

## Original Article

## The Effect of Postpartum Quality of Life upon Maternal Attachment

**Rukiye Dikmen, MSc,**

Assistant Professor, Ankara University, Nursing Faculty, Midwifery Department, Ankara, Turkey

**Senay Topuz, PhD, MSc**

Assistant Professor, Ankara University, Nursing Faculty, Midwifery Department, Ankara, Turkey

Nurse, Ministry of Health of The Republic of Turkey, Yozgat TOKİ 32nd Family Health Center, Yozgat, Turkey

**Correspondence:** Senay Topuz Assistant Professor, Ankara University, Nursing Faculty, Midwifery Department, Ankara, Turkey, Email: senaytopuz@gmail.com, topuzs@ankara.edu.tr

**Location and address of the study:** Location: Ministry of Health of The Republic of Turkey, Yozgat TOKİ 32nd Family Health Center, Yozgat, Turkey

### Abstract

**Aim:** Mothers' feeling good both physically and psychologically enables a strong and early relation between mothers and babies. The study was undertaken as a descriptive and cross-sectional study in order to assess the effect of mothers' postpartum quality of life upon maternal attachment.

**Methods:** The study was conducted with 120 mothers who visited eight family health centers located in the city center of Yozgat Province in order to have their babies aged 1 to 1.5 months vaccinated and examined between January 2016 and June 2016. The data were gathered through Information Request Form, Maternal Attachment Scale, Postpartum Quality of Life Scale. To analyze the data; Mann-Whitney U test was employed to conduct comparisons between two groups, Kruskal-Wallis analysis was used to carry out comparisons for more than two groups whereas for the variables among quantitative variables, Spearman correlation analysis was used.

**Results:** It was found that average total score of mothers' Postpartum Quality of Life Scale (PQLS) was  $21.5 \pm 3.8$  while average total score of mothers' Maternal Attachment Scale (MAS) was  $91.1 \pm 11.5$ . A positive and moderate correlation was found between MAS and PQLS and among all subscales. Also; a positive and strong correlation was established between PQLS and all subscales.

**Conclusion:** It was identified that mothers encountered many problems about postpartum self-care and neonatal care and these problems affected mothers' postpartum quality of life and maternal attachments negatively. Since it is possible for mothers to have a postpartum period with minimal problems thanks to a satisfactory nursing care; it may be recommended that all mothers should be made to receive an optimal nursing care.

**Key Words:** Postpartum, Quality of Life, Attachment, Maternal Attachment, Nursing

### Introduction

Postpartum period; also referred as a developmental crisis, covers a six week period during which physical and psychological changes as well as possible health problems can be seen to the highest degree before mothers can re-gain antenatal physiological and psychological stability before they become pregnant (Taskin, 2014; Walker & Wilging, 2000).

Postpartum period is a significant time because a new member joins the family, which results in a

new adaptational situation and changes take place in parents' moods and relations during the transition to parenthood. On the one hand, postpartum period can be a time that brings a positive satisfaction for families and strengthens familial bonds; on the other hand, it may also be a crisis time. During this time, mothers undergo a difficult transition period with physiological and anatomical changes and new roles and responsibilities that they bear. First days after birth are rather difficult for mothers who are compelled to adapt to their babies, postpartum

disorders, new situation in the family and changes in their bodies (Taskin, 2014). Both physiological changes and unexpected complications may be affecting mothers' quality of life negatively. As of postpartum period; it produces positive effects upon mothers' physical and psychological wellbeing for them to feel comfortable, to participate in both self-care and babies' care actively and to be successful in managing care (Balcik Colak et al., 2019). Mothers' feeling good both physically and psychologically enables a strong and early relation between mothers and babies. Together with a satisfactory and pleasing interaction in the relation between mother and baby; the process used by mothers to develop a bond of affection and love with their babies is called as "maternal attachment" (Isler, 2007). Maternal attachment starts shortly before birth and develops during postpartum times (Calisir et al., 2009). A mother's attachment to her baby with love and affection is one of the main factors that help babies grow up healthily and affect his/her whole life positively (Isler, 2007). First attachment experiences pave the way for individuals' later attachment experiences. In short, attachment patterns last lifelong depending on whether or not they are formed safely or unsafely in infancy (Sabuncuoglu & Berkem, 2006). If necessary conditions cannot be established for providing a safe attachment in the tie between mother and baby during first days of life; babies may suffer from emotional, social, physical, mental and language problems. In cases in which maternal attachment fails, babies are in danger of negligence and abuse (Kavlak & Sirin, 2007).

Nurses bear crucial responsibilities in beginning and improving maternal attachment. In postpartum period, basic objective of nursing care is to provide physical care to mothers and babies, to prevent risky situation and to guide and to help family members adapt to this new situation psychosocially (Taskin, 2014). It may be argued that as an increase in the quality of postpartum care occurs; mothers' postpartum quality of life goes up and the bond between mother and baby is established more healthily (Altuntug & Ege, 2012). In sum; the study was undertaken in order to assess the effect of mothers' postpartum quality of life upon maternal attachment.

## Method

**Design:**The study was undertaken as a

descriptive and cross-sectional study in order to assess the effect of mothers' postpartum quality of life upon maternal attachment. The study was conducted in eight family health centers located in the city centre of Yozgat Province between January 2016 and June 2016.

**Setting and Sample:** All the mothers who were registered to the family health centers composed the study population. In order to calculate study sample, the relevant sampling formula used when the number of the population was not known was chosen. In order to calculate sample size, power analysis was conducted using Gpower3.1 program. Since the correlation between the two scales was too weak, the study was planned with 112 mothers with an effect size of 0.30, Type I error as 0.05 and Type II error as 0.10. Due to the possibility that mothers might drop out of the study; 120 mothers were targeted.

**Measures:** In order to collect the data; an "Information Request Form" of 20 questions designed by the researcher by using the relevant literature (Altuntug & Ege, 2013; Buyukkayaci ND, 2011; Hill et al., 2006; Yidiz, 2011; Yilmazturk, 2010), "Postpartum Quality of Life Scale" which was developed to identify mothers' postpartum quality of life and "Maternal Attachment Scale" which was developed to identify maternal attachment were used. Turkish validity and reliability tests of Postpartum Quality of Life Scale, which was developed by (Hill et al., 2006) were performed by (Altuntug & Ege, 2012). The Scale is consisted of 5 subscales and total 40 items. The scale measures how satisfied and important mothers feel during postpartum 4<sup>th</sup>-6<sup>th</sup> weeks following the discharge. Scores of quality of life range between 0 and 30. High scores received from the scale show that mothers' postpartum quality of life is high. Low scores received from the scale show that mothers' postpartum quality of life is poor. Cronbach alpha reliability coefficient is 0.95 according to scale total score and item total score correlations vary from 0.435 to 0.717 (Altuntug & Ege, 2012). In the current study, Cronbach alpha coefficient was found to be 0.983.

Maternal Attachment Scale was designed by Mary E. Muller in 1994 (Muller, 1994). Turkish validity and reliability tests of the scale were done by (Kavlak & Sirin, 2009). It is a four point Likert scale with 26 items. High scores received from the scale show higher level of maternal attachment. The lowest score of the scale is 26

while the highest score is 104. Cronbach alpha reliability coefficient was found to be 0.77 by (Kavlak & Sirin, 2009). In the current study, Cronbach alpha coefficient was found to be 0.973.

**Administering The Forms:** After written and oral informed consents were taken from mothers, the questionnaire forms were administered through face to face interview method.

**Analyses And Assessment Of Study Data And Findings:** The data were processed using IBM SPSS Statistics 25.0 (IBM Corp., Armonk, New York, USA) software program. Internal consistency of the scales was tested with Cronbach alpha coefficients and whether or not data and findings related to numerical and quantitative variables followed a normal distribution was evaluated with Shapiro Wilk normality test and Q-Q graphics. Two group comparisons were performed with Mann-Whitney U test and comparisons of more than two groups was done with Kruskal-Wallis analysis. If there was a difference identified by Kruskal Wallis analysis, multiple comparison test Dunn- Bonferroni test was employed and correlations among numeric and quantitative variables was assessed with Spearman correlation analysis. Results were considered significant at  $p < 0.05$ .

**Ethical Considerations:** Before the study, the ethical suitability of the research was approved by Ethical Council of Non-invasive Clinical Researches of Bozok University (with the decision dated and numbered 30.11.2015 and 111) and the necessary official permissions from the hospital management were obtained from Public Health Directorate of Yozgat Province.

## Results

According to distribution of mothers' descriptive characteristics shown in Table 1, it was identified that 22.5% of the participant mothers had a job, 44.2% of them graduated from high schools, 51.7% of the spouses of these mothers graduated from high schools, 55.8% of the mothers defined their economical situation as having an income equal to expenses, 90.8% of them had social security and 87.5% of them lived in nuclear families. Besides, average age of the mothers was  $28.8 \pm 6.2$  years and average marriage duration was  $8.3 \pm 6.4$  years.

As seen in Table 2, it was found that mothers' total average score of MAS was  $91.1 \pm 11.5$  and

of PQLS was  $21.5 \pm 3.8$ . Besides; participants' average score of PQLS 'kin-ship-family-friend' subdimension was  $22.0 \pm 3.4$ , average score of 'socioeconomic' subdimension was  $20.6 \pm 5.3$ , average score of 'spousal' subdimension was  $22.9 \pm 4.2$ , average score of 'health' subdimension was  $20.6 \pm 4.1$  and average score of 'psychological' subdimension was  $21.8 \pm 3.7$ .

Table 3 demonstrated the distribution of mothers' average scores of MAS and PQLS in terms of some socio-demographic and obstetric characteristics. It was seen that mothers who worked had higher average scores of MAS and PQLS as compared to housewives and the difference between them was statistically significant ( $p = 0.005$ ,  $p < 0.001$ ). It was noted that mothers who graduated from university showed higher average scores of MAS and PQLS as compared to those who graduated from other schools and a statistically significant difference existed between them ( $p < 0.001$ ,  $p < 0.001$ ). According to spouses' educational status; there was also a statistically significant difference in terms of MAS and PQLS average scores ( $p < 0.001$ ,  $p < 0.001$ ).

It was understood that average MAS and PQLS scores were higher among those mothers who expressed that they had an economical status with an income equal to expenses ( $p < 0.001$ ,  $p < 0.001$ ), those whose longest residence place was city centres ( $p = 0.002$ ,  $p < 0.001$ ) and those who lived in nuclear families ( $p = 0.002$ ,  $p < 0.001$ ) and the difference between them was statistically significant. Average MAS and PQLS scores of the mothers who touched their babies soon after labour ( $p = 0.001$ ,  $p = 0.005$ ) and who hugged their babies immediately after giving birth ( $p = 0.003$ ,  $p = 0.012$ ) were higher and a statistically significant difference was found between them. Mothers who gave vaginal birth had higher average MAS scores ( $p = 0.038$ ) whereas those who had a planned pregnancy demonstrated higher average PQLS scores ( $p = 0.001$ ) and there was also a statistically significant difference between them. However; no statistically significant differences were identified in mothers' average scores of MAS and PQLS in terms of spouses' employment status, health coverage status (social security) and postpartum breastfeeding status

Table 4 presented distribution of mothers' average scores of MAS and PQLS in terms of facing problems in self-care and neonatal care.

When the Table was looked at; there were no statistically significant differences in mothers' average scores of MAS and PQLS in terms of having bath, sleep and rest, constipation, problems with perineal region, breast care and breastfeeding process. Mothers without alimentation and emotional coping problems had higher average scores in PQLS ( $p=0.002$ ,  $p=0.010$ ) and the difference between them was statistically significant. In our study, it was identified that mothers whose babies did not have sleep problem in postpartum period had higher average scores in MAS ( $p=0.011$ ) while mothers who did not have any problems with bathing and

skin care presented higher average scores in PQLS ( $p=0.042$ ) and the difference between them was statistically significant. Apart from these issues; average scores of MAS and PQLS were higher among those mothers who did not have problems with babies' sucking, umbilical care, gas pains and following vaccination schedule but no statistically significant difference was found.

According to Table 5, there was a positive and moderate correlation (48%) between MAS and PQLS and all subdimensions. Also, a positive and strong correlation existed in PQLS and all its subdimensions.

**Table 1. Distribution of mothers' descriptive characteristics (n=120)**

CHARACTERISTICS	Number	%
<b>Employment Status</b>		
Employed	27	22.5
Unemployed	93	77.5
<b>Educational Status</b>		
Primary School	10	8.3
Secondary School	34	28.3
High School	53	44.2
University	23	19.2
<b>Spouses' Educational Status</b>		
Primary School	4	3.3
Secondary School	17	14.2
High School	62	51.7
University	37	30.8
<b>Economical Status</b>		
Income lower than expenses	53	44.2
Income equal to expenses	67	55.8
<b>Health Insurance</b>		
Yes	109	90.8
No	11	9.2
<b>Family Type</b>		
Nuclear	105	87.5
Extended	15	12.5
<b>Age and Marriage Duration</b>		
	$\bar{x} \pm ss$	min-max

Average age	28.8±6.2	18.0-42.0
Average marriage duration	8.3±6.4	1.0-22.0

**Table 2. Total average scores mothers received from MAS and PQLS**

Scales	Item Numbers	Cronbach Alpha Coefficient	$\bar{x} \pm ss$	ekd-ebd
MAS	26	0.973	91.1±11.5	71.0-104.0
PQLS	40	0.983	21.5±3.8	12.4-30.0
Kin-ship- family-friend	10	0.933	22.0±3.4	12.5-30.0
Socioeconomic	9	0.972	20.6±5.3	7.3-30.0
Spousal	5	0.913	22.9±4.2	12.5-30.0
Health	8	0.942	20.6±4.1	10.5-30.0
Psychological	8	0.929	21.8±3.7	12.4-30.0

**Table 3. Distribution of mothers' average scores of MAS and PQLS in terms of some socio-demographic and obstetric characteristics (n:120)**

Descriptive Characteristics	N	MAS		Statistical Figures	PQLS		Statistical Figures
		$\bar{x} \pm ss$	M( $\zeta_1$ - $\zeta_3$ )		$\bar{x} \pm ss$	M( $\zeta_1$ - $\zeta_3$ )	
<b>Employment Status</b>							
Employed	27	96.59±9.21	100(94-102)	Z=2.828; p=0.005	23.68±3.11	24(22.46-25.2)	Z=3.672; p<0.001
Unemployed	93	89.43±11.63	94(76-99.5)		20.9±3.82	21.45(17.64-23.98)	
<b>Educational Status</b>							
Primary School	10	95,8±9.43	99(90.25-104)	$\chi^2=30.216$ p<0.001	21.33±2.89	22.13(18.17-24.02)	$\chi^2=20.573$ p<0.001
Secondary School	34	82.94±10.25	77(74-94)		19.77±3.92	20.49(16.43-22.86)	
High School	53	92.74±10.76	97(80-101)		21.45±3.61	22.5(18.19-24)	
University	23	97.04±9.53	101(96-104)		24.36±3.04	24.15(22.65-25.8)	
<b>Spousal Employment Status</b>							
Employed	110	91.69±11,29	96(78-101)	Z=1.777; p=0.076	21.71±3.75	22.5(18.55-24.02)	Z=1.838; p=0.066
Unemployed	10	83.9±11,94	77.5(74.75-97)		19.48±4.43	17.57(15.93-23.46)	
<b>Spousal Educational Status</b>							
Primary School	4	99.25±5.85	100,5(93.25-104)	$\chi^2=25.726$ p<0.001	23.5±0.73	23.71(22.73-24.06)	$\chi^2=40.595$ p<0.001
Secondary School	17	83.47±10.93	76(74.5-93.5)		18.29±2.66	17.31(16.35-20.96)	
High School	62	89.15±11.24	94(76-98)		20.9±3.7	21.35(17.57-24)	
University	37	96.81±9.57	101(95-104)		24.36±2.68	24.11(22.76-25.79)	
<b>Economical Status</b>							
Income lower than expenses	53	86.45±11.69	87(75-98)	Z=3.984; p<0.001	19.4±3.56	19.2(16.91-22.61)	Z=5.578; p<0.001
Income higher than expenses	67	94.67±10.01	98(91-102)		23.2±3.18	24(21.68-24.75)	
<b>The longest residence place</b>							
City center of the province	98	92.65±10.97	96.5(82.75-102)	Z=3.161; p=0.002	22.2±3.57	22.76(19.13-24.19)	Z=4.007; p<0.001
County/village	22	83.86±11.24	77.5(75-94.25)		18.51±3.62	17.49(15.43-21.94)	
<b>Health Insurance</b>							
No	11	85.82±13.9	78(74-102)	Z=1.159; p=0.247	19.15±4.73	17.31(14.34-23.63)	Z=1.852; p=0.064
Yes	109	91.57±11.16	96(78-101)		21.76±3.68	22.5(18.53-24.04)	
<b>Family Type</b>							
Nuclear	105	92.35±11.23	96(78-102)	Z=3.364; p=0.001	21.87±3.8	22.65(18.54-24.09)	Z=2.723; p=0.006
Extended	15	81.87±9.14	76(75-93)		19.11±3.34	18.56(16.99-21.9)	

<b>Birth type</b>							
Vaginal	55	93,24±11	98(85-102)	Z=2.071;	21.63±3.99	22.46(18-24.15)	Z=0.219;
Cesarean	65	89.18±11.65	94(76-99.5)	p=0.038	21.44±3.73	22.5(18.31-24)	p=0.827
<b>Pregnancy Status</b>							
Planned	87	91.64±11.45	96(78-102)	Z=1.303;	22.22±3.67	23.1(19.79-24.31)	Z=3.440;
Unplanned	33	89,45±11.64	94(75.5-99)	p=0.193	19.68±3.72	18.58(17.06-22.63)	p=0.001
<b>Time to touch babies after birth</b>							
Immediately	26	98.31±7.14	100,5(95.5-104)	$\chi^2=16.278$ p=0001	23.8±3.41	24(22.31-25.95)	$\chi^2=12.999$ p=0.005
In one hour	49	88.88±11.76	93(75.5-99.5)		20.7±4.11	20.91(17.46-24)	
In two hour	37	88.11±11.85	89(76-99)		20.77±3.4	21.45(17,98-23.94)	
≥ 4 hours	8	94.25±10.36	97(85.5-103.25)		22.63±2.24	22.58(21,09-24.36)	
<b>Time to hug babies after birth</b>							
Immediately	23	98±7.35	100(96-104)	$\chi^2=14.226$ p=0.003	23.45±3.23	24(22.5-25.78)	$\chi^2=10.935$ p=0.012
In one hour	48	88.71±11.82	92(75.25-99.75)		20.69±4.22	20.89(17.43-24)	
In two hour	40	88.88±11.76	94(76.25-99)		20.98±3.35	21.56(18.52-23.95)	
≥ 4 hours	9	95.33±10.22	98(88-104)		23.45±3.23	22.65(21.31-25.39)	
<b>Breastfeeding after birth</b>							
Yes	95	91.91±10.98	96(81-101)	Z=1.423;	21.51±4.23	21.38(18.63-23.71)	Z=0.556;
No	25	87.76±12.99	94(75-100.5)	p=0.155	21.51±4.23	21.38(18.63-23.71)	p=0.578

**Table 4. Distribution of mothers' average scores of MAS and PQLS in terms of having problems in self-care and neonatal care (n: 120)**

Descriptive Characteristics	N	MAS		Statistical Figures	PQLS		Statistical Figures
		$\bar{x} \pm ss$	M( $\zeta_1-\zeta_3$ )		$\bar{x} \pm ss$	M( $\zeta_1-\zeta_3$ )	
<b>Mothers' problems with self-care in postpartum period</b>							
<b>Bathing</b>							
Yes	47	90±12.29	94(76-101)	Z=0.423;	21.23±4.12	21.75(17.59-24)	Z=0.866;
No	73	91.71±10.99	96(78-100)	p=0.672	21.71±3.66	22.65(19.05-24.04)	p=0.386
<b>Alimentation</b>							
Yes	19	87.47±14.39	78(74-103)	Z=0.902;	19.03±4.21	18(16.05-21.45)	Z=3.064;
No	101	91.71±10.82	96(79.5-100)	p=0.367	21.99±3.6	22.74(19.24-24.04)	p=0.002
<b>Sleep and rest</b>							
Yes	110	90.59±11.65	95(76.75-101)	Z=1.119;	21.45±3.9	22.41(18-24)	Z=0.741;
No	10	96±8.58	97(93.5-104)	p=0.263	22.34±3.15	22,64(20.9-24.16)	p=0.459
<b>Emotional coping problems</b>							

Yes	72	89.29±11.93	93.5(76-100.75)	Z=1.800;	20.84±4.05	20,98(17.53-24)	Z=2.567;
No	48	93.67±10.37	98(88.25-101.75)	p=0.072	22.54±3.28	23.56(21.45-24.31)	p=0.010
<b>Constipation</b>							
Yes	80	90.6±11.68	95(76.25-101)	Z=0.402;	21.32±3.87	22.14(18-24)	Z=0.524;
No	40	91.93±11.21	97(79.75-100.75)	p=0.688	21.92±3.8	22.69(18.98-24)	p=0.601
<b>Perineal region</b>							
Yes	21	95.05±10.15	98(91-104)	Z=1.881;	22.29±2.96	22.65(20.16-24)	Z=0.777;
No	99	90.19±11.63	94(76-100)	p=0.060	21.36±4	22.46(17.83-24)	p=0.437
<b>Breast care</b>							
Yes	90	90.7±11.82	95(76.75-101)	Z=0.319;	21.49±3.96	22.29(18-24.02)	Z=0.182;
No	30	92.07±10.59	96(83.25-100.5)	p=0.750	21.62±3.5	22.5(18.55-23.97)	p=0.856
<b>Breastfeeding</b>							
Yes	56	91.23±11.84	96(78-101)	Z=0.359;	21.45±4.07	2174(18.1-24.06)	Z=0.184;
No	64	90.88±11.27	95(76.25-100.75)	p=0.720	21.58±3.65	22.65(18.03-24)	p=0.854
<b>Mothers' problems with baby care in the first six weeks after birth</b>							
<b>Sucking</b>							
Yes	65	90.77±11.89	95(77.5-101)	Z=0.061;	21.49±4	22.23(18-24)	Z=0.024;
No	55	9136±11.11	95(76-101)	p=0.952	21.56±3.67	22.5(18.13-24)	p=0.981
<b>Sleep</b>							
Yes	109	90.23±11.61	94(76-100)	Z=2.537;	21.35±388	22.23(18-24)	Z=1.483;
No	11	99.09±6.2	101(96-104)	p=0.011	23.25±2.97	22.78(21.75-24.31)	p=0.138
<b>Umbilical care</b>							
Yes	60	89.73±12.36	93.5(76.25-102)	Z=0.592;	20.97±4.1	21.56(17.42-24)	Z=1.652;
No	60	92.35±10.5	96(85.5-100)	p=0.554	22.08±3.5	22,71(19.24-24.1)	p=0.099
<b>Gas pain</b>							
Yes	89	90.42±11.69	94(77-101)	Z=0.941;	21.47±3.95	22.46(18-24.09)	Z=0,042;
No	31	92.84±10.9	98(78-101)	p=0.347	21.68±3.54	22.5(18.13-24)	p=0.967
<b>Bathing and skin care</b>							
Yes	24	88.46±13.93	87(74.5-103.5)	Z=0.434;	20.06±4.16	20.38(16.7-23.93)	Z=2,035;
No	96	91.69±10.79	95(81.25-100)	p=0.664	21.89±3.69	22.54(18.57-24.14)	p=0.042
<b>Following vaccination schedule</b>							
Yes	14	87.07±13.95	78(74-104)	Z=0.718;	20.22±4.17	19.44(16.43-24)	Z=1.374;
No	106	91.57±11.1	95.5(78-101)	p=0.473	21.69±3.78	22.5(18.55-24.02)	p=0.169

\*Mann-Whitney

U

test,

Kruskal-Wallis

Analysis

### 5. Correlation between mothers' MAS and PQLS average scores

	MAS	PQLS	Kin-ship- family- friend	Socioeconomic	Spousal	Health	Psychological
MAS rho	-	<b>0,489</b> <b>&lt;0.001</b>	<b>0,347</b> <b>&lt;0.001</b>	<b>0,489</b> <b>&lt;0.001</b>	<b>0,430</b> <b>&lt;0.001</b>	<b>0,462</b> <b>&lt;0.001</b>	<b>0,482</b> <b>&lt;0.001</b>

\*Spearman Correlation Analysis

#### Discussion

It is known that health problems occurring in postpartum period influence quality of life and as postpartum care quality increases so does mothers' postpartum quality of life (Altuntug & Ege, 2012; Balcik Colak et al., 2019). In our study, too, it was found that mothers' PQLS average score was  $21.5 \pm 3.8$  while their MAS average score was  $91.1 \pm 11.5$ .

Education is a factor that increases quality of life (Altıparmak & Eser, 2007). In our study, it was seen that mothers who graduated from university and worked had higher average scores of PQLS and a statistically significant difference existed between them. In the studies of (Rezaei et al., 2016), it was noted that mothers who attained higher educational degrees and working, (Sis Celik et al., 2014) only mothers who attained higher educational degrees had higher average scores of PQLS. Yet, the study of (Keskin, 2018) reported no difference between educational level and Employment Status and MAS average score; the reason of which may have been different sample groups

Residing in city centres enables mothers an easy access to services like health, education, care. Likewise, the current study indicated that mothers whose longest residence place was city centres had higher average scores in MAS and PQLS and the difference between them was statistically significant ( $p < 0.05$ ) but (Altuntug & Ege, 2012) found no significant correlation between residence place and PQLS average scores.

In our study; average scores of MAS and PQLS of mothers with nuclear families were higher than those with extended families and the difference between them was statistically significant ( $p < 0.05$ ). Similarly; Kavlak and Sen too reported that mothers with nuclear families showed higher maternal attachment scores (Kavlak & Sirin, 2009; Sen, 2007). Mothers living in nuclear

families spend more time and therefore interact more with their babies; which may have affected the result. Economical status is one of the factors that affect quality of life. In this study; mothers whose spouses worked and who had an economical status with an income equal to expenses had higher average scores in MAS and PQLS and the difference between them was statistically significant (Table 3). The study of (Altıparmak & Eser, 2007) suggested that a statistically significant difference was found between perceived economical status by mothers and quality of life score and therefore, those with a unsatisfactory income perception showed lower quality of life scores.

It is known that planned pregnancies influence mother's and baby's health and mother-baby relation positively (Sen, 2007). In our study; it was also noted that mothers' MAS and PQLS average scores were higher. Likewise, the study of (Akyuz 2017) found a statistically significant correlation between maternal attachment levels of mothers who gave birth and their intention status of pregnancy.

In this study; average MAS scores of mothers who gave vaginal birth were identified to be higher as compared to those mothers who gave caesarean birth and the difference between them was statistically significant ( $p < 0.05$ ). In the study of (Keskin, 2018) that investigated the factors that affected labour type and maternal attachment; MAS average score of mothers who gave normal birth was  $101.992 \pm 4.086$  while MAS average score of mothers who gave caesarean birth was  $101.065 \pm 3.457$ . There are studies with results similar to ours in the literature (Belkız İnci, 2017; Cankaya et al., 2017; Herguner et al., 2014; Zavardehi et al., 2018) The study of (Kızılkaya, 2013) discussed the effect of birth experience upon postpartum quality of life among primipara women who gave caesarean birth and those primipara women who gave normal spontaneous birth and found that

average PQLS total score was  $22.75 \pm 3.73$  among those who gave normal birth whereas it was  $20.64 \pm 3.40$  among those who gave caesarean birth. However; (Balcik Colak et al., 2019) suggested that birth type did not affect mothers' postpartum quality of life.

It is known that with elevated oxytocin hormone secretion after birth, if an early skin to skin contact is achieved; emotional satisfaction between mother and baby and thus mother and baby attachment is positively affected, babies feel safer, breast milk is more easily produced at an early postpartum period and prolactin hormone level is increased which in turn promotes breastfeeding. In the study of (Kohlhoff et al., 2017); it was identified that oxytocin hormone influences maternal attachment and quality of early parenthood experience; which is argued to be a biological mechanism. In the study of (Durualp et al., 2017); it was noted that maternal attachment scores of mothers who hugged their babies in the first 30 minutes after birth were higher. Concurring with the literature; our study, too, suggested that mothers who had an early skin to skin contact with their babies and hugged them immediately after birth demonstrated higher MAS and PQLS average scores. Similar to our findings; (Ozturk & Saruhan, 2013) argued that mothers who saw their babies on the first postpartum day showed higher maternal attachment scores than those mothers who saw their babies on the following days and attachment was stronger in mothers who hugged their babies on the first day after birth.

In Table 4 were presented mothers' MAS and PQLS scores according to whether or not they underwent any problems with self-care and baby care after birth. It was understood that average MAS and PQLS scores of the participant mothers who did not encounter any problems with self care -like bathing, sleep and rest, constipation, breast care- and with baby care -like sucking, umbilical care, gas pains and following vaccination schedule- were higher. In the relevant study of (Rüveyde Can et al., 2010); it was reported that 22% of the newborns had problems with sucking, 65% of them with sleep and 77% of them with gas pains. The study of (Doganer & Bekar, 2006) indicated that mothers suffered from problems with dressing the newborns, vaccinating them, following vaccination schedule and gas pains. In Table 4, it was found that mothers whose babies did not have sleep problems demonstrated higher MAS average

scores and difference between them was statistically significant ( $p < 0,05$ ). It may be concluded that a satisfactory sleep quality in babies may influence mother-baby attachment process positively. However; the study of (Bagci & Altuntug, 2016) reviewed the correlation between mothers' postpartum problems and quality of life and suggested that no difference was found in average PQLS scores between mothers who had sleep and rest problems and those who did not.

According to Table 5, there was a positive and moderate correlation (48%) between MAS and PQLS and all subdimensions. Also, a positive and strong correlation existed in PQLS and all its subdimensions.

As average scores that mothers received from Postpartum Quality of Life Scale climbed up, so did their average scores of Maternal Attachment Scale. (Akcil et al., 2019), too, reported that there was a significant and negative correlation in anxiety and attachment levels among mothers who had problems with baby care and did not receive sufficient support during postpartum period; in other words, as anxiety levels increased maternal attachment levels decreased. In literature, there are studies putting emphasis on the fact that maternal attachment impacts babies' growth positively (Branjerdporn et al., 2017).

**Conclusion and Recommendations:** As the result of the current study; it was seen that majority of the mothers had problems with self care and baby care during postpartum. Nearly all the mothers who had problems with self care and baby care yielded lower average scores in PQLS and MAS than those mothers who did not; which means that these mothers were negatively affected by this fact. Since almost all the problems mentioned by mothers in terms of self care and baby care can be prevented or solved with an appropriate nursing care; all the pregnant women should be provided with optimal nursing care of pregnancy, birth and postpartum processes. Nurses working in this field should receive on-job-training about mother and baby attachment and the affecting factors during postpartum period, a suitable atmosphere should be created to initiate an early skin to skin contact and mothers should be supported with education on postpartum period. In addition, it is also recommended that the study be carried out in different regions and with larger sample group

and be supported with qualitative studies.

**Acknowledgements:** The authors would like to thank all participants who took part in the study.

**Limitations of the Study:** Results obtained from this study include only the sample group in which the study was conducted, so they cannot be generalized.

## References

- Akcil, F., Ayhan, A. B., & Beyazıt, U. (2019). The examination of the relationship between anxiety and attachment levels of mothers who have baby. *ECLSSProceedingsBook2019d*, 5(1), 126–136. <https://doi.org/10.31578/jebs.v5i1.190>
- Akyuz Y. (2017). *The Relationship Between of Women Gave Birth Maternal Attachment and Self-efficacy in Breastfeeding*. [MSc. dissertation]. İstanbul: Okan University; <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSoruSonucYeni.jsp>
- Altıparmak, S., & Eser, E. (2007). The Quality of Life in 15-49 years old who one married women. *Journal of Social Policy Studies*, 9(3), 29–33. <https://doi.org/10.21560/spcd.94551>
- Altıntug, K., & Ege, E. (2012). Validity and reliability of Turkish version of maternal postpartum quality of life questionnaire. *Journal of Anatolia Nursing and Health Sciences*, 15(3), 214–222. <https://doi.org/10.17049/ahsbd.13360>
- Altıntug, K., & Ege, E. (2013). Effects of health education on mothers' readiness for postpartum discharge from hospital, on postpartum complaints, and quality of life. *Nursing Research and Development Journal*, 15(2), 45–56. <http://www.hemarge.org.tr/>
- Bagcı, S., & Altıntug, K. (2016). Problems experienced by mothers in postpartum period and their associations with quality of life. *Journal of Human Sciences*, 13(2), 3266. <https://doi.org/10.14687/jhs.v13i2.3884>
- Balcık Colak, M., Akın, B., & Ceber Turfan, E. (2019). The evaluation of the effect of delivery method on postpartum fatigue and quality of life in women who give birth for the first time. *E-Journal of New World Sciences Academy*. <https://doi.org/10.12739/nwsa.2019.14.2.4b0023>
- Belkiz İnci, L. (2017). The Analysis of the Delivery Method's Effects on Mother-Body Bonding. In [MSc. dissertation]. İstanbul: Haliç University; 2017. <https://ci.nii.ac.jp/naid/40021243259/>
- Branjerdporn, G., Meredith, P., Strong, J., & Garcia, J. (2017). Associations Between Maternal-Foetal Attachment and Infant Developmental Outcomes: A Systematic Review. *Maternal and Child Health Journal*. <https://doi.org/10.1007/s10995-016-2138-2>
- Buyukkayaci ND, K. N. (2011). *The effect of home care service given to postpartum early discharged women who had a cesarean section on the maternal health and power of self-care*. Journal of Health Sciences. <https://app.trdizin.gov.tr/publication/paper/detail/TVRReU9EQTRPQT09>
- Calisir, H., Karacam, Z., Akgul, F. A., & Kurnaz, D. A. (2009). Validity and reliability of the Turkish version of the postpartum parenting behavior scale. *Journal of Anatolia Nursing and Health Sciences*, 12(1), 1–8. <https://doi.org/10.17049/ahsbd.16028>
- Cankaya, S., Dereli Yilmaz, S., Can, R., & Değerli Kodaz, N. (2017). Effect of postpartum depression on maternal attachment. *Acibadem University Health Sciences Journal*, 4, 232-240. [http://acibadem.dergisi.org/uploads/pdf/pdf\\_AUD\\_413.pdf](http://acibadem.dergisi.org/uploads/pdf/pdf_AUD_413.pdf)
- Doganer, M., & Bekar, M. (2006). Determining the problems of the women who gave a vaginal birth concerning the care of the women herself and the newborn during the early postpartum period. *Health and Society*, 16(4), 60–70. [https://app.trdizin.gov.tr/makale/T0RRME16QXc=/Determining the problems of the women who gave a vaginal birth concerning the care of the women herself and the newborn during the early post-partum period](https://app.trdizin.gov.tr/makale/T0RRME16QXc=/Determining%20the%20problems%20of%20the%20women%20who%20gave%20a%20vaginal%20birth%20concerning%20the%20care%20of%20the%20women%20herself%20and%20the%20newborn%20during%20the%20early%20post-partum%20period)
- Durualp, E., Kaytez, N., & Girgin, B. (2017). An analysis of the relation between marital satisfaction and maternal bonding. *Anatolian Journal of Psychiatry*. <https://doi.org/10.5455/apd.231562>
- Herguner, S., Cicek, E., Annagur, A., Herguner, A., & Ors, R. (2014). Association of delivery type with postpartum depression, perceived social support and maternal attachment. *Dusunen Adam The Journal of Psychiatry and Neurological Sciences* 2014, 27, 15–20. <https://doi.org/10.5350/DAJPN2014270102>
- Hill, P. D., Aldag, J. C., Hekel, B., Riner, G., & Bloomfield, P. (2006). Maternal postpartum quality of life questionnaire. *Journal of Nursing Measurement*. <https://doi.org/10.1891/jnm-v14i3a005>
- İsler, A. (2007). The Role of Neonatal Nurses in

- Initiating the Mother-Infant Relationship in Premature Infants. *Perinatal Journal*, 15(1), 1–6.
- Kavlak, O., & Sirin, A. (2007). Attachment of mother and father and the role of the nurse. *Journal of Ege University School of Nursing*, 23(2), 183–194. <http://dergipark.gov.tr/download/issue-file/10101>
- Kavlak, O., & Sirin, A. (2009). The Turkish version of maternal attachment inventory. *Journal of Human Sciences*.
- Keskin, F. (2018). Investigation of Mode of Delivery and Factors Affecting Maternal Attachment. In [MSc. dissertation]. Malatya: İnönü University.
- Kızılkaya, S. (2013). The Effect of the Cesarean or Normal Spontaneous Delivery Experience on Postpartum Quality of Life in Primiparous. In [MSc. dissertation]. İstanbul: Marmara University (Issue İstanbul).
- Kohlhoff, J., Eapen, V., Dadds, M., Khan, F., Silove, D., & Barnett, B. (2017). Oxytocin in the postnatal period: Associations with attachment and maternal caregiving. *Comprehensive Psychiatry*. <https://doi.org/10.1016/j.comppsy.2017.03.010>
- Muller, M. E. (1994). A questionnaire to measure mother-to-infant attachment. *Journal of Nursing Measurement*. <https://doi.org/10.1891/1061-3749.2.2.129>
- Ozturk, R., & Saruhan, A. (2013). Investigation of correlation between depression and maternal attachment of mothers with 1- to 4-month-old premature babies treated at the hospital. *Nursing Research and Development Journal*, 32–47.
- Rezaei, N., Azadi, A., Zargousi, R., Sadoughi, Z., Tavalae, Z., & Rezayati, M. (2016). Maternal Health-Related Quality of Life and Its Predicting Factors in the Postpartum Period in Iran. *Scientifica*. <https://doi.org/10.1155/2016/8542147>
- Ruveyde Can, Ege, E., Akin, B., & Kocoglu, D. (2010). The level of fatigue in the mother in the first timestir postpartum period and associated factors. *Maltepe University Journal of Nursing Science and Art*, 3(2), 62–70.
- Sabuncuoglu, O., & Berkem, M. (2006). The relationship between attachment style and depressive symptoms in postpartum women: Findings from Turkey. *Turk Psikiyatri Dergisi*.
- Sen, S. (2007). *Investigation of Attachment of Grandmother –Mother – Baby*. [[MSc. dissertation]. İzmir: Ege University]. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSoruSonucYeni.jsp>
- Sis Celik, A., Türkoğlu, N., & Pasinlioğlu, T. (2014). Examination of the postpartum life quality of mothers. *Journal of Anatolia Nursing and Health Sciences*.
- Taskin, L. (2014). Maternity and Women’s Health Nursing. In *Ankara: Sistem Ofset Typography*.
- Walker, L. O., & Wilging, S. (2000). Rediscovering the “M” in “MCH”: Maternal health promotion after childbirth. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN / NAACOG*. <https://doi.org/10.1111/j.1552-6909.2000.tb02044.x>
- Yidiz, H. (2011). Postpartum problems and care needs of mothers living in rural area. *Turkish Journal of Family Practic*. <https://doi.org/10.2399/tahd.11.159>
- Yilmazturk, Y. (2010). Examining The Quality of Life of Women in The Postpartum Period. In [MSc dissertation]. Eskişehir: Osmangazi University (Issue Osmangazi Üniversitesi,Eskişehir).
- Zavardehi, Z. P., Faramarzi, M., & Mirzaeian, B. (2018). Quality of mother–infant attachment after physiological birth. *International Journal of Pediatrics*, 6, 7929–7936.