Determination of Birth Satisfaction, Mother-Infant Bonding Level of Women in the Early Postpartum Period and Affecting Factors

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Abstract

Aim: This study aimed to determine the birth satisfaction, and mother-infant bonding level of women in the early postpartum period and its affecting factors.

Method: The research is descriptive, and the sample of the study consists of 556 women in the early postpartum period who gave live birth in a hospital in Burdur province. The data of the study were collected by using the Socio-demographic Characteristics Form, Birth Satisfaction Scale (BSS), and Mother-to-Infant Bonding Scale (MIBS). The data were collected by the researchers between 15 March-15 August 2019 through face-to-face interviews at suitable times for the women.

Results: Of women in the early postpartum period, 45.9% were within the age range of 26–34 years. It was determined that 97.1% were satisfied with the mode of delivery, and 29.5% defined the birth as a fearful experience. The mean DME score of the women was 3.41 ± 1.88, and the mean ABBÖ score was 98.07 ± 6.39. There was no correlation between MIBS and BSS scores of women. The birth satisfaction of women who were married had a vaginal birth and evaluated the birth experience as happy was found to be significantly higher. It was determined that the mother-infant bonding levels of women who became pregnant intentionally and gave vaginal birth were significantly higher.

Conclusion: In the present study, birth satisfaction levels and mother-infant bonding levels were moderate and high, respectively, in women in the early postpartum period.

Keywords: Mother-infant bonding, birth satisfaction, early postpartum period.

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Erken Postpartum Dönemdeki Kadınların Doğum Memnuniyeti, Anne Bebek Bağlanma Düzeyleri ve Etkileyen Faktörlerin Belirlenmesi

Öz

Amaç: Bu çalışma erken postpartum dönemdeki kadınların doğum memnuniyeti, anne bebek bağlanma düzeyi ve etkileyen faktörlerin belirlenmesi amacıyla yapılmıştır.

Yöntem: Araştırma tanımlayıcı nitelikte olup araştırmanın örneklemini Burdur ilinde bir hastanede canlı doğum yapan erken postpartum dönemdeki 556 kadın oluşturmaktadır. Araştırmanın verileri Sosyo-demografik Özellikler Formu, Doğum Memnuniyeti Ölçeği (DMÖ) ve Anne-Bebek Bağlanma Ölçeği (ABBÖ) ile toplanmıştır. Veriler araştırmacılar tarafından 15 Mart 2019- 15 Ağustos 2019 tarihleri arasında hastanenin normal tedavi ve bakım işleyişini bozmadan yüz yüze görüşme yöntemi ile toplanmıştır.

Bulgular: Araştırmaya katılan erken postpartum dönemdeki kadınların %45.9'unun 26-34 yaş arasında olduğu belirlenmiştir. Kadınların %97.1'inin doğum şeklinden memnun kaldığı ve %29.5'inin ise doğumu korku verici olarak tanımladıkları belirlenmiştir. Kadınların DMÖ puan ortalaması 3.41 ± 1.88, ABBÖ puan ortalaması 98.07 ± 6.39 olarak belirlenmiştir. DMÖ ile ABBÖ arasında istatistiksel olarak ilişki bulunmamıştır. Evli olan, vajinal doğum yapan, doğum deneyimini mutlu olarak değerlendiren kadınların doğum memnuniyetleri anlamlı oranda yüksek bulunmuştur. İsteyerek gebe kalan ve vajinal doğum yapan kadınların anne-bebek bağlanma düzeylerinin anlamlı oranda yüksek olduğu saptanmıştır.

Sonuç: Çalışmaya katılan erken postpartum dönemdeki kadınların doğum memnuniyet düzeyleri orta düzeyde ve anne bebek bağlanmaları yüksek düzeyde bulunmuştur.

Anahtar Kelimeler: Anne-bebek bağlanması, doğum memnuniyeti, erken postpartum dönem.

Introduction

The postpartum period is the process of return of the physical and psychological changes that occurred during pregnancy and childbirth to the pre-pregnancy state[1]. It is divided into three stages, and the first one is the initial or acute phase covering the first (early period) six to 12 hours after childbirth. This period is important for serious problems such as amniotic fluid embolism, bleeding, involution of the uterus and eclampsia. In the second stage lasting two to six weeks, changes are observed in the urogenital system, hemodynamics, metabolism, and emotional state. The last stage continues for up to six months after birth[2].

The birth experience is affected by birth satisfaction during this experience variables can be listed as personal expectations, the support provided by the health care team, and being involved in the decision-making process[3]. The factors affecting birth satisfaction have been reported to be listed as follows in the literature: pain during delivery, participation in prenatal education classes on preparation for delivery, the fulfillment of the care and needs during the delivery process, mode

of delivery, being able to control the delivery, interventions towards the delivery, unexpected interventions and complications related to the mother and baby during the delivery, being involved in decision-making processes and getting support from someone trusted during delivery[4]. Birth satisfaction is also associated with interpersonal relationships, information about the maintenance process, and the technical dimension of care[5]. Birth satisfaction is an important indicator in evaluating the birth experience[6].

Bonding is a strong emotion that develops between the infant and the primary caregiver and instils a sense of security in the infant. The mother's emotional bond with the baby is an effective relationship that starts with pregnancy, increases with fetal movements, peaks at birth, and occurs in the first year of postpartum life.Many factors influence the level of parental bonding, including getting pregnant at the desired time, wanting to get pregnant, fear of pregnancy and childbirth, support from relatives, emotional maturity, stress tolerance, and desire to breastfeed[7].

Postpartum nurses should be determined by the needs and know the parents well, determine the factors affecting mother-infant bonding, and provide education and counselling[8]. Establishing physical contact with the baby by touching, playing games, and meeting the needs of the baby consistently have been found to increase the level of bonding. A mother's bonding behaviors include talking to her baby by calling her name, embracing, and caressing her, and breastfeeding[9].

The literature review has shown that birth satisfaction affects mother-infant bonding in the postpartum period, but no study has been found on this subject[3-6]. This study aimed to determine the birth satisfaction, mother-infant bonding levels of women in the early postpartum period, and associated factors.

Material and Method

Data Collection

This quantitative and descriptive study was conducted on women in the early postpartum period. The data were collected by the researchers from women who gave live births and were hospitalized in the Maternity ward of a hospital in the Mediterranean region between 15 March-15 August 2019, through the face-to-face interview method at appropriate times without disturbing the treatment and care process.

Ethics

Ethical approval was obtained from the ethical committee of Istanbul Medipol University (Number: 10840098-604.01.01-E.1585, Date: 15.01.2019). The women who volunteered to participate in the study were informed about the study, and the consent forms prepared were read and signed by the women. Approval was also received from the hospital where the study was

conducted. The study was performed in accordance with the "Ethical Principles for Medical Research involving Human Subjects" of the Helsinki Declaration.

Participants

The universe of the study consisted of women hospitalized at a hospital in the Mediterranean region in the postpartum period. The sample of the study was calculated by using the sample size calculation formula for the unknown population ($n= t^2pq/d^2$ [5% margin of error, 95% confidence interval]), and the required sample number was determined to be 556 women in the early postpartum period.

Study inclusion criteria were giving live birth, being on the maximum seventh day of the postpartum period, absence of any postpartum complications in mother or infant, being literate and Turkish-speaking, having no language-related problems, and being a volunteer to participate in the research.

Data Collection Tools

Sociodemographic Characteristics Form, Birth Satisfaction Scale (BSS), and Mother-to-Infant Bonding Scale (MIBS) were applied.

The sociodemographic characteristics form was created in line with the relevant literature[7-9]. It consists of 19 questions that examine the sociodemographic characteristics and obstetric history of women.

The Birth Satisfaction Scale (BSS) was developed by Hollins Martin and Fleming[10]. There are three main themes in this scale: service provision (home assessment, birth environment, support, relationships with health care professionals), personal attributes (ability to cope during labour, feeling in control, childbirth preparation, and relationship with baby), and stress experienced during labour. The BSS is a five-point Likert-type scale consisting of 30 items. The score that can be obtained from the scale varies from 30–150 points. Higher scores represent high birth satisfaction. The internal consistency reliability of the scale was reported to be 0.62. Turkish validity and reliability study of the scale was conducted by Çetin et al. [11]. In this study, Cronbach's Alpha score was 0.73.

The Mother-to-Infant Bonding Scale (MIBS) was developed by Taylor et al.[12]. The MIBS is a measurement tool that can be applied easily and quickly by the puerperal from the first day of the postpartum period and that allows the mother to express her feelings for her baby. This scale shows the relationship between the bond between mother and infant and the mother's mood during the early postpartum period. The MIBS is a four-point Likert-type scale consisting of eight items. Answers are scored between 0–3, the lowest score that can be obtained from the scale is 0

and the highest score is 24. High scores indicate a problem with mother-infant bonding. The internal consistency reliability of the scale was reported to be 0.71 and 0.66[13], respectively. A Turkish validity and reliability study of the scale was conducted by Karakulak and Alparslan[13]. In this study, Cronbach's Alpha score was 0.76.

Statistical Analysis

Statistical analysis was performed using SPSS version 20.0 software. The data was expressed in percent and frequency. To determine whether the data were normally distributed, the Kolmogorov-Smirnov test was used. One-Way ANOVA, Bonferroni Post Hoc t-test, Independent Samples t-test and Pearson correlation were used. A p-value of <0.05 was considered statistically significant.

Results

When the sociodemographic characteristics of the puerperal participating in the research were examined, 45.9% of women were found to be within the age range of 26 to 34. Of the women, 97.3% stated that they were married, 41.9% had been married for zero to five years. Of the participants, 40.8% were primary school graduates, 52.0% were unemployed, and 50.7% had a moderate-income level. Of the women, 65.1% stated that they had one to three children, and 96% got pregnant intentionally (Table 1).

Concerning birth-related features, the mode of delivery was found to be decided by their physician in 55.6% of the participants, and delivery was seen to be performed by a doctor in 64.4%, and 42.6% had a vaginal delivery. Of the participants, 97.1% stated that they were satisfied with the mode of delivery, and 29.5% defined the birth as a fearful experience. It was observed that 41% of women had a caesarean section in their previous delivery, 96.4% had never experienced abortion before and 50.2% received postnatal education (Table 1).

Table 1. Sociodemographic and obstetric characteristics of women in the early postpartum period

Sociodemographic and Obstetric Characteristics (N=556)		**N**	**%**
Age	17-25	149	26.8
	26-34	255	45.9
	35 and upper	152	27.3
Marital Status	Married	541	97.3
	Single	15	2.7
Marriage Time (years)*	0-5	233	41.9
	6-11	202	36.3
	12 and upper	121	21.8
Educational Status	Primary Education	227	40.8
	High school	122	21.9
	University and postgraduate	207	37.2

Working Status	Housewife	289	52.0
	Working	267	48.0
Family Income Status	Lower than expenses	153	27.5
	Equal to expenses	282	50.7
	Higher than expenses	121	21.8
Number of Children	0	143	25.7
	1-3	362	65.1
	4 and upper	51	9.2
Is it an intentional pregnancy?	Yes	534	96.0
	No	22	4.0
Who decided on the type of birth?	Doctor	309	55.6
	Myself	247	44.4
Who attended the birth?	Doctor	358	64.4
	Nurse-Midwives	198	35.6
Type of birth	Vaginal birth	160	28.8
	Planned cesarean	237	42.6
	Emergency cesarean	159	28.6
How do you evaluate the birth experience?	Painful	104	18.7
	Fearful	164	29.5
	Stressful	139	25.0
	Pleasing	149	26.8
What was your birth pattern in your last previous pregnancy?	Vaginal birth	170	30.6
	Cesarean	228	41.0
	Abortion	15	2.7
Abortion experience before	Yes	20	3.6
	No	286	96.4
Baby's sex	Girl	272	48.9
	Boy	284	51.1
What would you like to be your baby's sex?	Girl	74	13.3
	Boy	224	40.3
	It does not matter	258	46.4

* married women only (N=541)

The mean BSS score of the women participating in the study was 98.07 ± 6.39 (Min: 79, Max: 144). When the birth satisfaction level of the women participating in the study was examined according to their descriptive characteristics, the mean BSS score of married women was found to be significantly higher than that of single women. The mean BSS scores of the participants with a duration of marriage of 12 years or more were found to be significantly lower than those of women with a duration of marriage of zero to five years. The mean scores of birth satisfaction levels of women who had vaginal delivery were found to be significantly higher than that of women who had planned cesarean section and emergency cesarean section. Furthermore, the mean BSS scores of women who defined birth as a pleasing experience were significantly higher than the mean scores of women who defined birth as a fearful and stressful experience (Table 2).

The mean MIBS score of the women participating in the study was 3.41 ± 1.88 (Min: 0, Max: 15). When the level of mother-infant bonding of the women participating in the study was examined according to their descriptive characteristics, the mean MIBS score of women who got pregnant intentionally was significantly lower than those of women who got pregnant unintentionally.

Furthermore, the mean MIBS scores of women who had vaginal delivery were significantly lower than the mean scores of women who had planned or emergency caesarean sections (Table 2).

Table 2. Comparison of Mother-to-Infant Bonding Scale and Birth Satisfaction Scale scores of women in the early postpartum period according to sociodemographic and obstetric characteristics

Sociodemographic and Obstetric Characteristics		**N**	**MIBS** **Mean±SD**	**BSS** **Mean±SD**
Age *	17-25	149	3.35± 1.89	98.16±5.47
	26-34	255	3.53± 1.91	97.67± 5.93
	35 and upper	152	3.28±1.80	98.03± 6.14
Test statistics			0.986	1.449
p			0.374	0.236
Marital status**	Married	541	3.44±1.87	98.16±6.41
	Single	15	2.60± 1.95	94.80± 5.15
Test statistics			0.096	0.282
p			0.087	**0.045**
Marriage Period (N=541)**	0-5 years **a**	233	3.49± 1.79	98.90± 6.59
	6-11 years **b**	202	3.43± 2.05	97.72±6.24
	12 and upper **c**	121	3.23± 1.73	97.04±6.09
Test statistics			0.762	3.908
p			0.467	**0.021**
				c<a
Education Status *	Primary Education	227	3.54± 1.93	97.72± 5.77
	High school	122	3.36± 2.02	98.43± 6.71
	University and postgraduate	207	3.31± 1.73	98.23± 6.85
Test statistics			0.850	0.594
p			0.428	0.553
Working status**	Housewife	289	3.35±1.88	97.64±6.36
	Working	267	3.48±1.87	98.53±6.41
Test statistics			1.092	2.161
p			0.434	0.098
Family Income Status*	Lower than expenses	153	3.43± 1.63	98.14±6.33
	Equal to expenses	282	3.34±1.88	98.02±6.57
	Higher than expenses	121	3.58±2.15	98.09± 6.11
Test statistics			0.730	0.020
p			0.482	0.981
Number of Children*	0	143	3.38± 1.73	98.81± 7.28
	1-3	362	3.46± 1.97	97.76± 6.08
	4 and upper	51	3.17±1.60	98.17±5.88
Test statistics			0.564	1.379
p			0.569	0.253
Is it an intentional pregnancy?	Yes	534	3.03± 1.82	98.03± 6.40
	No	22	5.09± 1.47	99.00±6.32
Test statistics			0.467	0.011
p			**0.001**	0.488
Who decided on the type of birth? **	Doctor	309	3.45±1.80	98.11± 5.88
	Myself	247	3.37± 1.97	98.02± 7.00
Test statistics			0.081	3.469
p			0.634	0.86
Who attended the birth?**	Doctor	358	3.39±1.93	98.45± 6.68
	Nurse-Midwives	198	3.45±1.78	97.37± 5.79

Test statistics			0.375	1.015
p			0.706	0.057
Type of birth *	Vaginal birth **a**	160	2.00± 1.03	101.32±7.04
	Planned cesarean **b**	237	3.43± 1.98	98.27± 7.03
	Emergency cesarean **c**	159	3.55±1.79	98.56±5.94
Test statistics			43.158	10.853
p			**0.001**	**0.001**
			a<b,c	**a>b,c**
How do you evaluate the birth experience? *	Painful **a**	104	3.33± 1.79	100.14±6.93
	Fearful **b**	174	2.99±1.89	98.96±7.00
	Stressful **c**	139	2.89± 1.73	99.87±6.72
	Pleasing **d**	149	3.04± 1.99	102.07±10.18
Test statistics			0.874	4.183
p			0.454	**0.006**
				d>b,c
What was your birth pattern in your last previous pregnancy?	Vaginal birth	170	3.24± 1.87	97.33±6.14
	Cesarean	228	3.59±1.97	98.16±5.90
	Abortion	15	3.00± 1.77	98.00±7.25
Test statistics			1.990	0.916
p			0.138	0.401
Abortion experience before**	Yes	20	2.80±1.73	98.25±7.25
	No	536	3.44±1.88	98.06±6.37
Test statistics			0.327	1.084
p			0.134	0.899
Baby's sex**	Girl	272	3.29±1.75	98.11±6.70
	Boy	284	3.53± 1.98	98.03±6.10
Test statistics			1.407	0.824
p			0.137	0.890
What would you like to be your baby's sex? *	Girl	74	3.52± 1.53	97.71±4.76
	Boy	224	3.54± 1.93	98.16±6.43
	It does not matter	258	3.28±1.92	98.09±6.78
Test statistics			1.263	0.139
p			0.284	0.870

Notes: *One-Way ANOVA; **Independent t-test; MIBS: Mother-to-Infant Bonding Scale;
BSS: Birth Satisfaction Scale

Table 3. Correlation within Mother-to-Infant Bonding Scale and Birth Satisfaction Scale scores of women in the early postpartum period

Variable	**N**	**r***	**p**
MIBS	**556**	**0.040**	**0.341**
BSS			

Note: *=Pearson correlation, Mother-to-Infant Bonding Scale; BSS: Birth Satisfaction Scale

It was not found correlation within MIBS and BSS scores of women in the early postpartum period (Table 3).

Discussion

This study determined the birth satisfaction and mother-infant bonding levels of women in the early postpartum period. In the current study, a statistically significant difference was found between the mode of delivery and the mean BSS score of the women. Particularly, the mean BSS scores of women giving vaginal delivery are higher. Similarly, in a study, the birth satisfaction level of women giving vaginal delivery was found to be higher[14]. In another study, childbirth preparation training was reported to increase the rate of women's preference for normal vaginal birth and women's satisfaction with birth[15]. Meeting the expectations of the pregnant woman and their relatives, informing the pregnant woman and their relatives, and effective communication are the leading factors affecting women's satisfaction with birth. Today, pregnant women want to be involved in their health care and decision-making processes and to receive information about their situation[14]. In this context, women's health nurses should plan childbirth preparation training courses, particularly during pregnancy, and should ensure the participation of pregnant women in these training courses during the prenatal period. Women being supported by the nurses during the delivery were reported to have higher birth satisfaction[16]. An increase in the time of care provided by the nurses for women during birth and in the postpartum period has been revealed to ensure the early identification of the needs of pregnant women and to increase the satisfaction level of pregnant women. Furthermore, meeting the needs of mothers and their babies exactly during birth and in the postpartum period has also been shown to increase birth satisfaction levels[17].

Among the women, the birth satisfaction levels of those defining birth as a pleasing experience have been found to be higher, whereas those defining birth as a fearful experience havelower satisfaction levels. The literature review has shown that many studies are revealing that fear affects the birth experience negatively and reduces birth satisfaction[15,18].

The birth satisfaction level and mother-infant bonding level of women in the early postpartum period have been investigated, and the mean MIBS scores of the participants have been found to be 3.41 ± 1.88. Considering this finding, the mother-infant bonding level has been found to be high. Similarly, in the study by Mutlu and colleagues the level of maternal bonding has been reported to be high[19].This study has shown that the desired pregnancy positively affects mother-infant bonding. In a study by Şolt Kırca and Savaşer, the maternal bonding scores of the primiparous women who got pregnant intentionally were significantly higher than that of the multiparous women[20]. Bilgin and Alpar reported that there was no statistically significant difference between the desire to become pregnant and the mean maternal bonding scores[21]. There

are different results in the literature showing the relationship between intentional pregnancy and maternal bonding. In this context, it seems that more studies are needed. It is thought that being pregnant intentionally is not a determining criterion for maternal bonding.

In this study, no statistically significant difference was observed between the MIBS mean and maternal age, employment status, and the sex of the baby. Similarly, Bilgin and Alpar reported no significant difference between the mean maternal bonding scores and the mother's age, employment status, and the sex of the baby[21]. Based on these findings, the study's results are consistent with the literature. There was no statistically significant difference between the maternal educational level and the mean MIBS score. According to MIBS, it was determined that maternal bonding increased as education increased. Similarly, Kayacı reported no difference between maternal educational level and mother-to-infant bonding[8]. However, in a study conducted with 315 women in Portugal, the mother-infant bonding levels of women with an educational level of nine years and above were found to be significantly higher than those of women with an educational level of below nine years[22]. In this context, it can be said that the increase in maternal educational level has effects on mother-infant bonding.

In this study, the mean MIBS scores of women giving vaginal delivery were found to be significantly lower than those of women who had planned or emergency caesarean sections. This means that the maternal bonding of those who delivered vaginally was better than those who had planned an emergency cesarean section. In a study, no significant difference was reported between the mode of delivery and mother-infant bonding[19]. Hergüner and colleagues reported that the mother-infant bonding scores of mothers who had caesarean sections were lower than those giving vaginal delivery[23]. Women who had a vaginal delivery and saw their babies immediately after birth were reported to have a significantly more positive perception of their babies by Çakır and Alpaslan[24]. On the other hand, some studies involving primiparous and multiparous women reported no statistically significant difference between the mode of delivery and maternal bonding[20-22,25]. With this study, results like the literature have been obtained.

The results could not be generalized since the sample was limited to the unit where the study was conducted. This is one of the limitations of our study. Researches on this subject should be carried out in different provinces across the country.

Conclusion

In conclusion, the present study has shown that birth satisfaction levels and mother-infant bonding levels are moderate and high, respectively, in women in the early postpartum period. We believe that supporting women from pregnancy and preparing them for childbirth by providing comprehensive nursing care together with childbirth preparation training and appropriate communication techniques will improve both birth satisfaction and bonding with the baby. In

Turkey, the fear of childbirth is high among women. In this study, maternal bonding was found to be higher in those who gave vaginal birth compared to cesarean. In this context, if nurses prepare women for childbirth by providing supportive care for them to cope with the fear of childbirth, positive outcomes can be achieved in terms of the health of mothers and babies.

REFERENCES

1. Aslan E. Normal lohusalık süreci ve bakım. In: Beji, NK, ed. *Hemşire ve Ebelere Yönelik Kadın Sağlığı ve Hastalıkları Kitabı*. 2. genişletilmiş baskı. İstanbul: Nobel Tıp Kitabevleri; 2016:145-154.
2. Çiçek N, Mungan MT, Özden S. *Lohusalık fizyolojisi ve bakımı. Klinikte obstetrik ve jinekoloji*. Ankara: Nobel Kitabevi; 2007:253-267.
3. Hodnett E. Pain and women's satisfaction with the experience of childbirth: a systematic review. *Am J Obstet Gynecol*. 2002;186:160–172. doi:10.1016/S0002-9378(02)70189-0.
4. Bilgin NÇ, Bedriye AK, Potur DC, Ayhan F. Satisfaction with birth and affecting factors in women who gave birth. *Sağlık Bilimleri ve Meslekleri Dergisi*. 2018;5(3):342-352. doi:10.17681/hsp.422360.
5. Ndiaye P, Diadhiou M, Kondo M. Assessment of maternal satisfaction with facility-based childbirth care in the rural region of Tambacouda, Senegal. *Afr J Reprodhealth*. 2014;18(4):95-104.
6. Korja R, Latva R, Lehtonen L. The effects of pre-term birth on mother-infant interaction and attachment during the infant's first two years. *Acta Obstet Gynecol Scand*. 2012;91(2):164-173. doi:10.1111/j.1600-0412.2011.01304.x.
7. Yılmaz SD, Beji NK. Levels of coping with stres, depression and prenatal attachment and affecting factors of pregnant women. *Genel Tıp Dergisi*. 2010;20(3):99-108.
8. Kayacı M. Investigation of Factors Affecting Maternal Attachment [master's thesis]. Manisa, Turkey: Celal Bayar University, Institute of Health Sciences, Department of Nursing; 2008.
9. Şen S. Examination of Grandmother-mother-baby Attachment [master's thesis]. İzmir, Turkey: Ege University, Institute of Health Sciences, Department of Nursing; 2007.
10. Hollins Martin C, Fleming V. The birth satisfaction scale. *International Journal of Healthcare Quality Assurance*. 2011;24(2):124-135. doi:10.1108/09526861111105086.

11. Çetin FC, Sezer A, Merih YD. The birth satisfaction scale: Turkish adaptation, validation and reliability study. *Northern Clinics of Istanbul*. 2015;2(2):142–150. doi:10.14744/nci.2015.40412.

12. Taylor A, Atkins R, Kumar R, Adams D, Glover, VA. New mother-to-infant bonding scale: links with early maternal mood. *Arch Women Mental Health*. 2005;8:45-51. doi:10.1007/s00737-005-0074-z.

13. Karakulak HA, Alparslan Ö. Adaptation of mother-infant attachment scale to Turkish society: Aydın example. *Journal of Contemporary Medicine*. 2016;6(3):188-199. doi:10.16899/ctd.45668.

14. Uysal B. Assessment of Women's Birth Experience and Postpartum Satisfaction [master's thesis]. Eskisehir, Turkey: Eskisehir Osmangazi University, Institute of Health Sciences, Department of Nursing; 2017.

15. İsbir GG, Serçekuş P, Çoker H. The effect of the childbirth education on birth experience and satisfaction from birth. *Türkiye Klinikleri Obstetric-Women's Health and Diseases Nursing-Special Topics*. 2015;1(1):10-15.

16. Kardong Edgren S. Using evidence-based practice to improve intrapartum care. *Journal of Obstetric Gynecologic and Neonatal Nursing*. 2001;30(4):371-375. doi:10.1111/j.1552-6909.2001.tb01555.x.

17. Yılmaz AF, Başer M. Effects of healthcare provided, by clinical nurses and student nurses during normal birth, on the mother's satisfaction. *ACU Sağlık Bil Dergisi*. 2017;(1):24-28

18. Çiçek Ö. Mete S. A common problem: fear of childbirth. *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi*. 2015;8(4):263-268.

19. Mutlu C, Yorbık Ö, Tanju İA, Çelikel F, Sezer R. Association of prenatal, natal, and postnatal factors with maternal attachment. *Anatolian Journal of Psychiatry*. 2015;16:442-50. doi:10.5455/apd.172669.

20. Şolt Kırca A, Savaşer S. The Effect of birth number on mother-baby attachment. *HSP*. 2017;4(3):236-243. doi:10.17681/hsp.288941

21. Bilgin Z, Ecevit Alpar Ş. Women's perception of maternal attachment and their views on motherhood. *HSP*. 2018;5(1):6-15. doi:10.17681/hsp.296664.

22. Figueiredo B, Costa R, Pacheco A, Pais A. Mother-to-infant emotional involvement at birth. *Matern Child Health Journal*. 2009;13:539-549. doi:10.1007/s10995-008-0312-x.

23. Herguner S, Cicek E, Annagur A, Herguner A, Ors R. Association of delivery type with postpartum depression, perceived social support and maternal attachment. *Düşünen Adam the Journal of Psychiatry and Neurological Sciences*. 2014;27:15–20. doi:10.5350/DAJPN2014270102.

24. Çakır D, Alparslan Ö. The investigation of the effects of the birth type variable on the mother-infant interaction and mother's perception of her the infant. *Journal of Contemporary Medicine*. 2018;8(2):139-147. doi:10.16899/gopctd.418653.
25. Çakmak B, Arslan S, Nacar MC. Opinions of women about cesarean delivery on maternal request. *Fırat Tıp Dergisi*. 2014;19(3):122-125.