Original Article

The Factors Affecting Maternal Attachment in Eastern Turkey

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Abstract

Objectives: The purpose of this study was to determine the factors that influence maternal attachment.
Methods: The study was done as a cross-sectional study. Participant Information Form and Maternal Attachment Inventory were used for data collection purposes.
Results: Maternal attachment levels of mothers who received support from their own family and their spouses' family regarding infant care were found to be higher than mothers who had no support. When the husband and family attitudes towards the gender of the infant were examined, it was found that the MAI mean scores of those with negative attitude were lower and the difference between the mean scores was statistically significant.
Conclusions: Awareness of mothers regarding being together with their infants as much as possible should be raised. In this way, maternal attachment level can be increased and the mother's-baby health can be improved.

Key Words: Attachment, family support, mother-baby interaction, postpartum

Introduction

Maternal attachment is defined as a warm, loving relationship and mutual satisfaction and pleasure between the mother and her child (Kavlak & Sirin 2009). According to the attachment theory, people have an innate tendency to establish intimate emotional bonds with primary caregivers in early childhood period (Forti-Buratti et al., 2017). The critical features of attachment are closeness, reciprocity, and commitment. These critical features are considered as a part of the process of gaining motherhood role. The attachment that starts during pregnancy between the mother and her baby continues to develop after birth. The early period after the birth is the period where the attachment is experienced the most. This period facilitates the initiation of relationship of a mother and newborn, adaptation of the infant to the outside world, and getting used to the new responsibilities for the mother (Deave, Johnson, & Ingram, 2008).

Maternal attachment consists of preparation, adoption, and attachment stages. Preparation stage covers the first 48 hours of the postpartum period and it is the beginning phase of human relations. Adoption stage begins after the preparation stage and lasts up to six weeks. Parents try to create verbal or nonverbal close relationships with their babies. The attachment stage covers six-eight weeks after the adoption stage. There is a sense of love and attachment between parents and infant (Kavlak & Sirin, 2009).

The love and support given by the family in the early days of life plays an important role in the spiritual and physical development of the infant. The factors affecting the mother-infant attachment positively include planned and desirable pregnancy, stays of the mother and the baby together after the birth, giving kangaroo care in the first half hour, starting the breastfeeding in the early period, a healthy baby, infant care and adaptation to the new role,

supportive attachment relation of the mother with her mother, having sufficient socioeconomic power for the child's care, mother's problem solving skills, support received from the social environment and spouse and her marital satisfaction (Durualp, Kaytez & Girgin, 2017). In addition to these positive factors, problems such as adolescent mothers (Riva Crugnola et al., 2014; Wilson et al., 2017), postpartum pain, hospitalization, fatigue and insomnia (Kavlak & Sirin, 2009), cesarean section and separation from the infant (Sullivan et al., 2011) may adversely affect mother-infant attachment.

In postpartum period, healthy initiation and continuation of the interaction between the mother and infant and the mother's ability to cope with the problems experienced in this period are important. The professional advice and supportive care provided to the mother regularly and continuously in the first days after childbirth and until the first year is completed facilitates adaptation to motherhood (Sapountzi-Krepia et al 2011, Deliktas, Korukcu & Kukulu, 2015). Nurses are responsible for the development of the attachment between mother and infant. The purpose of this study was to determine the factors that influence maternal attachment in the eastern Turkey.

Method

The cross-sectional study was conducted between 8 June 2017 and 13 July 2018 in seven Family Health Centers (FHCs) located in Center Yesilyurt and Battalgazi districts of ……. Province (Adafı 2, Bentbası, Cavusoglu, Fırat, Mucelli, Özalper, Sıtmapınarı FHC). In these FHCs, a midwife or nurse works along with a family physician and the routine follow-ups of the newborns and the postpartum woman are carried out in these centers.

All FHCs (sixty-one) located in city center of …… were listed and each FHC was accepted as a cluster and seven FHCs were determined using the cluster sampling method. The population of the study consisted of 1394 women who were experiencing the period between the postpartum 41 days and six months registered in seven FHCs between the dates when the study was conducted. In the power analysis, the sample size was calculated as 301 at confidence interval of 95% and significance level of 0.05. Then, the population weighting of the clusters was made and the number of people to be included in the sample from each cluster was determined (54

women from Sıtmapınarı, 51 from Mucelli, 46 from Ozalper, 2 from Adafı and 45 from Bentbası, 39 from Cavusoglu and 21 from Fırat FHC). The women were included in the study by using the improbable random sampling method until the desired number was reached.

The women, who had no problems in communicating, were literate, older than 18 years of age, being between postpartum 40 days and 6 months, and had no postpartum depression, were included in the study. The mothers with psychological illness were not included in the study sample.

The data were collected by researchers conducting face-to-face interviews with women who brought children to FHCs for vaccination in 5 working days of the week in the FHCs. Participant Information Form and Maternal Attachment Inventory were used to collect the data.

The Information Form, prepared by the researchers in accordance with the literature, is composed of questions containing socio-demographic characteristics of the mothers (age, education, health insurance, economic status, family type), obstetric characteristics (number of pregnancy, status of having planned pregnancy, status of having problem in the pregnancy, status of receiving antenatal training, the number of living children), and characteristics of the mother-infant (infant's age, infant's gender, birth of the infant in desired gender, attitudes of the husband and family towards the gender of the infant, staying away from the infant, time of holding the infant after the delivery, time of breastfeeding, having concerns about the care of infant, getting help from the husband in the infant care, changes with the husband after the birth of infant, getting support from the husband in the infant care, and status of receiving support from her husband's or her family (ArI, 2012; Solt KIrca & Savaser 2017).

Maternal Attachment Inventory (MAI); The inventory was adapted into Turkish by Kavlak and Sirin (Kavlak & Sirin, 2009). Each item of the twenty-six-item scale is 4-point Likert type ranging between "always" and "never" (always (a)=4 points, often (b)=3 points, sometimes (c)=2 points, never (d)=1 point). The scale score is obtained from the sum of all items and high score indicates that the maternal attachment is good. The score to be obtained from the scale varies between 26 and 104. The Cronbach's alpha value

of the scale was found to be 0.77 in the first application and 0.82 in the second application (Kavlak & Sirin, 2009). In this study, Cronbach's Alpha value of the scale was found as 0.67.

Before starting the study, written permission was obtained from University Scientific Research and Publication Ethics Committee (number: 2017/15-3) and Provincial Directorate of Public Health. The women who met the inclusion criteria were informed about the study, and written consent forms were obtained from those who volunteered to participate in the study.

The data were evaluated by SPSS 22.0 package program. Along with the descriptive statistics (number, percentage, mean, standard deviation), chi-square test, independent samples t-test in normally distributed data, Mann Whitney U test in groups not showing normal distribution, as well as One Way ANOVA in data showing normal distribution and Kruskal-Wallis test in data not showing normal distribution in the comparison of two or more groups were applied.

Results

The mean age of the women in the study was found as 29.4±0.2 (between 18-42 years old). It was determined that 61.1% of the women were aged 26-34 years, 34.8% had primary and lower educational level, 83.1% were unemployed, 83.7% had a nuclear family, 81.1% had an income level equal to their expenses. No statistically significant difference was observed between the mothers' age, educational level, family type, working status and economic status and MAI mean scores (p> .05) (Table 1).

It was determined that 74.4% of the mothers had planned pregnancies, 22.3% had a health problem in their pregnancy, 55.5% had a caesarean section, and 55.5% had two or more children. There was no statistically significant difference between the obstetric variables such as planning the pregnancy, having problem in the pregnancy, receiving antenatal training and the mode of delivery and their MAI mean scores (p> .05). It was determined that the number of children of the mothers affected the MAI score (p< .05) and the mothers who had one child had higher scores

than those who had two or more children (Table 2).

It was found that 56.1% of the infants of the mothers were aged between 61-120 days, 51.8% were male, 76.4% were born in the desired gender, husband and families of 8.0% had negative attitudes towards the gender of the infant, and 13.3% were separated from their infant in the postpartum period. No significant difference was found between the age, gender and the desired gender of the infant and the MAI mean scores (p> .05). When the husband and family attitudes towards the gender of the infant were examined, it was found that the MAI mean scores of those with negative attitude were lower and the difference between the mean scores was statistically significant (p< .05). It was determined that the MAI mean scores of the mothers who separated from their infants were lower and the difference between the mean scores was statistically significant (p< .05) (Table 3).

It was found that 57.5% of the mothers held their infants in the first ten minutes, 59.8% breastfed their infants within the 30 minutes, 27.9% experienced concerns about the care of their infants, 76.7% received support from their husbands regarding the infant care, and 59.1% received full support from her or her husband's family in the care of their infants. When the MAI mean scores of the mothers were examined in terms of the postpartum mother-infant communication characteristics, no statistically significant difference was found between the time of holding the baby after the delivery, time of breastfeeding the baby after delivery, the status of having concerns in the care of baby, the status of receiving spouse support in the infant care and the status of having changes in their relationships with their husbands after the birth of the infant and the MAI mean score (p> .05). It was found that the difference between the MAI mean scores and the status of receiving support from her family and her husband's family in the infant care was statistically significant (p< .05) and the difference was caused by the group who did not receive any support (Table 4).

Table 1. **Comparison of Maternal Attachment Inventory scores according to socio-demographic characteristics of mothers**

Socio-Demographic Characteristics of Mothers	n	%	MAI Mean±SD	Statistical Test and Significance
Age				
≤25	67	22.3	100.93±4.33	
26-34	184	61.1	101.15±3.69	KW= 3.28
35≥	50	16.6	100.74±3.08	p= 0.19
Education level				
Elementary and below	105	34.8	101.17±3.72	
High school	101	33.6	100.76±3.80	F= 0.12
University	95	31.6	101.15±4.02	p= 0.95
Family type				
Nucleus	252	83.7	101.11±4.33	KW= 2.34
Large	49	16.3	100.77±3.60	p= 0.31
Working status				
Yes	51	16.9	101.35±3.22	Z= -0.46
No	250	83.1	101.97±3.84	p= 0.65
Income Level				
Income lower than expenditure	44	14.6	101.36±2.79	
Income covers expenditure	244	81.1	101.03±3.86	F= 0.74
Income higher than expenditure	13	4.3	99.92±4.41	p= 0.48
Total	301	100.0		

KW: Kruskall Wallis test, F: One Way Anova test, Z: Mann Whitney U test * Average Age: 29.4±0.2 (Min :18, Max: 42)

Table 2. Comparison of Maternal Attachment Inventory scores according to obstetric and birth characteristics of mothers

Characteristics of Mothers			MAI	Statistical Test and Significance
	n	%	Mean ±SD	
Planning Pregnancy				
Yes	212	70.4	100.98±4.09	t= -0.24
No	89	29.6	101.16±3.42	p= 0.81
Health Problem in Pregnancy				
Yes	67	22.3	100.57±3.93	t= -1.16
No	234	77.7	101.17±3.69	p= 0.25
Obtaining Prenatal Education				
Yes	145	48.2	101.19±3.64	t= -0.71
No	156	51.8	100.88±3.85	p= 0.48
Type of Birth				
Vaginal	134	44.5	101.99±4.09	t= -0.17
Cesarean	167	55.5	101.07±3.46	p= 0.87
Number of Living Children				
1	117	38.9	101.76±2.88	F= 3.69
2-3	167	55.5	100.56±4.18	p= 0.03
4 ve uzeri	17	5.6	100.71±3.85	

F: One Way Anova test, t: Students t test

Table 3. Comparison of Maternal Attachment Inventory scores according to mothers' ınfants' characteristics

Characteristics of Mothers' Babies	n	%	MAI Mean±Sd	Statistical Test and Significance
Baby's Age				
40-60 days	32	10.0	101.25±3.76	F= 0.06
61-120 days	169	56.1	101.02±3.48	p= 0.39
121-160 days	102	33.9	100.98.±4.18	
Sex of the Baby				
Girl	145	48.2	101.47±3.54	F= 3.27
Male	156	51.8	100.63±3.89	p= 0.07
Desired Gender Baby				
Yes	230	76.4	101.20±3.63	t= 1.36
No	71	23.6	100.51±4.09	p= 0.18
Spouse and Family Attitudes Toward Sex of Baby				
Positive	61	20.2	101.03±3.55	F= 3.84
Negative	24	8.0	99.04±5.18	p= 0.02
No change	216	71.8	101.25±3.56	
Postpartum Baby Leave Status				
Yes	37	13.3	99.89±4.65	t= -1. 99
No	264	87.7	101.19±3.58	p= 0.048

F: One Way Anova test, t: Students t test

Table 4. Comparison of Maternal Attachment Inventory scores with postpartum mother-ınfant communication characteristics

Postpartum Mother - Baby First Contact Characteristics	n	%	MAI Mean±Sd	Statistical Test and Significance
Time to Take the Baby to the First Lap				
Within the first 10 minutes	173	57.5	101.30±3.75	F= 2.41
Between 11-120 minutes	81	26.9	101.09±3.04	p= 0.09
121 minutes and above	47	15.6	99.96±4.63	
Postpartum Baby Breastfeeding Time				
Within the first 30 minutes	180	59.8	101.32±3.68	F= 2.17
Between 31-120 minutes	56	18.6	101.07±3.17	p= 0.12
121 minutes and above	65	21.6	100.20±4.27	
Concern Living situation in Baby Care				
Yes	84	27.9	101.04±4.65	t= 0.01
No	217	72.1	101.03±3.58	p= 0.99
Support Status from Husband in Baby Care				
Yes	230	76.7	101.10±3.75	t= 0.68
No	71	23.3	100.76±3.76	p= 0.50
Changes in Relations with Spouse After Birth				
Positive	43	14.3	100.93±3.64	F= 1.06
Negative	43	14.3	101.74±2.86	p= 0.35
No change	215	71.4	100.63±4.88	
Support Level of the Woman's and Husband's Family in Baby Care				
Full support	178	59.1	101.45±3.03	F= 3.51
Insufficient support	43	14.3	101.00±3.53	p= 0.03
No support	80	26.6	100.13±4.98	

F: One Way Anova test, KW: Kruskall Wallis test, t: Students t test

Discussion

A safe attachment between a mother and her baby can affect the entire life of the infant. In addition, the level of attachment may affect the mental health of the mother as well as her self-efficacy (Brazeau et al., 2018).

In this study, no difference was found between the MAI mean score and the mother's age, educational level, family structure, working status and economic status. Similarly, it has been found in the literature that mother's age (Ozturk & Saruhan, 2013; Solt & Kırca, 2017; Akdas, 2017; Hopkins et al., 2018), educational level (Akdas, 2017; Hopkins et al., 2018), family structure (Akdas, 2017) and working status (Mehler et al., 2011; Akdas, 2017) do not affect the MAI score. It is observed that maternal attachment is largely unaffected by demographic variables (Hopkins et al., 2018). In this study, although it was thought that the mothers who had nuclear family structure spend more time and interacted more with their infants, family structure was observed not to significantly affect

the instinctive and culturally supported mother infant attachment.

In the study, it was found that planning the pregnancy, having a health problem in pregnancy, getting a prenatal education and the mode of delivery did not affect the MAI score. Supporting the results of the present study, it is stated in the literature that mode of delivery (Figueiredo et al., 2009; Solt Kırca & Savaser, 2017) do not affect the MAI score.

In the study, the number of living children was determined to affect MAI score. Similar to the results of the present study, Solt Kırca et al. determined that the maternal attachment scores of the mothers having single child were higher than the maternal attachment scores of the mother having two or more children (Solt Kırca & Savaser, 2017). High maternal attachment score of the mothers with single child might be caused by the fact that they spend more time with their children.

In this study, infant's age, gender and the birth of infant in the desired gender did not affect the MAI score. In the studies, it is stated that the gender preference has no effect on maternal attachment (Janbakhishov, 2013; Mutlu et al., 2015;Akdas, 2017). The results of the present study support the literature.

In the study, MAI score of the mothers whose husband and family attitudes towards the gender were negative was found to be low. Similar to the present study, Arı found that the MAI mean score of women whose family had negative attitude towards infant's gender was statistically significantly lower than those who had positive attitude and were neutral (Arı, 2012). The results of the present study support the literature.

In the study, MAI score of the mothers who were separated from their infants was found to be lower. It is stated in the literature in a way to support the results of the present study that maternal attachment scores of mothers experiencing problems during delivery are lower (Ozturk & Saruhan 2017). Mehler et al. determined that mothers had a higher rate of secure attachment with the preterm infants they saw within the postpartum first 3 hours than preterm infants who were not contacted early (Mehler et al., 2011). Right after the birth, the mother's being separated from the infant due to different health problems negatively affects the maternal attachment.

It is stated that the attachment in the first few days of life is very important for the infant and these early behavior patterns affect the development of the infant. However, it was found that the time of holding the infant after the delivery and the time of breastfeeding the infant by mothers did not affect the MAI score. In parallel with the results of the present study, Figueiredo found in his study that attachment scores of mothers who touch or could not touch their children within postpartum 60 minutes and those who breastfed or could not breastfeed their infants within the first 60 minutes after the birth were similar (Figueiredo et al., 2009). There are also studies stating that there is no significant difference between the time of seeing the infants and the maternal attachment scores of mothers, which is compatible with the results of the present study (Solt Kırca & Savaser, 2017). In contrast to the results of the present study, there are also studies stating that the maternal attachment scores of the mothers who saw their infants on the first day are higher than the scores of mothers who saw their infants in the following days and mothers who held their infants on the first day had more attachment (Ozturk & Saruhan 2013). This difference was thought to be caused by the characteristics of the sample group included in the study.

Good spouse relationship positively affects the maternal attachment. It is thought that good spouse relationship has a protective role against postpartum depression and will facilitate to gain the motherhood role by positively affecting the attachment pattern that the infant will develop (Delavari, Mohammad-Alizadeh-Charandabi & Mirghafurvand, 2018). Social support allows the new mother to relax, cope with stressors and activate the role of motherhood. However, in this study, it was found that the status of having changes in the spouse relations after the delivery of infant did not affect the MAI score.

In the postpartum period, social support is necessary for the development of motherhood role and for the healthy development of the newborn infant. In this study, while the support level of the spouses of the women on infant care did not affect their MAI score, the level of support received from the mother's own family or from their spouse's family affected the MAI score. Similar to the results of the present study, Figueiredo did not find a significant difference in the attachment results of mothers with and without spousal support (Figueiredo et al., 2009).

In parallel with the results of the present study, there are studies showing that mothers receiving support for infant care had higher attachment scores (Alhusen et al., 2012; Hopkins et al., 2018). In this study, the fact that the family support positively affected the maternal attachment was associated with the cultural characteristics of the country and the strong family bonds.

This study has some limitations. The study was conducted in to seven FHCs located in Province. The results obtained in our study only applies to these groups and can not be generalized.

Conclusion

Maternal attachment levels of mothers who received support from their own family and their spouses' family regarding infant care were found to be higher than mothers who had no support. Negative spouse and family attitude towards the gender of the infant and the status of being separated from the infant were determined to cause low maternal attachment. The mode of delivery was determined not to affect the maternal attachment.

Awareness of mothers regarding being together with their infants as much as possible should be raised. All expectant mothers should be informed about the emotional changes that may affect mother-infant attachment after birth. It should be ensured for the babies who need to stay in hospital for a long time to be in contact with their mothers. While planning training and consultancy services for women, it is recommended to take into consideration the effect of the maternal attachment on the infant's life and increase the awareness of women. Social support systems of mothers should be defined, social support networks should be strengthened and mothers with insufficient support should be identified at an early stage and the support they need should be provided by the nurses. In this way, maternal attachment level can be increased and the mother-baby health can be improved.

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