compulsive disorder: a comparison with depressed out-patients and healthy controls. *Acta Psychiatr Scand*, 109:447-456.
- Nakash-Eisikovits O, Dutra L, Westen D (2002) Relationship between attachment patterns and personality pathology in adolescents. *J Am Acad Child Adolesc Psychiatry*, 41:1111-1123.
- O'Hara MW (1996) The nature of postpartum depressive disorders. In Murray L, Cooper PJ (Eds.), *Postpartum Depression and Child Development*, Guilford Press, New York.
- Oates MR, Cox JL, Neema S et al. (2004) Postnatal depression across countries and cultures: a qualitative study. *Br J Psychiatry Suppl*, 46:10-16.
- Schmitt DP, Alcalay L, Allensworth M et al. (2004) Patterns and universals of adult romantic attachment across 62 cultural regions: Are models of self and of other pancultural constructs? *Journal of Cross-Cultural Psychology*, 35:367-402.
- Simpson JA, Rholes WS, Campbell L, et al. (2003) Adult attachment, the transition to parenthood, and depressive symptoms. *J Pers Soc Psychol*, 84:1172-1187.