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ORIGINAL PAPER

The impact of baby care education provided to mothers in the early postpartum period on the maternal role and postpartum anxiety

Melike Özkoç , Özden Tandoğan

Faculty of Health Sciences, Nursing Istanbul Arel University, Cevizlibağ, İstanbul, Türkiye

ABSTRACT

Introduction and aim. Baby care training given to mothers can help them feel more secure and make their motherhood role more effective. The aim was to determine the effect of early postnatal infant care training on the maternal role and anxiety in first-time mothers.

Material and methods. The study involved 60 mothers of which n=30 were in a control group with treatment as usual and n=30 were in the intervention group receiving special training on infant feeding, basic hygiene practices, baby's sleep patterns and basic care skills. Training took place in the first 8 and 24 hours after birth and mothers were followed up 5 weeks later. The "Barkin Maternal Function Inventory (BMFI)" and "Postpartum Anxiety Scale (PAS)" were used to measure maternal roles and postpartum anxiety at 6 weeks after birth.

Results. Participants were usually between 28–32 years of age and were first-time mothers. Six weeks after birth, there was a statistically significant difference in BMFI total scores between the experimental and control groups ($p<0.001$), while the experimental group scored higher (89.8±11.01). There was no significant difference between the groups in terms of postpartum anxiety.

Conclusion. Significant improvements were observed in the anxiety levels and mothering skills of mothers who received training. It is recommended that similar training programs be implemented on a larger scale and their effects be monitored long-term.

Keywords. anxiety, baby care, education, maternal role, postpartum

Introduction

The postpartum period is an important turning point in the lives of mothers and a critical period that requires them to cope with the care and needs of their newborn babies.[1] Among the difficulties encountered in this period, issues such as postpartum anxiety and fulfilling the role of motherhood come to the forefront. It is thought that infant care training given to mothers in the postpartum period can reduce postpartum anxiety levels by enabling mothers to cope with these new roles and responsibilities more effectively. Such training can help mothers understand their babies better and be better equipped to care for them. It can also contribute to the prevention of mental problems such as postpartum anxiety. Thus, mothers can feel safer and care for their babies more consciously. The dissemination and support of infant care education given to mothers in the early postpartum period is of great importance for the health of mothers and the development of infants. Further research on this subject and the development of practices in this direction may contribute positively to the health of mothers and infants.[2]

Infant care education given to mothers in the early postnatal period usually covers topics such as breastfeeding, infant feeding, infant care and infant sleep patterns. In this way, mothers feel better equipped to take care of

Corresponding author: Özden Tandoğan, e-mail: ozdentandogan@arel.edu.tr

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their babies, which helps the mother to fulfil her role better.[3,4] In addition, baby care training also helps mothers to establish a healthier communication with their babies. This allows the mother to fulfil her role more effectively.[5] A study has been shown that mothers can improve their skills in baby care by increasing their attachment, motherhood self-efficacy and self-confidence to their babies.[5] Literature reviews on the effect of infant care training given to mothers in the postpartum period on maternal role and postpartum anxiety reveal the existence of various studies.[5-9] These studies generally address issues such as mothers' education levels, postpartum anxiety levels, maternal role perceptions and infant care skills. However, most of the existing research focuses on the effects of a specific training program and usually evaluates short-term outcomes. Studies examining longer-term effects and the sustainability of training programs are limited. In addition, it is observed that most of the research on the effects of infant care training on the role of motherhood and postpartum anxiety focuses on a specific region or cultural group and is usually conducted with small samples. This situation shows that generalizations and studies involving participants from different cultures are needed. In this context, it is necessary to conduct studies that are comprehensive and include participants from different cultures in future research. And it shows that generalizations and studies involving participants from different cultures are needed. In this way, the effects of infant care training given to mothers can be evaluated more comprehensively and contribute to understanding the experiences of mothers in the postpartum period. Therefore, the effect of infant care training provided to mothers contributes to the emotional, social, and physical development of the baby by strengthening the mother-infant relationship.[3,4]

Postpartum anxiety is a common problem seen in mothers in the postpartum period.[6] This can cause mothers to worry excessively about their babies and this anxiety can negatively affect their daily lives.[7] At this point, the importance of baby care education emerges. Because these training programs help mothers reduce their worries about their babies and make them more aware of baby care. Mothers' lack of trust can negatively affect their experience of maternity and their ability to care for their babies adequately. Training given to mothers about caring for their babies effectively increases their sense of competence.[3] This, in turn, helps reduce postpartum anxiety.

In addition, it is observed that most of the research on the effects of infant care training on the role of motherhood and postpartum anxiety focuses on a specific region or cultural group and is usually conducted with small samples. This situation shows that generalizations and studies involving participants from different cultures are needed. In this context, it is necessary to conduct studies that are comprehensive and include participants from different cultures in future research. In this way, the effects of infant care training given to mothers can be evaluated more comprehensively and contribute to understanding the experiences of mothers in the postpartum period. Therefore, the effect of infant care training given to mothers in the early postpartum period on the role of the mother and postpartum anxiety is very important.[3,4] In this way, the effects of infant care training given to mothers can be evaluated more comprehensively and contribute to understanding the experiences of mothers of different cultures in the postpartum period. Therefore, studying the effect of infant care training on the maternal role perception and postpartum anxiety in Turkish mothers in the early postpartum period is very important. The significance of this is underscored by the fact that infant care training provided to mothers of premature babies contributes to the emotional, social, and physical development of the infant by strengthening the mother-infant relationship.[6,7]

According to the findings of a meta-analysis on a similar topic, educational interventions during pregnancy and postpartum periods increased the maternal competence scores of first-time mothers.[10] However, there is no specific study in the literature on the effect of infant care education given to mothers in the early postpartum period on the maternal role and postpartum anxiety. In this way, mothers can establish a healthier relationship with their babies and spend the postpartum period in a more positive way.

Aim

Our aim is to provide evidence of the effectiveness of a training that helps mothers and babies in terms of its effect on the maternal role and postpartum anxiety in the postpartum period. Based on the lack of studies examining a similar topic in the literature, this study aims to fill the gap in this field and to investigate the effects on the maternal role and anxiety levels of first-time mothers.

Material and methods

This randomized controlled study was conducted between September and November 2022. This decision was aimed at improving the accuracy and reliability of the research.

The sample size of this study was calculated using G*Power (v3.1.7) software. Yurtsal ve Eroğlu was taken as reference.[13] This inventory is an important measurement tool for understanding mothers' attitudes and behaviors related to infant care. It is also useful for understanding mothers' psychological states and determining how their maternal roles affect them. The effect size obtained from the previous study was obtained as 0.05=1.07 (1) as a result of the analysis, the minimum sample size was calculated as 48, 24 in the

trial group and 24 in the control group, for a total of 80, and the theoretical power was calculated as 0.80. Participants were selected from among women with a gestation period between 37 and 41 weeks, who had their first pregnancy with a single fetus, any risk factors during pregnancy, nor attended any special parenting education during pregnancy, and were at least literate. In total, 60 primiparous pregnant women were recruited for this study. Age, sex, race/ethnicity, and financial status of participants were recorded as part of the demographic data collection process. The inclusion standards were established based on the objectives of this study. The exclusion criteria in the study who could not speak Turkish, had a baby in an incubator, and received infant care training were excluded from the study, considering communication difficulties, safety and well-being of the participants, data reliability and consistency. After randomly selecting participants, they were assigned to either the education or control group. Randomization ensured that the participants were evenly distributed into two groups. Researchers were required to know who these individuals belonged to, because of the nature of the study, whereas those responsible for the data remained anonymous. All pregnant women assigned to the trial or control group stayed in separate rooms where communication between them was not allowed.

The study's registration, assignment, monitoring, and analysis steps were performed using CONSORT 2018 (Fig. 1).

The trial group participated in the study knowing that they were being treated, so the researcher (MÖ) could not ensure that the application remained confidential. Randomization and data collection were performed by another investigator (ÖT). Data collection forms were administered on the online platform 6 weeks after birth. To reduce bias, the researcher who provided the training (ÖT) was not included in the data collection phase.

Experimental-control group work process

In the first stage of the research, mothers who were eligible for the sample 8 hours after birth were randomly assigned to the trial and control groups. "Personal Information Form" and "Postpartum Anxiety Scale" (developed by Fallon et al.) were applied to the mothers. The trial group underwent intervention approximately 8 and 24 hours after birth. Each session lasted 30 minutes (60 minutes) and included practical baby care training on the baby model prepared by the researchers and a baby care book. Mothers in the control group continued their routine care. No application has been received.

Baby Care Training Booklet Content: This booklet has been created by taking expert opinions on baby care and the content has been enriched. It contains detailed information on topics such as baby skin care, eye care, security problems. The content prepared by the researchers is aimed at guiding new parents. This booklet aims to provide new parents with accurate information on baby care and has been prepared by researchers with the recommendations of experts.

In the second phase, baby care counseling was provided to the mothers in the trial group for 6 weeks by the researcher (CR), who provided baby care education via online conversation about baby care problems. In the third step, "Barkin Maternal Function Inventory" and "Postpartum Anxiety Scale" were applied online to both groups six weeks later.

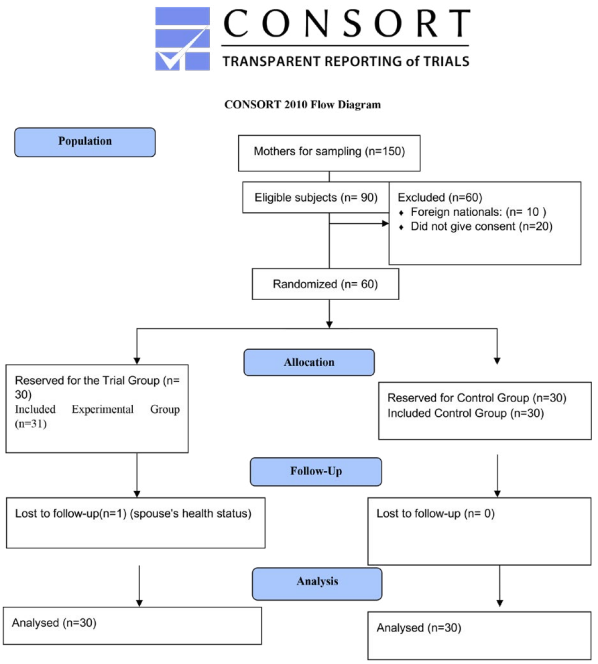

Fig. 1. CONSORT flow diagram

Measures

Barkin Inventory of Maternal Function (BIMF)

Jennifer Lynn Barkin developed the Barkin Maternal Function Inventory in Atlanta. The Barkin Maternal Function Inventory has 5 sub-dimensions: Self-Care, Maternal Psychology, Infant Care, Social Support, and Adaptation to Maternity. BIMF consists of 20 questions. The answers on the scale are numbered from 0 to 6. While the lowest score in the scoring of the scale is 0, the highest score is 120.[14] It was observed that the higher the scoring, the higher the functional status. The overall Cronbach alpha reliability coefficient of the scale was 0.73 and from the scale sub-dimensions; It was calculated that the self-care dimension was 0.66, the maternal psychology sub-dimension was 0.71, the infant care sub-dimension was 0.62, the social support sub-dimension was 0.69, and the motherhood adaptation sub-dimension was 0.50. Barkin found the Cronbach Alpha coefficient of the scale to be 0.87. The validity and re-

liability study of the Turkish form of the BAF Inventory was conducted by Aydın and Kukulu.[15] The reliability coefficient of the BAF Inventory was found to be Cronbach Alpha 0.73.

Postpartum Anxiety Scale (PAS)

The scale Fallon et al. developed has 51 items and is used to assess postpartum anxiety symptoms. Maternal skills and attachment, newborn well-being and safety, and infant care practices relate to psychosocial maternity compliance. Each item in the scale is scored as never=1, not very often=2, often=3 and almost always=4. The lowest score that can be obtained from the scale is 44 and the highest score is 176. Higher scores indicate more anxiety symptoms.[15] In this study, the internal consistency reliability coefficient of the PAS sub-dimensions: α=0.89 for maternal skills and attachment; α=0.89 for newborn well-being and safety; α=0.87 for infant care practices; α=0.81 for psychosocial adjustment to motherhood and α=0.91 for the whole scale. The adaptation of the scale to Turkish was made by Duran in 2019 and the Cronbach alpha coefficient was found to be r=0.91.[17] In this study, Cronbach's alpha coefficient of the scale was found to be r=0.88.

Statistical Analysis

Data analysis was performed using the SPSS 24.0 software package (IBM, Armonk, NY, USA). The conformity of the data to the normal distribution was evaluated by Shapiro Wilk test. Independent sample T test and paired sample T test were used for the analysis of normally distributed data, and Mann Whitney U test was used for the analysis of normally dispersed data. Scale, society, size and statistical significance level were accepted as p<0.05.

Results

The distribution of sociodemographic and obstetric characteristics of the pregnant women included in the study according to the groups is given in Table 1. There is no significant difference between the two groups in terms of educational status (p>0.05). The majority are at university level or above. When the education level of the spouses is examined, it is seen that the control group has a higher education level of high school and below. The sociodemographic and obstetric characteristics of the women included in the study are largely similar.

The mean BIMF total score of the mothers was 89.80±11.01 in the trial group and 71.86±20.49 in the control group at 6 weeks postpartum, and the difference between them was found to be statistically significant (p<0.001; Table 2). There was a statistical difference between the trial and control groups in all sub-dimensions (Self-care sub-dimension, p=0.002; maternal psychology sub-dimension: p=0.002; infant care sub-dimension: p=0.008; social support sub-dimension: p=0.002; adjustment to maternity subscale, p=0.002).

Table 1. Comparison of socio-demographic and obstetric characteristics of women*

		Groups				Test1	p
		Trial (n=30)		Control (n=30)			
		n	%	n	%		
Age	23–27	5	16.7	11	36.7	x^2=3.293	0.193
	28–32	14	46.7	12	40		
	33–37	11	36.7	7	23.3		
Income status	Income less than expenditure	4	13.3	8	26.6	x^2=1.778	0.411
	Income matches expenditure	19	63.3	17	56.7		
	Income more than expenditure	7	23.3	5	16.7		
Education status	High school	3	10	10	33.3	x^2=3.535	0.060
	University and higher education	27	90	20	66.7		
Spouse education status	Middle school	2	6.7	17	56.7	x^2=28.893	<0.001
	High school	5	16.7	10	33.3		
	University and higher education	23	76.7	3	10.0		
Delivery method	Caesarean	27	88.4	28	93.1	x^2=1.080	0.299
	Normal	3	11.6	2	6.9		
Ability to cope with challenges	Very adequate	18	60	19	63.3	x^2=0.000	>0.999
	Moderate	12	40	11	36.7		
Assessing the pregnancy process	Occasionally troubled	15	50	11	36.7	x^2=0.0611	0.434
	Comfortable	15	50	19	63.3		
Total		30	100	30	100		

* significant at p<0.001, [1] – Chi-square test

Table 2. Comparison of Barkin Maternal Function Inventory Total and Subscale Scores of women in the trial and control groups after education*

Barkin Maternal Function Inventory Subscales	Groups		Test1	p
	Trial (n=30) Mean±sd	Control (n=30) Mean±sd		
Self-care subscale	12.50±4.67	8.60±4.63	t=3.245	0.002
Maternal psychology sub-dimension	11.66±1.72	9.56±3.08	t=3.255	0.002
Baby care sub-dimension	25.00±2.18	21.56±5.58	t=-2.254	0.008
Social support sub-dimension	15.93±3.88	12.06±5.82	t=3.025	0.004
Compliance with maternity subscale	24.70±2.86	20.06±5.39	t=-3.916	<0.001
Total score	89.80±11.01	71.86±20.49	t=4.222	<0.001

* significant at p<0.001 [1] – independent-sample t test

There was no significant difference between the trial group and the mothers after the training (6 weeks after birth) in terms of mothering skills, attachment anxiety, (37.39±2.27; 34.10±2.36, respectively), infant care practices anxiety, (30.86±2.16; 29.53±2.44), adaptation to psychosocial motherhood and total postpar-

tum anxiety scale (17.33±1.24; 15.83±1.62; 117.83±3.98; 112.20±3.53, respectively (p>0.05; Table 3).

In the control group, maternal skills attachment anxiety scores were higher than the control group before the training. The post-training scores of the experimental group decreased more than the control group (Table 3). Neonatal well-being and safety anxiety scores did not differ in the trial and control groups before and after the training; the difference between them was insignificant (p=0.092; Table 3).

Table 3. Trial and control groups comparison of Postpartum Anxiety Scale Subscale Scores and Total Averages After Weeks*

Postpartum Anxiety Scale		Groups		Test1	p
		Trial (n=30) Mean±ss	Control (n=30) Mean±ss		
Maternity Skills Attachment Anxiety	Pre-education	37.30±2.27	38.23±2.41	t=-1.540	0.129
	6 weeks after birth	34.10±2.36	34.83±2.92	t=-1.067	0.290
	Test[2]	t=5.158	t=4.581		
	p	0.000	0.000		
Neonatal Well-Being and Safety Anxiety	Pre-education	32.33±1.60	31.96±2.02	t=0.777	0.440
	6 weeks After birth	32.73±1.98	32.06±1.94	t=1.315	0.194
	Test[2]	t=-0.858	t=-0.204		
	p	0.398	0.840		
Baby Care Practices Anxiety	Pre-education	30.86±2.16	29.93±2.82	t=1.436	0.156
	6 weeks After birth	29.53±2.44	28.63±1.51	t=1.712	0.092
	Test[2]	t=2.143	t=2.282		
	p	0.041	0.030		
Psychosocial Compliance with Maternity	Pre-education	17.33±1.24	16.66±1.44	t=1.916	0.060
	6 weeks after birth	15.83±1.62	15.16±1.91	t=1.456	0.151
	Test[2]	t=3.801	t=3.503		
	p	0.001	0.002		
Postpartum Anxiety Scale total score	Pre-education	117.83±3.98	116.80±4.17	t=0.981	0.381
	6 weeks after Birth	112.20±3.53	110.70±3.77	t=1.587	0.118
	Test[2]	t=6.127	t=5.556		
	p	0.000	0.000		

* significant at p<0.001 [1] – independent-sample t test,
[2] – paired Sample t test

Discussion

This study observed that infant care provided to mothers in the early postpartum period effectively influenced their maternal role. Maternal competence is shaped by the dynamic interplay between mothers' ongoing success in caring for infants.

Primiparous mothers' lack of knowledge about infant care, typical infant characteristics or illnesses creates anxiety in mothers and reduces their enjoyment of maternity.[18] Studies have shown that all mothers need training in newborn care, and primiparous mothers with first-time infant care responsibilities experience more difficulties in newborn care than multiparous mothers.[18,19] The more prepared a mother feels to care for her baby, the higher her feelings of success in her maternity journey. In this study, infant care training in early postpartum increased women's maternal competence. They may feel more confident and competent in their new role. It has been shown that women whose lack of knowledge is completed and who are supported in caring for their babies increase their maternal competence.[18] In similar study, it was recommended that mothers who gave birth for the first time should receive training in infant care.[19] The study emphasizes the importance of training mothers on infant care. It is emphasized that infant care training can positively affect mothers' feelings of maternal attachment and self-confidence and thus help mothers to establish a healthier relationship with their babies.

Regardless of skill or competence, positive maternal behaviors are vital to a successful transition to single maternity. Transitioning to the role of maternity is a stressful process, especially for primiparous women. In addition, anxiety is one of the most common mental disorders of the postpartum period and can affect the quality of life of mothers and the health and development of their children. Babysitting and getting used to the role of a new mother can also cause anxiety and anxiety in some women. In one study, postpartum anxiety was found in 23% of new mothers who participated in the study.[20] In this study, we measured anxiety levels in women 24 hours after delivery. In the research conducted in both groups, we found that anxiety levels were high. We predicted that first-time mothers would have high levels of anxiety, because we know that this is inherent in being a first-time mother. The results of the research confirm this prediction. The anxieties experienced by new mothers are a natural reaction to stepping into a new period in their lives. These findings suggest that appropriate strategies should be developed to support new mothers and reduce their anxiety levels. However, we observed that the women who received infant care had lower levels of anxiety after 6 weeks, suggesting that women who received infant care had lower levels of anxiety over time. The findings of our study provide important insight into the effectiveness of support programs for coping with postpartum anxiety. Our results emphasize the importance of early intervention and support services in combating postpartum anxiety. These findings are expected to contribute to the development of counselling policies to support women's mental health in the postpartum period. Observing that anxiety levels of women receiving infant care decreased over time provides an important insight into the effectiveness of support programs in combating postpartum anxiety.[21] This finding shows how important early intervention and support services are in coping with postpartum anxiety.

In the study, it was stated that most of the mothers gave birth by caesarean section. It is known that cae-

sarean section rates in private hospitals in Türkiye are high.[22] It is known that mothers who give birth by caesarean section have more difficulties in adapting to the role of motherhood and have higher anxiety levels than those who give birth normally.[23,24] It is thought that caesarean section makes it difficult for mothers to adapt to the care of their babies and to adopt their maternal roles. Mothers who give birth by caesarean section have a longer recovery period and can start caring for their babies later than those who give birth normally. This situation may negatively affect mothers' attachment to their babies and their adoption of maternal roles.[25] In addition, it is known that mothers who give birth by caesarean section have higher anxiety levels than those who give birth normally.[26] Caesarean section is thought to increase mothers' concerns about the health and safety of their babies, which in turn increases their anxiety levels. However, the study did not measure the effect of caesarean section on mothers' anxiety levels. The reason for this may be that the sample of the study consisted largely of mothers who had caesarean section, which made it difficult to make comparisons with the control group. In addition, the fact that the relationship between the mode of delivery and anxiety levels of mothers was not examined in the study can be considered as a limitation. In conclusion, the negative effects of caesarean section on mothers' adaptation to the role of motherhood and anxiety levels need to be examined in more detail. In future studies, evaluating the relationship between mode of delivery and anxiety levels will increase the knowledge on this subject.

In the study, all women's concerns about the safety of their babies persisted at almost the same level immediately after birth or at later periods. This can be attributed to the constant worry for their babies that is inherent in motherhood. Mothers tend to worry about their babies all the time, and this worry appears to be a constant reality. This reflects mothers' sensitivity and responsibility for their babies' safety. Therefore, the persistence of concerns about the safety of infants can be considered a fundamental feature of the experience of motherhood. This requires us to understand and support mothers' sensitivities about the health and safety of their babies.[27] At the same time, it is important to support mothers and raise awareness about this issue, because these concerns have become an integral part of their lives. In this context, understanding and supporting mothers' concerns about the safety of their babies is also of great importance for the overall health and well-being of society. Therefore, providing support and information to mothers who are concerned about the safety of their babies is an important factor that can positively affect the motherhood experience. In a similar study, it was recommended that the addition of qualitative methods such as interviews can help to gain in-depth information. These methods allow us to understand participants' experiences and thoughts in more detail and can broaden the scope of the research.

Study limitations

In this study, it was determined that mothers who met the criteria for participating in the study could not be included in the study in cases where the researcher was not in the hospital. This may adversely affect the study's ability to generalize. Because the sample participating in the study represents a certain group of mothers, this makes it difficult to make generalizations. Uncertainties may arise as to whether the results of the study apply to all mothers. This is the limitation of the study. In addition, it has been determined that the majority of women give birth by cesarean section. Caesarean section rates in Türkiye are known to be quite high and it is observed that it is difficult to find women who give birth almost normally. This study was conducted in a private hospital, and it is known that caesarean section rates are high in private hospitals in Türkiye. Therefore, most mothers had a caesarean section, and this may have increased their anxiety levels. They may also have had more difficulty adjusting to their role as mothers. Considering all these factors, it can be considered that cesarean delivery may have increased mothers' anxiety levels by making it difficult for them to adapt to their maternal roles. This, in turn, can limit the effectiveness of training programs. In addition, the measurement tools consist of two different questionnaires to assess changes in the role of motherhood, and it is unclear whether these questionnaires measure changes in the role of motherhood well enough. Therefore, it is a limitation of this study to say that interviews can certainly make a useful contribution to the research process. In this way, the data can be re-investigated more comprehensively and in more detail.

In this study, the selection criteria of the participants and the conduct of the study included some factors that limit the generalizability of the study results. First, the women included in the study were selected from a group with specific characteristics such as duration of pregnancy, number of pregnancies, pregnancy complications and educational status. Therefore, it may be difficult for the study results to represent all mothers. In the study conducted in a private hospital, the high rate of cesarean delivery may make it difficult for mothers to adapt to the role of motherhood. This may limit the effectiveness of the training programs.

Conclusion

As a result of the research, it was determined that the baby care training given to mothers increased the role of motherhood and adaptation to the role of motherhood. It has been observed that the education given to wom-

en who do not receive any training on baby care during pregnancy helps them to get through this process more easily, even in the early maturation period.

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Declarations
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Author contributions
Conceptualization, M.Ö. and Ö.T.; Methodology, M.Ö; Software, M.Ö; Validation, Ö.T; Formal Analysis, M.Ö; Investigation, Ö.T.; Resources, M.Ö.; Data Curation, Ö.T; Writing – Original Draft Preparation, M.Ö.; Writing – Review & Editing, Ö.T; Visualization, M.Ö.; Supervision, Ö.T.; Project Administration, Ö.T.; Funding Acquisition, M.Ö.

Conflicts of interest
The author(s) declare no competing interests.

Data availability
All data analysed during this paper are included in this article. Further enquiries can be directed to the corresponding author.

Ethics approval
All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Arel university in Istanbul. (Date: 06.08.2022/Decision No: 227158).

References
1. Kuipers YJ, van Beeck E, Cijsouw A, van Gils Y. The impact of motherhood on the course of women's psychological wellbeing. *Journal of Affective Disorders Reports*. 2021;6:100216. doi: 10.1016/j.jadr.2021.100216
2. Hwang WY, Choi SY, An HJ. Concept analysis of transition to motherhood: a methodological study. *Korean J Women Health Nurs.* 2022;28(1):8-17. doi:10.4069/kjwhn.2022.01.04
3. Nazari S, Hajian S, Abbasi Z, Majd HA. Postpartum care promotion based on maternal education needs: A mixed study. *J Educ Health Promot*. 2021;10(1):393. doi: 10.4103/jehp.jehp_1669_20
4. Stuebe AM, Auguste TC, Gulati M. Optimizing postpartum care. ACOG Committee Opinion No. 736. American College of Obstetricians and Gynecologists. ACOG Presidential Task Force. *Obstet Gynecol.* 2018;131:140-150. doi: 10.1097/AOG.0000000000002633
5. Kadiroğlu T, Güdücü Tüfekci F. Effect of ınfant care training on maternal bonding, motherhood self-efficacy, and self-confidence in mothers of preterm newborns. *Matern Child Health J.* 2022;26 (1):131-138. doi: 10.1007/s10995-021-03287-0
6. Ali E. Women's experiences with postpartum anxiety disorders: a narrative literature review. *Int J Womens Health*. 2018;237-249. doi: 10.2147/IJWH.S158621
7. Nazari S, Hajian S, Abbasi Z, Majd HA. Postpartum care promotion based on maternal education needs: A mixed study. *J Educ Health Promot*. 2021;30(10):261. doi: 10.4103/jehp.jehp_1554_20
8. van der Zee-van AI, Boere-Boonekamp MM, Groothuis-Oudshoorn CG, Reijneveld SA. Postpartum depression and anxiety: a community-based study on risk factors before, during and after pregnancy. *J Affect Disord*. 2021;286:158-165. doi: 10.1016/j.jad.2021.02.062
9. Lopez-Gonzalez DM, Kopparapu AK. Postpartum Care of the New Mother. In: StatPearls. StatPearls Publishing, Treasure Island (FL); 2023.
10. Fasanghari M, Keramat A. Investigating the effect of educational interventions on maternal competence: A systematic review and meta-analysis. *J Educ Health Promot*. 2023;29(12):254. doi: 10.4103/jehp.jehp_25_23
11. McCarter-Spaulding D, Spencer B. Mothers' needs and expectations for postpartum education. *Journal of Obstetric, Gynecologic & Neonatal Nursing*. 2016;45(3):43. doi: 10.1016/j.jogn.2016.03.109
12. Khandan S, Riazi H, Amir Ali Akbari S, Nasiri M, Montazeri A. Adaptation to maternal role and infant development: a cross-sectional study. *J Reprod Infant Psychol.* 2018;36(3):289-301 doi: 10.1080/02646838.2018.1437895
13. Yurtsal Z, Eroğlu V. The effect of WhatsApp neonatal midwife support on the postpartum process. *Uludağ University Faculty of Medicine Journal.* 2021;47(1):67-74.
14. Barkin JL, Wisner KL, Bromberger JT, Beach SR, Terry MA, Wisniewski SR. Development of the barkin index of maternal functioning. *J Womens Health (Larchmt).* 2010; 19(12): 2239-2246. doi: 10.1089/jwh.2009.1893.
15. Aydın R. Barkin Annelik Fonksiyonu Ölçeği'nin uyarlanması ve psikometrik özelliklerin incelenmesi. (Yüksek Lİsans Tezi). Antalya: Akdeniz Üniversitesi Sağlık Bilimleri Enstitüsü Hemşirelik Anabilim Dalı; 2016.
16. Fallon V, Halford JCG, Bennett KM, Harrold JA. The postpartum specific anxiety scale: development and preliminary validation. *Arch Womens Ment Health*. 2016;19(6):1079-1090. doi: 10.1007/s00737-016-0658-9
17. Duran S. Postpartum specific anxiety scale (PSAS): Reliability and validity of the Turkish version. *Perspectives in Psychiatric Care*. 2020;56(1):95-101. doi: 10.1111/ppc.12385
18. Aslan F, Uzun S. Analysis of postnatal education and consultancy services given by nurses. *Turkish Clinics Journal of Medical Sciences*. 2008;28:736-742.
19. Beger D, Cook CA. Postpartum teaching priorities: The viewpoints of nurses and mothers. *J Obstet Gynecol Neo-*

natal Nurs. 1998;27:161-168. doi: 10.1111/j.1552-6909.1998.tb02606.x

20. Çinar İÖ, Öztürk A. The effect of planned baby care education given to primiparous mothers on maternal attachment and self-confidence levels. *Health Care Women Int.* 2014;35(3):320-333. doi: 10.1080/07399332.2013.842240
21. Cena L, Gigantesco A, Mirabella F, Palumbo G, Trainini A, Stefana A. Prevalence of maternal postnatal anxiety and its association with demographic and socioeconomic factors: a multicentre study in Italy. *Front Psychiatry*. 2021;12:737666. doi: 10.3389/fpsyt.2021.737666
22. Ministry of Health. (2020). Turkey Birth Statistics Report. Access address: https://hsgm.saglik.gov.tr/depo/birimler/Ana_Cocuk_Sagligi/kitaplar/Dogum_Istatistikleri_2020.pdf. Accessed July 24, 2024.
23. Ayers S, Jessop D, Pike A, Parfitt Y, Ford E. The role of adult attachment style, birth intervention and support in posttraumatic stress after childbirth: A prospective study. *J Affect Disord.* 2014;155:295-298. doi: 10.1016/j.jad.2013.10.022.
24. Garthus-Niegel S, Ayers S, Martini J, von Soest T, Eberhard-Gran M. The impact of postpartum post-traumatic stress disorder symptoms on child development: a population-based, 2-year follow-up study. *Psychol Med.* 2017;47(1):161-170. doi: 10.1017/S003329171600235X
25. Parvizi S, Yazdanpanahi Z, Rahmanian F, Tayebi N, Akbarzadeh M. The relationship between personality traits and labor pain intensity and type of delivery among multiparous and nulliparous women. *Medicina Clínica Práctica*. 2023;6(4):100397. doi: 10.1016/j.mcpsp.2023.100397
26. Garthus-Niegel S, Horsch A, Handtke E, et al. The impact of postpartum posttraumatic stress and depression symptoms on couples' relationship satisfaction: a population-based prospective study. *Front Psychol*. 2018;9:1728. doi: 10.3389/fpsyg.2018.01728
27. Cena L, Mirabella F, Palumbo G, Gigantesco A, Trainini A, Stefana A. Prevalence of maternal antenatal anxiety and its association with demographic and socioeconomic factors: A multicentre study in Italy. *Eur Psychiatry*. 2020;63(1):84. doi: 10.1192/j.eurpsy.2020.82