

The effect of delivery mode on maternal and newborn comfort: An analytical study

 Rabiye Erenoglu¹,  Nevin Uslu²

¹Department of Gynecology and Obstetric Nursing, Faculty of Health Sciences, Hatay Mustafa Kemal University, Hatay, Turkey

²Department of Pediatric Nursing, Faculty of Health Sciences, Mehmet Akif Ersoy University, Burdur, Turkey

Copyright © 2020 by authors and Annals of Medical Research Publishing Inc.

Abstract

Aim: This study was conducted to evaluate the effect of delivery mode on maternal and newborn comfort.

Material and Methods: It is an analytical study. 60 mothers who had vaginal delivery and 60 mothers who had caesarean section and their newborn infants. It was conducted in a State Hospital located in a province in the southern Turkey. The data of the study were collected with Mother and Newborn Information Form, the Postpartum Comfort Questionnaire, the Newborn Comfort Behavior Scale, and the Breastfeeding Self-Efficacy Scale. Before starting the study, written and verbal permissions were obtained from the institution, the ethics committee and the mothers.

Results: In this study, it was determined that those who had a caesarean delivery experienced more problems related to sitting on the bed, standing up, personal hygiene, perineal hygiene, urinary incontinence, flatus, and pain at the operation site compared to those who had a vaginal delivery ($p < 0.05$). For newborn comfort scores, there was no difference between the two groups ($p > 0.05$). The breastfeeding self-efficacy scores did not differ between the two groups ($p > 0.05$).

Conclusions: Future studies should evaluate the effect of the method of delivery on maternal and newborn comfort. According to the literature, women who had vaginal delivery according to cesarean section; postpartum comfort, breastfeeding success and self-efficacy of breastfeeding were reported to be higher. In this study, it was determined that the delivery mode did not affect the maternal and newborn comfort and mother's breastfeeding self-efficacy.

Keywords: Delivery mode; maternal comfort; newborn comfort

INTRODUCTION

Labor is an important experience in every pregnant woman's life. The method of delivery is determined according to the woman's preference as well as according to various clinical assessments by health care professionals (1,2). Today, vaginal delivery is encouraged over caesarean delivery in many countries around the world due to its advantages. For example, vaginal delivery is considered a normal physiological process, the mother can return to her normal activities within a few hours, and the newborn can be breastfed right after birth (3-5). In the literature, it is reported that women who give birth via vaginal delivery feel less tired, can perform activities independently during the postpartum period, such as standing, walking, and going to the toilet, and they have higher breastfeeding success and breastfeeding self-efficacy compared to women who give birth via caesarean (CS) delivery (6-15). The quicker adaptation of the mothers following vaginal delivery and their lower incidence of postpartum problems increases their birth satisfaction and their comfort (16-20).

In recent years, CS delivery has generally been preferred in many countries; therefore, the CS delivery rates have gradually increased and CS delivery rates are 10–15% higher than expected (5). According to the latest estimations, the global rate of CS delivery is 18.6%, the lowest rate is in Africa (7.3%) and the highest rate is in Latin America and the Caribbean (40.5%). Turkey has the second highest rate of CS delivery in Asia (47.5%) (21). CS delivery is a life-saving surgical procedure when certain complications occur during pregnancy and childbirth. However, when CS delivery is not required, there is no evidence of benefits for the mother or infant (5,22). On the contrary, in the literature it is reported that unnecessary CS delivery has short- and long-term risks, like any other surgical operation, and these risks may affect the mother and the newborn during the postpartum period (5,22). The problems and reduced comfort experienced by the mother may also negatively affect the newborn. Respiratory distress and a need for follow-up in intensive care units are more frequent in newborns delivered via CS delivery.

Received: 05.02.2020 **Accepted:** 06.04.2020 **Available online:** 12.06.2020

Corresponding Author: Rabiye Erenoglu, Department of Gynecology and Obstetric Nursing, Faculty of Health Sciences, Hatay Mustafa Kemal University, Hatay, Turkey **E-mail:** r_gungor80@hotmail.com

Due to the respiratory distress after CS delivery, respiratory support, a mechanical ventilator, or antibiotics may be needed, and complications such as pulmonary air leaks and pulmonary hypertension may develop (23,24). This may also negatively affect the comfort of the newborn. The WHO states that the effect of CS delivery rates on maternal and perinatal morbidity, paediatric outcome, and psychological and social well-being is unclear, and further studies are needed to understand the health effects of CS delivery. No study has evaluated the effect of the method of delivery on newborn comfort, and this has not been correlated with maternal comfort. This study was conducted to evaluate the effect of delivery mode on maternal and newborn comfort.

MATERIAL and METHODS

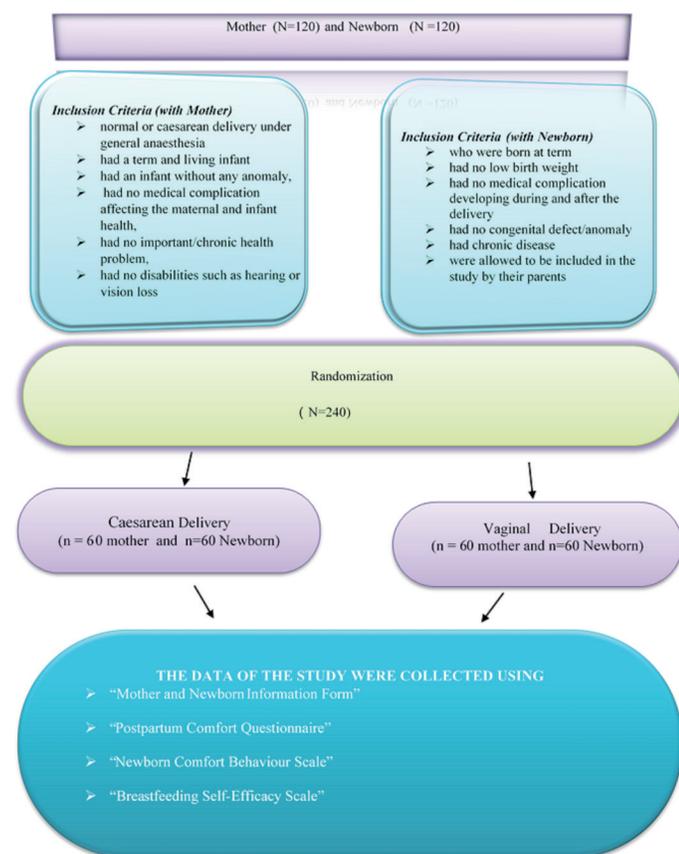


Figure 1. Systematic presentation of research plan

Design and Sample

This analytical study was carried out in the operating room and in the maternity services department of a state hospital in a province located in southern Turkey. The sample volume of the study was calculated according to the studies conducted by using the birth comfort scale (16). The study consisted of 120 mothers and their newborns, including 60 mothers who had normal vaginal delivery and 60 mothers who had CS delivery, with $\alpha=0.05$ and a power of 90%. In this study, the mothers and infants were selected using a simple random sampling method

using patient file numbers. Those who met the inclusion criteria were included in the study. In the study, mothers who had normal or CS delivery under general anaesthesia, who had a term and living infant, who had an infant without any anomaly, who had no medical complications affecting maternal and infant health during and after CS delivery or normal spontaneous delivery and who had the infant with her, who had no important/chronic health problems (hypertension, cardiovascular disease, mental problems, etc.), who had no disabilities such as hearing or vision loss, and who agreed to participate in the study were included in the sample. On the other hand, newborns who were born at term had no low birth weight, had no medical complication developing during and after the delivery that may affect his/her health, had no congenital defect/anomaly, had chronic disease, and were allowed to be included in the study by their parents were included in the sample (Figure 1).

Before starting the study, written permission from the institution where the study would be conducted, ethics committee approval from the scientific research ethics committee of the university in the province where the study would be conducted (protocol code no 2017/92), and written and verbal consents from the mothers were obtained. The research conforms to the provisions of the Declaration of Helsinki (1995) (as revised in Brazil 2013). All participants gave informed consent for the research, and their anonymity was preserved.

Data Collection

The study data was collected between January 8, 2017 and January 31, 2018. Mothers and newborns were selected by the researchers as a cesarean and normal vaginal birth group. The days to collect the data are randomized by drawing lots; On Monday and Tuesday, cesarean group was determined as Wednesday and Thursday as normal vaginal birth group. The study data was collected using the Mother and Newborn Information Form, the Postpartum Comfort Questionnaire, the Newborn Comfort Behavior Scale, and the Breastfeeding Self-Efficacy Scale. It took about 45 minutes to collect data about the mother, and about 60 minutes to collect data about the newborn.

Mother and Newborn Information Form

This form was prepared by the researchers by reviewing the relevant literature, and it was composed of questions containing information about maternal age, educational status, delivery mode, working status, newborn weight, and nutritional status (6-20).

Postpartum Comfort Questionnaire

The scale which was developed by Katharina Kolcaba and whose validity and reliability study was conducted by Kuğuoğlu (25) in Turkey was developed by Karakaplan and Yildiz (17). The Postpartum Comfort Questionnaire is a 5-point Likert-type scale with 34 items. It is scored between "I strongly agree" (5 points) and "I strongly

disagree" (1 point) for each item. While the expression of "I completely agree" refers to the best comfort (5 points) in positive expressions, it refers to the lowest comfort (1 point) in the negative sentences. The lowest score of the scale is 34, and the highest score is 170. The scale has three subscales, including "physical," "psychospiritual," and "sociocultural." A high score signifies increased comfort.

Newborn Comfort Behavior Scale

Van Dijk et al. (26) revised the scale developed by Ambuel et al. (27) and evaluated its validity and reliability. Turkish validity and reliability study of the scale was evaluated by Kahraman et al. (28). The Newborn Comfort Behavior Scale (COMFORTneo) is a likert-type scale consisting of six parameters, including alertness, calmness/agitation, respiratory response, crying, body movements, facial tension, and muscle tone. While the "Respiratory Response" item is assessed in newborns receiving mechanical ventilator support, the "Crying" item is evaluated in those who do not receive mechanical ventilator support. The COMFORTneo is an evaluation tool that includes numerical assessment scales to allow nurses to assess the pain and distress of the baby and to determine the baby's comfort. Numerical assessment scales are for the evaluation according to the observation of the nurse providing care. Each item in the scale is scored from 1 to 5. It is evaluated over the total score. The lowest score of the COMFORTneo is 6 and the highest score is 30. A score between 9 and 13 points indicates that the infant is comfortable, and a score between 14 and 30 indicates that the infant is uncomfortable and has pain/distress and needs interventions that will provide comfort. The nurse or observer evaluates the pain and distress of the infants between 0 and 10 points on the basis of their observations in the numerical grading scales. A score between 4 and 6 indicates a moderate level of pain and distress and a score between 7 and 10 indicates severe pain and distress. In this study, a 2-minute video recording was obtained in order to evaluate the comfort of newborns in both groups. Video recordings were evaluated separately by three experts who are specialised in the field. For inter-observer reliability, the kappa value for each item in the COMFORTneo was found to be 0.936–1.0000 ($p < 0.001$) (Table 1).

Table 1. The independent inter-observer agreement results according to subscales of the newborn comfort scale

Subscales	Kappa value	p value
Agitation	0.936	<0.001
Alertness	1.000	<0.001
Crying	1.000	<0.001
Body movements	1.000	<0.001
Facial tension	1.000	<0.001
Muscle tone	1.000	<0.001

Data analysis

SPSS 24.0 was used for the analysis of all data. The data were expressed as frequency (n) and median [M (25% percentage -75% percentage)]. The normality of the data for numerical variables was evaluated by the Shapiro-Wilk test, histograms, and Q-Q graphs. The Chi-square test for categorical variables and the Mann-Whitney U test for comparing the differences between groups were used. The correlations between the numerical variables were evaluated by Spearman correlation analysis. A value of $p < 0.05$ was considered to be statistically significant. In addition, the intra-interclass correlation coefficient (ICC) was used in order to determine the inter-observer reliability in the COMFORTneo.

RESULTS

In this study, 120 mothers (60 mothers who experience normal vaginal delivery and 60 mothers who experienced CS delivery) and their newborn infants (120 newborns) were evaluated. The average age of the mothers was 25.67 ± 5.37 years; 77.5% had primary school graduation, 94.2% were housewives, and 50.8% were living in rural areas. 23.3% of the mothers had their first pregnancy, 86.7% got pregnant intentionally, 96.7% went to regular controls during their pregnancy, 36.7% received training with pregnancy, childbirth and baby care during the prenatal period, and 15.8% had problems during their pregnancy. 76.7% of all mothers thought normal delivery as delivery mode, 64.1% of the mothers who planned a normal delivery had vaginal delivery, and 96.4% of the mothers who planned CS delivery had CS delivery. Regarding how they learned the delivery mode, 98.3% of those who had vaginal delivery stated that they preferred by themselves and 1.7% stated that they learned in prenatal controls. On the other hand, 13.3% of those who had CS delivery learned when they went to control, 45.0% preferred by themselves, 13.3% learned when they were hospitalized for delivery, and 28.3% learned right before the caesarean operation.

It was determined in the study that there was no significant difference between the groups during the postpartum period according to delivery mode in terms of having problem, hypotension, nausea, vomiting, back pain, sore throat, headache, bleeding, breast/nipple, having difficulty in coughing and feeling sufficient in infant care ($p > 0.05$). However, it was determined that mothers who had CS delivery had more problems related to sitting on the bed, standing, personal hygiene, perineal hygiene, urinary incontinence, flatus, and pain at the operation site compared to those who had vaginal delivery, and the difference between them was statistically significant ($p < 0.05$) (Table 2). When the postpartum comfort levels of the mothers were examined in terms of delivery mode, it was determined that physical comfort, psychospiritual comfort, and total comfort scores of those who had vaginal delivery were higher than those who had CS delivery, but the difference between them was statistically insignificant ($p > 0.005$) (Table 3).

Table 2. Having problem during the postpartum period and the problems experienced according to delivery mode					
	Vaginal		Caesarean		p
	n	%	n	%	
Status of having problem					
Yes	45	75.0	50	83.3	0.261
No	15	25.0	10	16.7	
Status of having hypotension problem					
Yes	5	8.3	3	5.0	0.464
No	55	91.7	57	95.0	
Nausea problem					
Yes	4	6.7	8	13.3	0.224
No	56	93.3	52	86.7	
Vomiting problem					
Yes	2	3.3	4	6.7	0.402
No	58	96.7	56	93.3	
Having back pain					
Yes	29	48.3	31	48.3	0.715
No	31	51.7	29	51.7	
Having sore throat					
Yes	5	8.3	8	13.3	0.378
No	55	91.7	52	86.7	
Headache					
Yes	8	13.3	14	23.3	0.157
No	52	86.7	46	76.7	
Bleeding					
Yes	-	-	1	1.7	0.315
No	60	100.0	59	98.3	
Problem of Sitting on the Bed					
Yes	5	8.3	21	35.0	<0.001
No	55	91.7	39	65.0	
Problem of standing up					
Yes	4	6.7	19	31.7	0.001
No	56	93.3	41	68.3	
Personal hygiene problem					
Yes	4	6.7	18	30.0	0.001
No	56	93.3	42	70.0	
Perineal hygiene problem					
Yes	4	6.7	18	30.0	0.001
No	56	93.3	42	70.0	
Urinary Incontinence problem					
Yes	5	8.3	18	30.0	0.003
No	55	91.7	42	70.0	
Flatus Problem					
Yes	4	6.7	18	30.0	0.001
No	56	93.3	42	70.0	
Breast and nipple problem					
Yes	9	15.0	5	8.3	0.255
No	51	85.0	55	91.7	
Problem of pain in the operation site					
Yes	2	3.3	39	65.0	<0.001
No	58	96.7	21	35.0	
Difficulty in coughing					
Yes	6	10.0	6	10.0	1.000
No	54	90.0	54	90.0	
Sufficiency feeling about infant care					
I feel good, I can do enough care	58	96.7	57	95.0	0.766
I do not feel good, I cannot give care	2	3.3	3	5.0	
Total	60	100.0	60	100.0	

When the characteristics of newborn infants were examined, it was determined that the average body weight at birth was 3196.7 ± 381.1 g (abbreviation for gram). Apgar 1st min mean scores were 8.0 ± 0.1 and Apgar 5th min mean scores were 10.0 ± 0.0 . In addition, it was found that 50% of the newborns were female, 45.0% were born in the 38th week, and the first feeding style of all of them were breast milk. It was determined that There was no statistically significant difference between these characteristics according to the method of delivery ($p > 0.05$). When the newborn comfort scores were examined, it was found that comfort scores of the newborns born via CS delivery were higher than those who were born via vaginal delivery, but the difference between them was not statistically significant ($p > 0.05$) (Table 3). In addition, no statistically significant correlation was found between the postpartum comfort scores of mothers and the newborn comfort scores ($\rho = -0.145$, $p = 0.114$).

Table 3. Maternal, newborn comfort and breastfeeding self-efficacy scores according to delivery mode

	Vaginal Delivery M (25%p-75%p)	Caesarean Delivery M (25%p-75%p)	p
Physical Comfort	48.5 (45.0-52.0)	47.5 (41.2-51.0)	0.398
Psychospiritual Comfort	30.0 (28.0-32.0)	29.0 (28.0-32.7)	0.619
Sociocultural Comfort	14.5 (11.0-19.0)	15.0 (11.0-19.0)	0.396
Postpartum comfort	95.0 (86.0-98.5)	92.0 (86.0-97.0)	0.621
Newborn Comfort	9.0 (8.0- 9.0)	8.0 (8.0- 9.0)	0.113
Breastfeeding Self-Efficacy	70.0 (62.5-70.0)	68.0 (60.0-70.0)	0.118

Table 4. Mothers' Characteristics Related to Infant Care and Breastfeeding According to Delivery Mode

Characteristics	Vaginal		Caesarean		p
	n	%	n	%	
Status of receiving the breastfeeding training					
Yes	31	51.7	26	43.3	0.361
No	29	48.3	34	56.7	
Breastfeeding experience					
Experienced	47	78.3	40	66.7	0.152
Inexperienced	13	21.7	20	33.3	
Finding milk sufficient					
Finding it sufficient	46	76.7	43	71.7	0.532
Finding it insufficient	14	23.3	17	28.3	
Breastfeeding time plan					
6 months	-	-	1	1.7	0.457
7-12 months	1	1.7	2	3.4	
Less than 1 year	33	55.0	26	43.2	
As long as the infant wants	26	43.3	31	51.7	
Total	60	100.0	60	100.0	

When the breastfeeding-related results of the mothers were examined in terms of delivery mode, it was found that 56.7% of the mothers who had CS delivery and 48.3% of the mothers who had vaginal delivery did not receive breastfeeding training, and there was no statistically significant difference between the groups ($p > 0.05$). The mothers who had a vaginal delivery had more breastfeeding experience, they found their milk adequate, and they thought to breastfeed their infants for more than 1 year compared to those who had CS delivery. However, the difference between groups was statistically insignificant ($p > 0.05$) (Table 4). In addition, it was also determined that the mothers' scores related to breastfeeding self-efficacy according to delivery mode did not show any difference between the groups ($p > 0.05$) (Table 3).

DISCUSSION

Birth is a natural event and a very special experience that women do not forget. During this process, delivery mode is one of the factors that affects the health of the mother and the newborn (29). In the literature, it is reported that the delivery mode is related to processes such as adaptation to the maternal role, mother–infant interactions, newborn care, and breastfeeding (16-20). However, different results have been found in studies that have evaluated the effect of the method of delivery on the postpartum comfort of the mother. In the study by Pınar et al. (16), it was reported that the comfort levels of the mothers who had vaginal delivery were higher, and the difference between vaginal delivery and CS delivery was statistically significant. In the study

by Çapık et al. (15), it was determined that postpartum physical and sociocultural comforts of those who had vaginal delivery were higher. Similar to the present study, in the study by Erkaya et al. (30) no statistically significant difference was found in the mothers' postpartum and subscales according to delivery mode.

The problems experienced by the mother in the postpartum period may make it difficult for the mother to adapt to this period. It is stated in the literature that the risk of having problems during the period after vaginal delivery is lower (16-20). In different studies, it was reported that women who had vaginal delivery could perform activities independently, such as standing up, walking, going to the toilet, and holding the baby in their arms, during the postpartum period compared to the women who had CS delivery (13,15). It was stated in other studies that women who gave birth via CS delivery were more tired during the postpartum period compared to the women who gave birth via vaginal delivery (9,11,12). In this study, it was determined that mothers who gave birth via CS delivery had more problems related to sitting on the bed, standing up, personal hygiene, perineal hygiene, urinary incontinence, flatus, and pain at the operation site compared to the mothers who gave birth via vaginal delivery ($p < 0.05$).

During the postpartum period, the problems experienced by the mothers, in addition to the physiological and anatomical changes, are seen more commonly in the postpartum first days but continue for up to six months (29). Since mothers who had CS delivery had more problems, especially problems related to moving, sitting, pain, and hygiene, during the postpartum period, daily activities related to their personal care and to newborn care could be limited. This situation negatively affects the comfort levels of the mothers, their maternal behavior, and infant care (31-33). It was observed in the present study that the majority of mothers. Maternal and newborn comfort during the postpartum period did not change according to delivery mode, and there was no statistically significant relationship between maternal and newborn comfort. In the literature, newborn comfort is generally evaluated in pain, intensive care, and palliative care (34,35). In addition, no studies in the literature have evaluated newborn comfort according to delivery mode, and newborn comfort has not been correlated with maternal comfort. In this respect, it is thought that the present study will contribute to the literature.

It is necessary to meet the needs of individuals in providing comfort. Nutrition is also important in ensuring the comfort of newborn babies. Breastfeeding has unique benefits for both the mother and the newborn in meeting especially these needs of the newborns in the postpartum period (36). According to the Turkey Population and Health Research (37) data from 2013, the breastfeeding rate in Turkey is 96%. However, as in many countries around the world, there are many factors that affect breastfeeding in Turkey. One of these factors is breastfeeding self-efficacy. Breastfeeding self-efficacy is the mother's

perceived ability and self-confidence in breastfeeding her baby (36,39). It has been reported in the literature that various factors, such as newborn and maternal health, hospital routines, professional support, postpartum pain, and fatigue, affect breastfeeding and breastfeeding self-efficacy (18,38). In addition, another important factor that affects breastfeeding is the delivery mode. Although there are studies in the literature that show that breastfeeding self-efficacy is different in terms of delivery mode (6-8, 10,14), there are also studies that indicate that there is no difference (38,40). In the present study, it was determined that breastfeeding self-efficacy scores of mothers did not differ according to delivery mode ($p > 0.005$). It is believed that these results are affected some factors, such as considering the breastfeeding behavior which is common in Turkey as equivalent with the role of motherhood, breastfeeding being a traditional practice, having extended family support and that clinical trainings about breastfeeding are intensively given to the mothers before and after the birth. In addition, according to the results of this study, it is believed that mothers who give birth via both CS delivery and vaginal delivery are sufficiently supported in this matter.

LIMITATIONS

This study has limitations. Our sample consisted of cesarean and normal delivery women and newborns in a public hospital. Therefore, the results cannot be generalized for all mothers and newborns.

CONCLUSION

In this study, it was determined that the delivery mode did not affect the maternal comfort, newborn comfort, or the mother's breastfeeding self-efficacy. Although there are studies in the literature that evaluate maternal comfort in terms of delivery mode, the present study is one of the first studies to evaluate newborn comfort. To provide more evidence to this subject, additional studies should be conducted to evaluate the physiological parameters of the mother and the newborn (pulse, respiration rate, blood pressure, O_2 saturation, etc.).

Competing interests: The authors declare that they have no competing interest.

Financial Disclosure: There are no financial supports.

Ethical approval: The study was approved by the ethics committee of Hatay Mustafa Kemal University (2017-92 protocol number).

REFERENCES

1. Boz I, Teskereci G, Akman G. How did you choose a mode of birth? Experiences of nulliparous women from Turkey. *Women and Birth* 2016;29:359-67.
2. Gu C, Zhu X, Ding Y, et al. A qualitative study of nulliparous women's decision making on mode of delivery under China's two-child policy. *Midwifery* 2018;62:6-13.
3. Chung WH. Secular trends in caesarean section rates over 20 years in a regional obstetric unit in Hong Kong. *Hong Kong Med J* 2017;23:340-48.

4. Khan MN, Islam MM, Shariff AA, et al. Socio-demographic predictors and average annual rates of caesarean section in Bangladesh between 2004 and 2014. *PLoS one* 2017;12:0177579.
5. WHO Statement on Caesarean Section Rates [Internet]. 2015. Available from: https://apps.who.int/iris/bitstream/handle/10665/161442/WHO_RHR_15.02_tur.pdf?sequence=11
6. Dennis CL. Breastfeeding initiation and duration: A 1990-2000 literature review. *J Obstetric, Gynecologic, & Neonatal Nurs* 2002;31:12-32.
7. Dennis CL. The breastfeeding self-efficacy scale: Psychometric assessment of the short form. *J Obstetric, Gynecologic, & Neonatal Nurs* 2003;32:734-44.
8. Dennis CL. Identifying predictors of breastfeeding self-efficacy in the immediate postpartum period. *Research in Nursing & Health* 2006;29:256-68.
9. Lai YL, Hung CH, Stocker J, et al. Postpartum fatigue, baby-care activities, and maternal-infant attachment of vaginal and cesarean births following rooming-in. *Appl Nurs Res* 2015; 28:116-20.
10. Kilci H, Coban A. The correlation between breastfeeding success in the early postpartum period and the perception of self-efficacy in breastfeeding and breast problems in the late postpartum. *Breastfeed Med* 2016;11:188-95.
11. Kilic M, Ozorhan EY, Apay SE, et al. 2015. Comparison of fatigue levels of postpartum women according to the birth method. *International JJ Caring Sci* 2015;8:124-31.
12. Kim JI, Lee KJ. Bladder symptoms, fatigue and physical activity in postpartum women. *Asian Nurs Res* 2017;11:50-5.
13. Ozcan S, Aslan E. Determination of Maternal Satisfaction at Normal and Cesarean Birth. *Florence Nightingale J Nursing* 2015;23:41-8.
14. Cakmak H, Kuguoglu S. Comparison of the breastfeeding patterns of mothers who delivered their babies per vagina and via cesarean section: an observational study using the LATCH breastfeeding charting system. *Int J Nurs Stud* 2007;44:1128-37.
15. Capik A, Sakar T, Yildirim N, et al. Determining the Satisfaction Levels of the Mothers According to Their Mode of Birth *J Anatolia Nur and Health Sciences* 2016; 19: 92-9
16. Pinar, G, Dogan, N, Algier L, et al. Factors that affecting mothers' postnatal comfort. *Dicle Med J* 2009; 36:184-90.
17. Karakaplan S, Yıldız H. A Study On Developing A Postpartum Comfort Questionnaire. *Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi* 2010;3:55-65.
18. Gungor I, Beji NK. Development and psychometric testing of the scales for measuring maternal satisfaction in normal and caesarean birth. *Midwifery* 2012;28:348-57.
19. Herguner S, Cicek E, Annagur A. Association of Delivery Type with Postpartum Depression, Perceived Social Support and Maternal Attachment. *J Psychiatry and Neurological Sciences* 2014;27:15-20.
20. Cetisli NE, Arkan G, Top ED. Maternal attachment and breastfeeding behaviors according to type of delivery in the immediate postpartum period. *Rev Assoc Med Bras* 2018;64:164-9.
21. Betrán AP, Ye J, Moller AB, et al. The increasing trend in caesarean section rates: global, regional and national estimates: 1990-2014. *PLoS one* 2016;11:0148343.
22. Souza, JP, Betran AP, Dumont, A, et al. A global reference for caesarean section rates (C-Model): a multicountry cross-sectional study. *BJOG: An International J Obstetrics & Gynaecology* 2016;123:427-36.
23. Offermann H, Gebauer C, Pulzer F, et al. Cesarean section increases the risk of respiratory adaptive disorders in healthy late preterm and two groups of mature newborns. *Z Geburtshilfe Neonatol* 2015;219:259-65.
24. Celebi MY, Alan S, Kahvecioglu D. Impact of prophylactic continuous positive airway pressure on transient tachypnea of the newborn and neonatal intensive care admission in newborns delivered by elective cesarean section. *Am J Perinatol* 2016;2: 99-106.
25. Kuguoglu S. Turkish Version of the General Comfort Questionnaire. *Florence Nightingale J Nursing* 2008;16:16-23.
26. Van Dijk M, Roofthoof DW, Anand KJ, et al. Taking up the challenge of measuring prolonged pain in (premature) neonates: the COMFORT neo scale seems promising. *The Clinical J Pain* 2009;25:607-16.
27. Ambuel B, Hamlett KW, Marx CM, et al. Assessing distress in pediatric intensive care environments: the COMFORT scale. *J Pediatric Psychology* 1992;17:95-109.
28. Kahraman A, Basbakkal Z, Yalaz M. Turkish Validity and Reliability of Comfortneo Scale. *International Refereed J Nurs Researc* 2014;1: 1-11.
29. Taskin L. Doğum ve Kadın Sağlığı Hemşireliği. 8. Baskı. Ankara. Sistem Ofset Matbaacılık 2014;275-94.
30. Erkaya R, Turk R, Sakar T. Determining Comfort Levels of Postpartum Women after Vaginal and Cesarean Birth. *Procedia-Social and Behavioral Sciences* 2017; 237:1526-32.
31. Pereira TR, De Souza FG, Beleza AC. Implications of pain in functional activities in immediate postpartum period according to the mode of delivery and parity: an observational study. *Brazilian J Physical Therapy* 2017;21:37-43.
32. Bagci S, Altuntug K. Problems experienced by mothers in postpartum period and their associations with quality of life. *J Human Sci* 2017;13:3266-79.
33. Werner-Bierwisch T, Pinkert C, Niessen K, et al. Mothers' and fathers' sense of security in the context of pregnancy, childbirth and the postnatal period: an integrative literature review. *BMC Pregnancy and Childbirth* 2018;18: 473.

34. Elella RA, Adalaty H, Koay YN, et al. The efficacy of the COMFORT score and pain management protocol in ventilated pediatric patients following cardiac surgery. *International J Pediatrics and Adolescent Med* 2015; 2;123-27.
35. Haug S, Farooqi S, Wilson CG, et al. Survey on Neonatal End-of-Life Comfort Care Guidelines Across America. *J Pain and Symptom Management* 2018;55:979-84.
36. Eidelman AI, Schanler RJ. Breastfeeding and the use of human milk. *Pediatrics* 2012;129:827-41.
37. Türkiye Nüfus ve Sağlık Araştırması. [Internet]. 2013. Available from: http://www.hips.hacettepe.edu.tr/tnsa2013/rapor/TNSA_2013_ana_rapor.pdf
38. Alus Tokat M, Serçekus P, Yenil K, et al. Early Postpartum Breast-Feeding Outcomes and Breast-Feeding Self-Efficacy in Turkish Mothers Undergoing Vaginal Birth or Cesarean Birth with Different Types of Anesthesia. *International J Nursing Knowledge* 2015; 26:73-9.
39. Sahin BM, Ozerdogan N. Nursing care initiatives based on theories of social cognition and breastfeeding self-efficacy for successful breastfeeding. *J Nurs Res* 2014;11:11-5.
40. Ince T, Aktas G, Aktepe N, et al. Evaluation of the factors affecting mothers' breastfeeding self-efficacy and breastfeeding success. *J Dr Behçet Uz Children's Hospital* 2017;7:183-90.