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The Effect of Birth Memory on Breastfeeding Adaptation in Primiparous Women

ABSTRACT

Objective: The aim of this study is to examine the relationship between birth memory and breastfeeding adaptation in primiparous women and to identify the socio-demographic and obstetric factors associated with both birth memory and breastfeeding adaptation.

Methods: This descriptive and correlational study was conducted with 274 primiparous women who had vaginal deliveries at a private university hospital between March and July 2024. Data were collected at the 24th hour and on the 15th day postpartum using the "Personal Information Form," the "Birth Memory and Recall Scale" and the "Breastfeeding Adaptation Scale". Data analysis was performed using the SPSS 25.0 program, with statistical significance set at $p < .05$.

Results: The mean age of the participants was 28.52±3.56 years. The total scores of the Birth Memory and Recall Scale were 87.51±15.19 at the first measurement and 89.10±18.16 at the second. The Breastfeeding Adaptation Scale scores were 102.89±17.71 and 117.47±9.90, respectively. A weak negative correlation was found between the first scores of both scales, and between the first Breastfeeding score and the second Birth Memory score. The second Breastfeeding score was also weakly negatively correlated with both the first and second Birth Memory scores.

Conclusion: The study demonstrates that birth memory can significantly impact breastfeeding adaptation during the postpartum period.

Keywords: Birth memory, breastfeeding adaptation, midwifery, primiparous.

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Some of the data from this research will be presented at the Gülhane Breast Milk and Breastfeeding Congress, which will be held from October 4-6, 2024.

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Introduction

Birth is considered an intense experience that leaves deep marks on women both physically and emotionally (Ozcalik & Aksoy, 2024; Coates et al., 2014). This experience can evoke both positive and negative emotions depending on the events that occur. For primiparous women in particular, the childbirth process remains in their minds as a moment filled with uncertainty and unforgettable memories. It has been noted that this process has the potential to influence the woman's future decisions (Ozcalik & Aksoy, 2024; Rowlands & Redshaw, 2012).

When examining attitudes toward childbirth, it has been reported that women who give birth with a midwife experience a positive birth experience (Ozcalik & Aksoy, 2024; Kurz et al., 2022). In contrast, instrumental vaginal deliveries are more likely to be associated with perineal pain, urinary incontinence, hemorrhoids, and sexual problems compared to spontaneous vaginal deliveries. This association persists even when birth-related factors such as the length of labor and the degree of perineal trauma are considered (Rowlands & Redshaw, 2012). It is well-known that events during and after birth leave significant marks in the mother's memory, and these impressions play a decisive role in shaping her future behaviors and decisions (Beck, 2004; Beck & Watson, 2008; Ozcalik & Aksoy, 2024). In this context, birth memories refer to the experiences of childbirth that reside in a woman's memory and are recalled when necessary (Topkara & Çağan, 2021). Birth memories begin to form with the information acquired during pregnancy and are further reinforced by the experiences of childbirth and the postpartum period (Topkara & Çağan, 2021) and play a critical role in understanding how a mother perceives her childbirth experience and how this perception reflects on her behaviors during the postpartum period (Ozcalik & Aksoy, 2024). A positive birth memory enhances a woman's self-confidence and facilitates strong bonding with her baby. Furthermore, it supports the mother's overall psychological well-being (Garthus-Niegel et al., 2014). On the other hand, a negative birth memory can lead to serious consequences that adversely affect both the mother and the child, such as maternal-baby bonding issues, low self-esteem, postpartum depression, delays in child care, sexual disinterest, and breastfeeding difficulties (Sun et al., 2023; Tzitiridou-Chatzopoulou et al., 2023).

Research has shown that birth experiences have significant impacts on a mother's psychological health after childbirth. Traumatic birth experiences may increase the mother's risk of postpartum depression and anxiety (Ozcalik & Aksoy, 2024; Rowlands & Redshaw, 2012; Tzitiridou-Chatzopoulou et al., 2023). Beck and Watson (2008) indicated that traumatic births have negative effects on the breastfeeding process, which can create lasting impacts on the mother's overall psychological well-being. Similarly, Tzitiridou-Chatzopoulou et al. (2023) emphasized that traumatic birth experiences are associated with postpartum depression and breastfeeding difficulties. Ozcalik and Aksoy (2024) stated that birth memories and trauma negatively affect postpartum maternal functioning (such as caring for the baby, self-care, bonding with the baby, psychological health, social support, managing the maternal role, and adapting to this role).

The positive recollection of birth memories is essential for protecting women's mental health in the postpartum period. Therefore, it is emphasized that birth memories and recollections should be investigated (Ayers & Ford, 2014). When reviewing the literature, several studies investigating the effects of birth memory on the postpartum period have been conducted in the past five years (Ozcalik & Aksoy, 2024; Sarisoy & Tuğut, 2023; Topkara & Çağan, 2021). However, no studies have been found that examine the impact of birth memory on breastfeeding adaptation. The aim of this study is to examine the relationship between birth memory and breastfeeding adaptation in primiparous women and to identify the socio-demographic and obstetric factors associated with both birth memory and breastfeeding adaptation.

Research Questions:

- What is the distribution of the participants' socio-demographic, birth, and postpartum characteristics?
- What are the subscale and total mean scores of the "Birth Memory and Recall Scale" and the "Breastfeeding Adaptation Scale" at the first and second measurements?
- Do the "Birth Memory and Recall Scale" and "Breastfeeding Adaptation Scale" scores differ based on participants' socio-demographic and obstetric characteristics?
- What is the relationship between participants' characteristics and their "Birth Memory and Recall Scale" and "Breastfeeding Adaptation Scale" scores?
- What is the relationship between participants' birth memory and their level of breastfeeding adaptation?

Methods

Type of Research

This research is descriptive and relational in nature. The STROBE checklist was used in the planning, implementation, and reporting of the study design (Von Elm et al., 2008).

Place and Time of Research

The research was conducted at a private university hospital between March and July 2024. In the institution where the

research was conducted, women who deliver vaginally are discharged 24 hours later if there are no health issues.

Population of the Study

The population of the study consists of primiparous women who applied to the hospital where the study was conducted for vaginal delivery and were admitted to the delivery unit between March and July 2024.

Sample of the Study

The required minimum sample size for this study was determined through power analysis (G*Power Version 3.1.9.2). The backward linear regression analysis findings (variance 5.3%) from Çark and Çankaya's (2024) study on birth memory and breastfeeding attitudes on the 1st day postpartum were used in the calculation. Accordingly, the effect size was calculated as 0.056, the power of the study was set at 80% (1-β), and the Type 1 error rate (α) was set at 5%. The predicted model included 6 predictor variables. In this context, the minimum required sample size was calculated as 250. Considering a 10% data loss, the study was completed with 274 participants. Participants were included in the study using a simple random sampling method.

Inclusion Criteria

The study included women who voluntarily agreed to participate, could read and speak Turkish, were between 18 and 45 years old, were primiparous, had a term vaginal delivery, gave birth to a healthy singleton infant in vertex position, exclusively breastfed their baby with breast milk during the study period, and did not have a risky pregnancy or any chronic disease.

Exclusion Criteria

Women were excluded if they underwent amniotomy, experienced any maternal or neonatal health issues preventing breastfeeding, had a stillbirth, were discharged from the hospital for any reason before 24 hours postpartum, did not respond to follow-up calls on the 15th day, or withdrew from the study at any stage.

Data Collection Tools

Data were collected using a "Personal Information Form," "Birth Memory and Recall Scale (BMRS)," and "Breastfeeding Adaptation Scale (BAS)," all developed by the researchers in line with the literature.

Personal Information Form: The "Personal Information Form," prepared by the researchers based on the literature (Çankaya & Akin, 2023; Özdilek & Dinçel, 2023), includes 10 questions about the participants' socio-demographic characteristics and characteristics related to the birth and postpartum periods (age, education level, family type, income status, height, weight, gestational week, pregnancy planning status, presence of overnight caregivers at home postpartum, and room-sharing status with the baby).

Birth Memory and Recall Scale (BMRS): The scale, developed by Foley et al. (2014) to measure the quality of women's birth memories, was adapted into Turkish with validity and reliability confirmed by Topkara and Çağan (2021). The scale consists of 21 items and 6 subscales (emotional memory, centrality of memory, ambivalent emotional memory, consistency and re-experience, sensory memory, and involuntary recall). The lowest score on the scale is 21, and the highest score is 147. A higher score indicates more negative and complex emotions related to the birth experience, a consistent birth memory, centrality of birth memory in the mother's cognition, frequent re-experiencing of the birth event, enhanced sensory memory related to the birth experience, and frequent involuntary recall. In Topkara and Çağan's (2021) study, the Cronbach's alpha for the scale was reported as 0.79. In this study, the Cronbach's alpha coefficient for the "Birth Memory and Recall Scale" was found to be 0.74 for the pre-test and 0.86 for the post-test.

Breastfeeding Adaptation Scale (BAS): The BAS was developed by Kim (2009) and its Turkish validity and reliability were established by Dinçel and Özdilek (2021). The BAS consists of 27 items and 8 subscales that assess breastfeeding adaptation. The subscales include emotional changes with the baby (4 items), breastfeeding confidence (5 items), adequacy of breast milk (3 items), the baby's feeding capacity and growth (4 items), recognizing the baby (4 items), breastfeeding discomfort (3 items), continuity of breastfeeding (2 items), and support (2 items). The total score from all items represents the breastfeeding adaptation score. The minimum possible score is 27, and the maximum is 135, with a higher score indicating better breastfeeding adaptation. In the study by Dinçel and Özdilek (2021), the Cronbach's alpha value of the scale was reported as 0.78. In this study, the Cronbach's alpha coefficient for the BAS was 0.94 for the first measurement and 0.80 for the second measurement.

Data Collection Method

After obtaining the necessary permissions and consents, socio-demographic and prenatal questions from the "Personal Information Form" were asked to pregnant women in the latent phase who met the sample selection criteria and voluntarily agreed to participate in the study. At the time of postpartum discharge (24th hour), the postpartum information in the "Personal Information Form," as well as the "Birth Memory and Recall Scale (BMRS)" and the "Breastfeeding Adaptation Scale (BAS),"

were completed. On the 15th day postpartum, the women were contacted by phone, and the "Birth Memory and Recall Scale (BMRS)" and the "Breastfeeding Adaptation Scale (BAS)" were administered again. The interviews lasted an average of 13.52±6.81 minutes.

Statistical Analysis

The research data were analyzed using SPSS version 25.0 (IBM SPSS Corp., Armonk, NY, USA). The normal distribution of the data was assessed by Skewness and Kurtosis values (±2), confirming that the data had a normal distribution (Kline, 2016). Descriptive statistics (number, percentage, mean, standard deviation, minimum, and maximum) were used to analyze the participants' demographic characteristics. Independent Samples t-test and One-way ANOVA were used to determine differences between variables, while Tukey's test was employed for post-hoc analysis. Pearson correlation analysis was used to examine relationships between the scales. Statistical significance was set at $p < .05$.

Ethical Considerations

Before starting the study, ethical approval was obtained from the İstanbul Medipol University University Non-Interventional Clinical Research Ethics Committee (Approval Number: E-10840098-202.3.02-1633, Date: February 26, 2024). The study was conducted in accordance with the Helsinki Declaration. Written and verbal informed consent was obtained from all participants prior to their enrollment in the study.

Results

The average age of the participants was 28.52±3.56 years (min: 22, max: 39), the average Body Mass Index (BMI) was 29.33±3.10 (min: 18.37, max: 36.65), and the average gestational week was 38.71±0.74 weeks (Table 1).

Of the participants, 59.1% (n=162) were university graduates, 89.8% (n=246) lived in nuclear families, 70.4% (n=193) had income equal to their expenses, and 94.9% (n=260) had planned their pregnancy. Additionally, 98.2% (n=269) of the participants reported having a live-in person at home after delivery, and 94.5% (n=259) shared a room with their baby (Table 1).

According to the results of the first measurement of the BMRS, the participants' average emotional memory score was 9.44±4.46 (min: 3, max: 21), ambivalent emotional memory score was 9.39±3.31 (min: 2, max: 14), centrality of memory score was 17.91±4.86 (min: 4, max: 28), consistency and re-experience score was 26.03±6.61 (min: 6, max: 41), sensory memory score was 16.81±4.98 (min: 4, max: 28), and involuntary recall score was 7.90±3.47 (min: 2, max: 14). The total score of the BMRS at the first measurement was 87.51±15.19 (min: 57, max: 134) (Table 2).

Table 1.
Distribution of Participants' Socio-demographic and Birth/Postpartum Characteristics (n=274)

Characteristics	X±SD (Min-Max)
Age (years)	28.52±3.56 (22-39)
Height (cm)	163.08±5.71 (150-178)
Weight (kg)	78.06±9.60 (50-98)
Body mass index	29.33±3.10 (18,37-35,65)
Gestational week	38.71±0.74 (38-41)
	n (%)
Educational Level	
Primary school	15 (5.5)
High school	97 (35.4)
University	162 (59.1)
Family Type	
Nuclear	246 (89.8)
Extended	28 (10.2)
Income Status	
Income less than expenses	15 (5.5)
Income equal to expenses	193 (70.4)
Income more than expenses	66 (24.1)
Pregnancy Planning	
Planned pregnancy	260 (94.9)
Unplanned pregnancy	14 (5.1)
Live-in Support Postpartum	
Yes	269 (98.2)
No	5 (1.8)
Room Sharing with Baby	
Yes	259 (94.5)
No	15 (5.5)

X: Mean; SD: Standard Deviation

According to the results of the second measurement of the BMRS, the participants' average emotional memory score was 8.85±3.96 (min: 3, max: 19), ambivalent emotional memory score was 9.59±2.50 (min: 3, max: 14), centrality of memory score was 17.75±4.86 (min: 4, max: 28), consistency and re-experience score was 25.54±6.32 (min: 11, max: 38), sensory memory score was 18.83±6.85 (min: 4, max: 28), and involuntary recall score was 8.52±3.24 (min: 2, max: 14). The total score of the BMRS at the second measurement was 89.10±18.16 (min: 44, max: 129) (Table 2).

According to the results of the first measurement of the BAS, the participants' average emotional change with baby score was 17.59±2.38 (min: 12, max: 20), breastfeeding confidence score was 18.59±5.15 (min: 8, max: 25), adequacy of breast milk score was 10.32±2.93 (min: 5, max: 15), the baby's feeding capacity and growth score was

14.32±3.71 (min: 7, max: 20), recognizing the baby score was 14.28±3.36 (min: 8, max: 20), breastfeeding discomfort score was 10.71±2.75 (min: 3, max: 15), continuity of breastfeeding score was 8.08±1.24 (min: 6, max: 10), support score was 8.97±1.18 (min: 6, max: 10), and the total score of the BAS at the first measurement was 102.89±17.71 (min: 71, max: 133) (Table 2).

According to the results of the second measurement of the BAS (postpartum Day 15), the participants' average emotional change with baby score was 18.97±2.13 (min: 12, max: 20), breastfeeding confidence score was 23.05±2.55 (min: 15, max: 25), adequacy of breast milk score was 12.97±1.86 (min: 7, max: 15), the baby's feeding capacity and growth score was 17.37±2.62 (min: 6, max: 20), recognizing the baby score was 16.65±2.03 (min: 10, max: 20), breastfeeding discomfort score was 11.77±3.68 (min: 3, max: 21), continuity of breastfeeding score was 8.23±1.61 (min: 3, max: 10), support score was 8.42±2.04 (min: 2, max: 10), and the total score of the BAS at the second measurement was 117.47±9.90 (min: 95, max: 131) (Table 2).

Table 2.
Mean Scores of BMRS and BAS Subscales and Total Scores at the First and Second Measurements

	M1 X± SD (Min-Max)	M2 X± SD (Min-Max)
BMRS Subscales		
Emotional Memory	9.44±4.46(3-21)	8.85±3.96(3-19)
Ambivalent Emotional Memory	9.39±3.31(2-14)	9.59±2.50(3-14)
Centrality of Memory	17.91±4.86(4-28)	17.75±4.86(4-28)
Consistency and Re-experience	26.03±6.61(6-41)	25.54±6.32(11-38)
Sensory Memory	16.81±4.98(4-28)	18.83±6.85(4-28)
Involuntary Recall	7.90±3.47(2-14)	8.52±3.24(2-14)
BMRS Total	87.51±15.19(57-134)	89.10±18.16(44-129)
BAS Subscales		
Emotional Change with Baby	17.59±2.38(12-20)	18.97±2.13(12-20)
Breastfeeding Confidence	18.59±5.15(8-25)	23.05±2.55(15-25)
Adequacy of Breast Milk	10.32±2.93(5-15)	12.97±1.86(7-15)
The Baby's Feeding Capacity and Growth	14.32±3.71(7-20)	17.37±2.62(6-20)
Recognizing the Baby	14.28±3.36(8-20)	16.65±2.03(10-20)
Breastfeeding Discomfort	10.71±2.75(3-15)	11.77±3.68(3-21)
Continuity of Breastfeeding	8.08±1.24(6-10)	8.23±1.61(3-10)
Support	8.97±1.18(6-10)	8.42±2.04(2-10)
BAS Total	102.89±17.71(71-133)	117.47±9.90(95-131)

M1: Measurement 1; M2: Measurement 2; X: Mean; SD: Standard Deviation; BMRS: Birth Memory and Recall Scale; BAS: Breastfeeding Adaptation Scale

A significant difference was found between educational level and the total score of the BMRS at the first measurement (p= .000). It was determined that this difference stemmed from the comparisons between primary school graduates and high school graduates (p= .011), and between high school graduates and university graduates (p= .002). No significant differences were found between family type, income status, pregnancy planning status, the presence of a live-in person at home postpartum, room-sharing with the baby, and the BMRS total score at the first measurement (p > .005) (Table 3).

Significant differences were found between educational level and the total score of the BMRS at the second measurement (p= .002). It was determined that the difference was due to the comparison between high school graduates and university graduates (p= .002). No significant differences were found between family type, income status, pregnancy planning status, the presence of a live-in person at home postpartum, room-sharing with the baby, and the BMRS total score at the second measurement (p > .005) (Table 3).

A significant difference was found between educational level and the total score of the BAS at the first measurement (p = .000). It was observed that this difference resulted from the comparisons between primary school graduates and university graduates (p = .005), and between high school graduates and university graduates (p= .000). Significant differences were also found between the presence of a live-in person at home postpartum, room-sharing with the baby, and the BAS total score at the first measurement (p= .001, p= .000, and p = .018, respectively). No significant differences were found between family type,

income status, pregnancy planning status, and the BAS total score at the first measurement (p > .005) (Table 3).

Table 3.
Comparison of BMRS and BAS Mean Scores Based on Participants' Characterics (n=274)

Characteristics	BMRS M1	BMRS M2	BAS M1	BAS M2
	X± SD	X± SD	X± SD	X± SD
Educational Level				
Primary school	80.00±9.14[1]	94.33±2.96[1]	97.33±14.30[1]	119.33±5.09
High school	92.00±14.20[2]	93.62±14.23[2]	91.27±14.82[2]	117.36±9.44
University	85.52±15.57[3]	85.91±20.31[3]	110.35±15.58[3]	117.37±10.50
F;*p*	7.824; **.000**	6.372; **.002**	48.499; **.000**	0.278; .757
Post-hoc*	**1-2= .011** **2-3= .002**	**2-3= .002**	**1-3= .005** **2-3= .000**	
Family Type				
Nuclear	87.61±15.34	88.76±16.64	102.89±17.56	117.50±9.82
Extended	86.60±13.99	92.14±28.48	102.89±19.34	117.25±10.74
t;*p*	0.333; .772	-0.934; .351	-0.001; .999	0.118; .907
Income Status				
Income less than expenses	85.33±20.42	97.33±5.43	111.33±12.14	112.00±7.36[1]
Income equal to expenses	88.80±15.39	88.72±20.17	103.13±18.07	117.33±9.91[2]
Income more than expenses	84.22±12.73	88.34±12.65	100.25±17.23	119.12±10.00[3]
F;*p*	2.424; .090	1.646; .195	2.478; .086	3.279; **.039**
Post-hoc*				**1-3= .032**
Pregnancy Planning				
Planned pregnancy	87.20±15.50	88.86±17.33	108.71±16.96	123.57±4.21
Unplanned pregnancy	93.35±4.14	93.50±30.30	102.57±17.72	117.14±10.01
t;*p*	-1.480; .140	-.929; .354	-1.315; .209	-4.991; **.000**
Live-in Support Postpartum				
Yes	87.56±15.33	89.31±18.26	102.55±17.70	117.44±9.99
No	85.00±.00	78.00±.00	121.00±.00	119.00±.00
t;*p*	0.373; .709	1.382; .168	-17.090; **.000**	-2.551; **.011**
Room Sharing with Baby				
Yes	87.25±15.13	89.22±17.38	102.13±17.32	117.63±9.87
No	92.00±16.05	87.00±29.32	116.00±19.80	114.66±10.32
t;*p*	-1.177; .240	2.731; .645	-2.654; **.018**	1.086; .294

M1: Measurement 1; M2: Measurement 2; X: Mean; SD: Standard Deviation; BMRS: Birth Memory and Recall Scale; BAS: Breastfeeding Adaptation Scale; t: Independent Samples t Test; F: One-way ANOVA; *: Post-hoc Tukey test

A significant difference was found between income status and the total score of the BAS at the second measurement (p= .039). It was determined that this difference was due to the comparison between those whose income was less than their expenses and those whose income was more than their expenses (p= .032). Significant differences were also found between pregnancy planning status, the presence of a live-in person at home postpartum, and the BAS total score at the second measurement (p = .032, p= .000, and p= .011, respectively). No significant differences were found between educational level, family type, room-sharing with the baby, and the BAS total score at the second measurement (p > .005) (Table 3).

A weak positive correlation was found between age and the total score of the first measurement of the Breastfeeding Adaptation Scale (BAS) (r= 0.154, p < .01), while a moderate positive correlation was observed between age and the total score of the second measurement of the BAS (r= 0.311, p < .01). A strong positive correlation was found between the total scores of the first and second measurements of the Birth Memory and Recall Scale (BMRS) (r= 0.583, p < .01). A weak negative correlation was observed between the total score of the first BAS measurement and the total score of the first BMRS measurement (r= -0.122, p < .05). Similarly, a weak negative correlation was found between the total score of the first BAS measurement and the total score of the second BMRS measurement (r= -0.154, p < .01). A weak negative correlation was also identified between the total score of the second BAS measurement and the total score of the first BMRS measurement (r= -0.187, p < .01), as well as between the total score of the second BAS measurement and the total score of the second BMRS measurement (r= -0.172, p < .01). Additionally, a weak positive correlation was found between the first and second BAS total scores (r= 0.260, p < .01) (Table 4).

Table 4.
Examination of the Relationship Between Participants' Characteristics and Scale Scores

		Age	BMI	GW	BMRS Total M1	BMRS Total M2	BAS Total M1	BAS Total M2
Age	r	-						
BMI	r	0.074	-					
GW	r	0.042	-0.076	-				
BMRS Total M1	r	0.041	-0.092	0.009	-			
BMRS Total M2	r	-0.094	0.068	-0.096	.583**	-		
BAS Total M1	r	.154**	-0.063	0.077	-.122*	-.154**	-	
BAS Total M2	r	.311**	-0.011	-0.092	-.187**	-.172**	.260**	-

r: Pearson correlation coefficient, *: p<0.05; **: p<0.01; BMI: Body Mass Index; GW: Gestational Week; BMRS: Birth Memory and Recall Scale; BAS: Breastfeeding Adaptation Scale; M1: Measurement 1; M2: Measurement 2

Discussion

Birth memory and breastfeeding adaptation are two critical components influencing women's psychological and physical well-being during the postpartum period. Birth memory refers to a woman's recollections of the birth process and the long-term psychological effects of these memories, while breastfeeding adaptation reflects the ability to adjust to breastfeeding and cope with its challenges. Current literature highlights the significant impact of these two factors on maternal health during the postpartum period (Tzitiridou-Chatzopoulou et al., 2023). This study aimed to examine the relationship between birth memory and breastfeeding adaptation in primiparous women, and to identify sociodemographic and obstetric variables associated with these outcomes.

The participants' mean age was 28.52±3.56 years and their mean gestational age was 38.71±0.74 weeks, indicating that the study captured women in the immediate postpartum period, when birth experiences and breastfeeding behaviors are still forming. Most participants had a university degree (59.1%), lived in nuclear families (89.8%), and had planned their pregnancies (94.9%), suggesting a sample with generally high socioeconomic and educational levels.

The Birth Memory and Recall Scale (BMRS) is designed to evaluate women's emotional, sensory, and cognitive responses to their birth memories. Higher scores indicate more intense, complex, and often negative emotional experiences (Topkara & Çağan, 2021). The scale demonstrated strong reliability in this study (α = 0.74 at the first measurement, α = 0.86 at the second). Comparison of the two measurements revealed increases in subdimensions such as sensory memory and involuntary recall. This suggests that birth memories may become more central over time, with an increase in involuntary recollections. It is well documented that women often experience ambivalent emotions during pregnancy and childbirth (Khaled et al., 2020), and that negative or traumatic events during labor (e.g., episiotomy, fundal pressure) can become deeply embedded in maternal memory (Gregory & Maddern, 2025; İnan Kırmızıgül et al., 2025; Olza et al., 2018).

In this study, BMRS scores were 87.51±15.19 at the first measurement and 89.10±18.16 at the second, with a strong positive correlation between the two (r = 0.583, $p < .01$). This indicates that the emotional effects of the birth experience did not diminish significantly in the short term and, in some cases, persisted. The highest subdimension scores were observed in ambivalent emotional memory, sensory memory, and involuntary recall, highlighting the centrality and cognitive salience of the birth experience. These findings align with previous research reporting similar average BMRS scores (Altuntuğ et al., 2023; Crawley et al., 2018; Çankaya & Akın, 2023;), and support the notion that childbirth is not merely a physiological event but a deeply encoded emotional and sensory experience.

A significant relationship was found between educational level and BMRS total scores in both measurements ($p = .002$). Interestingly, while women with primary education initially reported the lowest negative emotions, they exhibited the highest negative emotions in the second measurement. This may reflect a discrepancy between expectations and actual postpartum experiences among women with lower educational attainment, who may have limited knowledge about childbirth and fail to recognize negative aspects initially. Over time, the emotional impact of their experience may become more pronounced (Dağlı et al., 2025; Karakoç et al., 2025). Conversely, women with university degrees showed consistent BMRS scores across both measurements, possibly due to higher baseline knowledge and preparedness for the birth experience. The

negative association between education level and BMRS scores at the second measurement suggests that better-informed women may be less emotionally burdened postpartum. While some studies report an inverse relationship between birth memory and education or age (Karakoç et al., 2022), others, such as Altun et al. (2021), found no significant effect of education, suggesting that birth memory frequency decreases with age. This study contributes to the ongoing discussion in the literature by offering evidence supporting both perspectives.

Although no statistically significant differences were observed between BMRS scores and certain variables at the second measurement (15 days postpartum), trends suggested that women living in extended families, with unplanned pregnancies, insufficient income, or overnight household guests experienced higher BMRS scores. These psychosocial stressors may exacerbate negative postpartum emotional experiences. For instance, extended family settings may compromise maternal privacy, while live-in relatives can limit personal time and autonomy (Türkmen et al., 2024; Yang et al., 2024). Financial difficulties may reduce a mother's capacity to cope with stress (Jamal et al., 2025; Shorey et al., 2025), and unplanned pregnancies may result in emotional unpreparedness (Khodadoust et al., 2024). While not all associations were statistically significant, the observed patterns warrant further investigation in larger, more diverse samples.

The Breastfeeding Adaptation Scale (BAS) offers a multidimensional assessment of maternal adaptation to breastfeeding, where higher scores indicate better adaptation (Dinçel & Özdilek, 2021). The scale showed strong internal consistency in this study ($\alpha = 0.94$ for the first measurement, $\alpha = 0.80$ for the second). The mean BAS score increased from 102.89±17.71 at the first measurement to 117.47±9.90 at the second, and the positive correlation between these measurements ($r = 0.311$, $p < .01$) suggests that breastfeeding adaptation improves over time.

Significant differences in BAS scores were found at the first measurement based on educational level, room-sharing with the infant, and whether someone lived with the mother postpartum ($p < .01$). At the second measurement, income level, pregnancy planning, and the presence of an overnight guest were significantly associated with BAS scores. These findings imply that financial security and planned pregnancies positively influence breastfeeding adaptation. Initially, university graduates had higher BAS scores, indicating a more prepared and motivated approach to breastfeeding, likely due to higher knowledge levels. However, this difference diminished in the second measurement, suggesting that over time, all mothers were able to adapt regardless of education. This supports the notion that breastfeeding is a learnable and experiential process, where challenges are overcome and skills improved over time (Edwards et al., 2021; Haas et al., 2022).

The presence of an overnight guest may have varying effects depending on the nature of the support. While a helpful individual may provide relief and share caregiving responsibilities, a non-supportive or intrusive person may negatively impact the mother's adaptation. This study found that not having an overnight guest was associated with better breastfeeding adaptation. This may be due to greater privacy, autonomy, and opportunities for mother-infant bonding. Additionally, some family members may, even with good intentions, interfere with breastfeeding decisions or impose traditional practices, undermining maternal confidence (Türkmen et al., 2024; Yang et al., 2024). These findings reinforce the understanding that breastfeeding is not only a biological process but one shaped by social context, support systems, and psychological well-being.

One of the most noteworthy findings of this study was the weak but significant negative correlation between BMRS and BAS scores ($r = –0.122$ to $–0.187$, $p < .05$). This suggests that women with more negative or emotionally intense birth memories may struggle more with breastfeeding adaptation. Given that childbirth is among the most emotionally intense events in a woman's life, a traumatic or stressful experience may adversely affect both psychological health and the transition to motherhood. Prior studies have reported similar associations (Norman et al., 2025; Tzitiridou-Chatzopoulou et al., 2023; Beck, 2022). Emotional distress may reduce a mother's motivation, confidence, and coping capacity related to breastfeeding. Pérez-Blasco et al. (2013) found that positive birth memories enhanced breastfeeding attitudes and maternal adaptation. Thus, the emotional quality of birth memories appears to have not only psychological significance but also practical implications for early postpartum care. These findings underscore the importance of supporting not only the physiological but also the psychological aspects of maternal health in postpartum care.

Limitations of the Study

One of the main factors limiting the generalizability of this study is that the data were collected only from primiparous women who had vaginal births and episiotomies at a single hospital. Moreover, the fact that the study was conducted exclusively in a private hospital is another limitation, as it may have influenced participants to develop more positive

attitudes in relation to birth memory. Additionally, the limited number of existing studies on birth memory posed a challenge during the literature review and manuscript preparation process.

Conclusion and Recommendations

This study examined the effect of birth memory on breastfeeding adaptation in primiparous women, and the results demonstrated that birth memory can significantly influence breastfeeding adaptation during the postpartum period. It was found that mothers with negative birth memories struggled with breastfeeding adaptation, particularly in subscales such as breastfeeding confidence and recognizing the baby. On the other hand, mothers with positive birth memories were better able to adapt to the breastfeeding process and establish a stronger emotional bond with their babies.

To ensure that women have a positive birth experience, more conscious and supportive approaches to the birth process should be developed. Providing continuous care during childbirth, along with physical and emotional support, should aim to reduce anxiety and encourage active participation in the birth process. Particularly for primiparous women, education and guidance should be provided to help them understand the birth process and prevent the formation of negative memories.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of İstanbul Medipol University (Date: February 26, 2024, Number: E-10840098-202.3.02-1633).

Informed Consent: Written and verbal informed consent was obtained from all participants prior to enrollment in the study.

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