

# Exploring Newborn Bathing Practices among Mothers in the Postpartum Period

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## Makale Bilgisi

### Makale Geçmişi

Geliş Tarihi: 15.09.2023

Kabul Tarihi: 31.10.2023

Yayın Tarihi: 25.08.2024

### Anahtar Kelimeler

Mothers,  
Bath,  
Infant,  
Postpartum,  
Practice.

## ABSTRACT

This study aims to assess the practices of mothers with newborn babies concerning newborn bathing and determine its correlation with socio-demographic variables. This descriptive research was conducted with a study population comprising 215 mothers with newborns admitted to the gynecology and obstetrics service of a training and research hospital between December 2022 and May 2023. Data for the study were gathered through a socio-demographic information form concerning the mother and newborn, along with a questionnaire focusing on information and practices related to newborn bathing. In the study, 65.6% of the participating mothers were aged 30 and below, and 81.4% possessed a university or higher education. A notable 29.8% of the mothers adhered to a traditional practice during their newborn's first bath, with the majority (17.7%) preferring washing with salt water. As for bathing practices, 81.4% of the mothers opted for the newborn's first bath to be a whole-body bath, and 62.3% initiated bathing after the umbilical cord stump had fallen off. Additionally, 70.2% of the mothers had received prior information about newborn bathing, primarily from health personnel (31.6%). The mothers' knowledge and practices regarding newborn bathing were found to be insufficient, with an observed improvement in accuracy as their age and education levels increased. Offering planned education to mothers both before and after childbirth can significantly contribute to the establishment of safe bathing environments.

## Doğum Sonrası Dönemde Annelerin Yenidoğan Banyosu Uygulamalarının İncelenmesi

### Article Info

#### Article History

Received: 15.09.2023

Accepted: 31.10.2023

Published: 25.08.2024

#### Keywords

Anneler,  
Banyo,  
Bebek,  
Doğum Sonrası,  
Uygulama.

### ÖZET

Bu çalışmada, yenidoğan bebeğe sahip olan annelerin bebek banyosu konusunda yaptıkları uygulamaları değerlendirmek ve sosyo-demografik değişkenlerle ilişkisini belirlemek amaçlandı. Tanımlayıcı olarak planlanan bu çalışmanın evrenini; bir eğitim ve araştırma hastanesinin kadın hastalıkları ve doğum servisinde, Aralık 2022-Mayıs 2023 tarihleri arasında yatan ve yenidoğan bebeği olan 215 anne oluşturdu. Çalışmada veriler; anne ve bebeğe ait sosyo-demografik bilgi formu ve bebek banyosu bilgi ve uygulamaları anket formu kullanılarak toplandı. Çalışmaya katılan annelerin %65,6'sının 30 yaş ve altında olduğu ve %81,4'ünün üniversite ve üzeri eğitim aldıkları görüldü. Annelerin %29,8'inin bebeğinin ilk banyosu esasında geleneksel bir uygulama yaptığı ve geleneksel uygulama olarak en fazla (%17,7) tuzlu su ile yıkamayı tercih ettiği belirlendi. Annelerin %81,4'ünün bebeğinin ilk banyosunu tüm vücut banyosu olarak yaptırdığı ve %62,3'ünün ilk olarak göbeği düştükten sonra banyo yaptırdığı saptandı. Annelerin %70,2'sinin bebek banyosu konusunda önceden bilgi aldığı ve en fazla (%31,6) sağlık personelinin bilgi aldıkları tespit edildi. Annelerin bebek banyosu konusundaki bilgi ve uygulamalarının istenen düzeyde olmadığı, yaş ve eğitim düzeyleri arttıkça bebek banyosu konusunda daha doğru yaklaşımlar gösterdikleri belirlendi. Doğum öncesi ve sonrasında annelere bebek banyosuyla ilgili planlı bir eğitim verilmesi, güvenli banyo ortamlarının oluşturulması konusunda önemli bir katkı sağlayacaktır.

### To cite this article

Boran, S., Kahrıman, İ. & Doğan Polat, S. (2024). Exploring newborn bathing practices among mothers in the postpartum period, *Journal of General Health Sciences*, 6(2), 239-254.  
<https://doi.org/10.51123/jgehes.2024.126>

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## **INTRODUCTION**

Traditions encompass cultural heritages, habits, knowledge, and behaviors transmitted from generation to generation and across societies. In every culture, beliefs and practices regarding health form an integral part of the societal fabric. The connection between culture and society is inseparable, with the impact of culture evident across various subjects, including health-related issues (Akçay et al., 2019; Beyene Derribow et al., 2023; Çınar et al., 2015; Samakya et al., 2023). The cultural values, beliefs, and behaviors of a society exert a profound influence on the lifestyles and health conditions of its individuals. Traditional health practices encompass the medical approaches adopted by a society based on their beliefs, traditions, values, and cultures. Every society harbors unique beliefs and practices related to health and illness. Traditional practices are pervasive globally, exhibiting variations from region to region, family to family, and person to person (Biltekin et al., 2004; Eğri & Konak, 2011). Notably, traditional practices concerning newborn care and bathing, often passed down based on hearsay, may unknowingly pose risks to newborn health (Accorsi et al., 2003; Geçkil et al., 2009).

The initial bath for a newborn is advised to be a wiping bath before the umbilical cord stump falls, transitioning to a regular bath once the stump has naturally detached. It is further recommended that the first bath takes place after ensuring the newborn's body temperature, heart rate, and respiratory rate are stabilized (Beyene Derribow et al., 2023; Ceylan & Bolışık, 2022). Engaging in harmful traditional practices during the bathing of a newborn may lead to illness, infection, prolonged treatment processes, and potential sequelae in later life. Common mispractices, often stemming from harmful traditional practices, can impede the timely diagnosis and treatment of infants, exerting detrimental effects on their health (Özyazıcıoğlu & Polat, 2004). Furthermore, harmful traditional practices during the postpartum period for newborns may lead to complications such as infections, hypothermia, dehydration, hypoglycemia, and anemia, with severe consequences, including infant deaths (Celasin et al., 2022; Pekyiğit et al., 2020).

Various cultural practices exist concerning the first bath of newborn babies (Srinivasa et al., 2018; Utaş, 2011). The World Health Organization (WHO) guidelines recommend delaying the first bath until after six hours of birth (World Health Organization, 2022). However, in the published literature (Conk et al., 2013; Long et al., 2020), it is suggested to perform the first bath within 2-4 hours when the vital signs of the newborn and body temperature are stable, while also advocating for a postponement if the vital signs are not stable. Once the body temperature of newborn babies stabilizes, initiating with a wiping bath becomes essential to cleanse the body of any residual blood and mucus. Notably, during the wiping process, complete removal of all vernix caseosa is not considered hygienically appropriate. It is advisable to continue wiping the newborn until the umbilical cord naturally falls off. This issue requires attention, as a humid environment can prolong the time it takes for the umbilical cord to fall off and increase the risk of infection. Typically, the umbilical cord dries out in approximately 10-12 days, and normal bathing is advised after the cord naturally detaches. There are varying opinions on the ideal bath water temperature, with recommendations suggesting it should be close to body temperature (37-37.5°C) or a lower temperature range (34-36°C) (Çavuşoğlu, 2015; Fernandes et al., 2011).

The bathing process for newborns should be brief, ideally lasting less than 5 minutes, and the environmental temperature should be regulated after bathing (Utaş, 2011). At birth, the skin surface of a newborn has a neutral or alkaline pH ranging from 6.2 to 7.5. By the end of the first month, the skin develops an acidic surface pH value of 5.0 to 5.5, a level closely resembling that in adults and older children (Fluhr et al., 2010). The soaps or shampoos used during the bathing process should be appropriate for the pH of the newborn's skin. It is advisable to choose products that have been safety-tested and do not contain preservatives, perfumes, or dyes (Fernandes et al., 2011). Parents should be educated on bathing practices before being discharged from the hospital. The involvement of parents,

coupled with explanations from nurses, can be beneficial in promoting positive aspects of bathing safety. It is essential to demonstrate proper bath temperature and washing techniques during these educational sessions (Conk et al., 2013; Warren et al., 2020).

Literature investigating the bathing practices of mothers with healthy newborns is limited, with recent studies often employing weak designs and small convenience samples. While earlier studies utilized more rigorous methodologies and larger samples, their findings seem underutilized. Recognizing the need for up-to-date research employing robust methodologies and larger samples to guide evidence-based practices, it becomes crucial to thoroughly investigate maternal practices in newborn care and bathing. The present study aims to evaluate the practices of mothers with newborn babies concerning bathing and to explore their relationship with socio-demographic variables, contributing valuable insights to maternal awareness on this critical issue.

## **METHOD**

This research was conducted in a descriptive and relationship-determining manner to assess the practices of mothers with newborn babies regarding newborn bathing and to explore its relationship with socio-demographic variables. The study population comprised 215 mothers with newborn babies who were hospitalized in a training and research hospital's gynecology and obstetrics clinic between December 2022 and May 2023.

### **Data Collection Tools**

A socio-demographic information form for both the mother and the newborn, along with a questionnaire evaluating the mothers' approaches to newborn bathing, were employed in this study. The information form for mothers and newborns comprised an 11-question questionnaire, covering details such as the mother's age, education level, graduation status, social security status, income status, family structure, and the number of children, as well as information about the newborn. To gauge the knowledge and practices of mothers regarding newborn bathing, a 32-question questionnaire, developed by the researchers in line with the existing literature (Çalışkan & Bayat, 2011; Çınar et al., 2015; Pekiğiğit et al., 2020), was utilized. In creating the data collection form, a review of previous studies on this subject was conducted, and the most frequently asked questions were selected. Mothers independently completed the questionnaire form.

### **Data Analysis**

The licensed SPSS 26 (Statistical Package for the Social Sciences) package program was employed for data analysis. The study's data, including number and percentage distributions, are presented along with the mean and standard deviation. The normal distribution of continuous variables was assessed using the Kolmogorov-Smirnov test for normality analysis. For data that did not exhibit a normal distribution, the Kruskal-Wallis (KW) analysis of variance and Mann-Whitney U (MWU) test were utilized. In the case of normally distributed data, Student's t-test and ANOVA tests were applied. The chi-square test was employed to examine differences between groups concerning categorical variables. Throughout all analyses, a significance level of  $p < 0.05$  was considered statistically significant.

### **Informed Consent**

All the mothers participated in the study voluntarily. Mothers were informed with informed consent.

## RESULTS

65.6% of the mothers participating in the study were 30 years old or younger, with a mean age of  $29.8 \pm 4.1$  years, and 81.4% were university graduates. The study found that 59.1% of the mothers did not work in any job, and 60.0% of them had an income exceeding their expenses. Furthermore, 91.6% of the mothers stated that their family type was a nuclear family, and 93.0% mentioned that their family had social security. The data revealed that 75.3% of the mothers had a single child, 53.5% had a baby boy, and 83.7% gave birth between 38-42 weeks of gestation. Additionally, it was determined that 92.6% of the babies were born with a weight of 2500 grams and above, and 67.9% were born with a height of 50 cm and above (Table 1).

**Table 1**  
*Socio-Demographic Characteristics of Mothers and Newborn Information*

Features		n	%
<b>Mother's Age Group</b>	≤30 years	141	65.6
	≥31 years	74	34.4
<b>Mother's Educational Status</b>	Secondary school and below	12	5.6
	High school	28	13.0
	University	175	81.4
<b>Mother's Working Status</b>	Working	88	40.9
	Not working	127	59.1
<b>Income Level</b>	Income less than expenses	15	7.0
	Income equals expense	71	33.0
	Income more than expenses	129	60.0
<b>Family Type</b>	Extended family	18	8.4
	Nuclear family	197	91.6
<b>Social Security Status</b>	Yes	200	93.0
	No	15	7.0
<b>Number of Children</b>	1	162	75.3
	2	41	19.1
	3	11	5.1
	4 and above	1	0.5
<b>Newborn's Gender</b>	Girl	100	46.5
	Boy	115	53.5
<b>Newborn's Birth Week</b>	≤37 weeks	35	16.3
	38-42 weeks	180	83.7
<b>Newborn's Birth Weight</b>	<2500 grams	16	7.4
	≥2500 grams	199	92.6
<b>Newborn's Birth Size</b>	<50cm	69	32.1
	≥50 cm	146	67.9

When examining the knowledge and practices of mothers participating in the research on newborn bathing, most of them expressed the belief that the newborn's first bath should be conducted by the mother. Approximately one-third of the participants indicated following a traditional practice during the newborn's first bath, with a preference for washing the baby with salt water as part of this tradition. The majority of mothers asserted that the first bath for the newborn should be a whole-body bath, ideally after the umbilical cord has fallen off. It was determined that a significant number of mothers bathed their newborns five or more times a week in the summer and less than three times a week in the winter months. Most mothers reported that the newborn's umbilical cord typically fell between 7-10 days, and they believed that giving the baby a bath played a role in facilitating the cord's detachment. About two-thirds of the mothers received information about newborn bathing in advance, with health personnel being the primary source of this information. The majority of mothers mentioned that they prefer giving their baby a bath in the evening, between meals, and usually opt for bathing their baby in the bathroom. Additionally, most mothers expressed the opinion that the room temperature during the newborn's bath

should be 24 degrees Celsius or below. They typically gauge the bathwater temperature by using their elbows. It was observed that two-thirds of the mothers initiated the bathing process by washing the newborn's body first. Many of them utilized a special tub designed for newborns during the bathing process and favored washing by pouring water onto the baby. Many mothers reported facing challenges when washing their newborns' heads. To prevent slipping during baths, they often used a net and expressed concern about their infants slipping and falling. The majority of mothers used baby shampoo for washing their newborns' hair and employed special soap for their bodies. Additionally, they paid close attention to the ingredients in the products they purchased for bathing. Mothers typically used sponges for cleaning their babies' bodies, and while most did not use baby oil after bathing, they commonly massaged their infants afterward. A significant number of mothers believed that bathing had an impact on their newborns' sleep. During bath time, some mothers cleaned their baby's ears, while others preferred using olive oil for bathing when their newborns had dandruff on their heads. Ensuring thorough rinsing of the newborn's head was also emphasized to prevent dandruff formation (refer to Table 2 for details).

**Table 2**

*Distribution of Mothers' Knowledge and Practices About Newborn Bathing (n=215)*

Questions	Answers	n	%
<b>In your opinion, who should give your newborn a bath first?</b>	Mother	96	44.6
	Mother and father together	38	17.7
	With family elder	81	37.7
<b>Is there any traditional practice you do during the first bath?</b>	Yes	64	29.8
	No	151	70.2
<b>What traditional practices do you use in the bathing process?</b>	Washing with salt water	38	17.7
	Washing with egg water	2	0.9
	Fortieth-day bath	24	11.2
	None	151	70.2
<b>In your opinion, how should be done newborn's first bath?</b>	Wiping bath	34	15.8
	Head wash and body wipe	6	2.8
	Whole-body bath	175	81.4
<b>When do you think the newborn should be bathed for the first time?</b>	As soon as the newborn is born	13	6.1
	Within the first week	65	30.2
	After umbilical cord stump fell	134	62.3
	Other	3	1.4
<b>How many times do you wash your baby in a week in the summer?</b>	<5 times	86	40.0
	≥5 times	129	60.0
<b>How many times do you wash your baby in a week in the winter?</b>	<3 times	127	59.1
	≥3 times	88	40.9
<b>When do you think the newborn's umbilical cord stump falls?</b>	Within 7 days	53	24.7
	Between 7-10 days	140	65.1
	After 10 days	22	10.2
<b>Do you think the bath has an effect on the fall of the umbilical cord?</b>	Yes	74	34.4
	No	141	65.6
<b>Have you received information about newborn baths beforehand?</b>	Yes	151	70.2
	No	64	29.8
<b>Did you get information from whom about a newborn bath?</b>	Health personnel	68	31.6
	Family elders	54	25.1
	TV, newspaper, internet	29	13.5
	From no one	64	29.8

<b>What time of day do you take your newborn's bath?</b>	Morning	11	5.1
	Afternoon	61	28.4
	Evening	81	37.7
	Anytime	62	28.8
<b>Should the newborn be bathed when hungry or full?</b>	Hungry	31	14.4
	Full	42	19.6
	Between two meals	109	50.7
	Anytime	33	15.3
<b>Where would you prefer to wash your newborn?</b>	Newborn's room	48	22.3
	Bathroom	148	68.9
	Other	19	8.8
<b>How many degrees should be the newborn's room temperature during a bath?</b>	≤24	119	55.3
	≥25	96	44.7
<b>How do you check the temperature of the bath water?</b>	With elbow	109	50.7
	With wrist	70	32.6
	With water thermometer	36	16.7
<b>Which area do you wash first when giving your baby a bath?</b>	Head	29	13.5
	Body	142	66.0
	Arms and legs	32	14.9
	Genital area	12	5.6
<b>What do you bathe your baby in?</b>	Bathtub for newborn	179	83.3
	Basin	6	2.8
	Bathroom communal tub	13	6.0
	Other	17	7.9
<b>How do you wash your baby?</b>	Putting water in the tub	42	19.5
	Pouring water on the newborn	173	80.5
<b>Which part of the newborn do you have difficulty washing?</b>	Head	115	53.5
	Body	6	2.8
	Lower part of the body	17	7.9
	None	77	35.8
<b>What precautions do you take to prevent your baby from slipping in the bath?</b>	Using file	121	56.3
	Putting a towel in the tub	67	31.2
	None	27	12.5
<b>What are you most afraid of when giving your baby a bath?</b>	From the lost	91	42.3
	From drowning	28	13.0
	From being hurt somewhere	55	25.6
	All	41	19.1
<b>What do you prefer to wash your baby's hair with?</b>	Newborn shampoo	206	95.8
	Soap	9	4.2
<b>What do you prefer to wash your baby's body with?</b>	Special soap	101	47.0
	Regular soap	19	8.8
	Shampoo	95	44.2
<b>What do you pay attention to in the products you buy for newborn baths?</b>	To its brand	14	6.5
	The ingredients in	195	90.7
	Other	6	2.8
<b>What do you use to clean your baby's body while bathing?</b>	Orlon fiber	51	23.7
	Cheesecloth	27	12.6
	Sponge	93	43.2
	Nothing	44	20.5
<b>Do you use baby oil after the bath?</b>	Yes	103	47.9
	No	112	52.1

<b>Do you massage your baby after a bath?</b>	Yes	137	63.7
	No	78	36.3
<b>Do you think taking a bath has any effect on your baby's sleep?</b>	Yes	187	87.0
	No	28	13.0
<b>Do you clean your baby's ears during the bath?</b>	Yes	167	77.7
	No	48	22.3
<b>In your opinion, what to do when the newborn has dandruff on her head?</b>	Bath with olive oil	123	57.2
	Bath with olive oil-carbonate	27	12.5
	Bath with baby oil	21	9.8
	Other	44	20.5
<b>What should be done so that the newborn does not have dandruff on her head?</b>	Rinsing her head well	75	34.9
	Rubbing her head well	13	6.0
	Combing her hair	58	27.0
	Nothing	69	32.1

When analyzing newborn bathing practices based on the age groups of mothers, a notable finding was that a majority did not adhere to traditional practices during bathing. Among those who did follow traditional practices, mothers aged thirty-one and above were the predominant group, and they often favored washing their babies with salt water. Specifically, it was noted that mothers aged thirty-one and above typically opted for a whole-body bath for the newborn's first bath. For mothers aged thirty and under, the norm was to give the newborn's first bath after the umbilical cord stump had fallen off. Furthermore, mothers aged thirty-one and above were more likely to have received information about newborn bathing in advance, primarily from healthcare professionals. The preference for bathing between meals was more common among mothers aged thirty and under. Regarding environmental conditions, mothers aged thirty-one and above were more inclined to set the newborn's room temperature to 24 degrees Celsius or below during the bath. In contrast, mothers aged thirty and under preferred to gauge bathwater temperature using their elbows. Notably, mothers aged thirty and under generally favored pouring water on the newborn during the bath and using special soap for washing the baby's body ( $p < 0.05$ ) (Table 3).

**Table 3**

*The Practices of Mothers on Newborn Bathing According to Their Age Group*

		Age Group				Total	Statistics		
		≤ 30 Years		≥ 31 Years					
		n	%	n	%				
<b>Traditional practice in bathing</b>	Washing with salt water	19	13.5	21	28.4	40	18.6	11.035	0.001
	Washing with egg water	1	0.7	1	1.3	2	0.9		
	Fortieth-day bath	12	8.5	11	14.9	23	10.7		
	None	109	77.3	41	55.4	150	69.8		
<b>The way of newborn's first bath is done</b>	Wiping bath	24	17.0	10	13.5	34	15.8	1.525	0.466
	Head wash and body wipe	5	3.6	1	1.3	6	2.8		
	Whole-body bath	112	79.4	63	85.2	175	81.4		
<b>Newborn's first bath time</b>	As soon as the baby is born	8	5.7	8	10.8	16	7.4	2.070	0.355
	Within the first week	42	29.8	23	31.1	65	30.2		
	After umbilical cord stump fell	91	64.5	43	58.1	134	62.4		

<b>The person who received information about the newborn bath</b>	Health personnel	44	31.2	24	32.4	68	31.6	1.402	0.854
	Family elders	36	25.5	18	24.3	54	25.1		
	TV, newspaper, internet	21	14.9	5	6.8	26	12.1		
	Nobody	40	28.4	27	36.5	67	31.2		
<b>The status of washing the newborn when hungry or full</b>	Hungry	15	10.7	16	21.6	31	14.4	5.341	0.148
	Full	27	19.1	15	20.3	42	19.5		
	Between two meals	75	53.2	34	45.9	109	50.8		
	Anytime	24	17.0	9	12.2	33	15.3		
<b>Newborn's room temperature during bath</b>	≤24	78	55.3	42	56.8	120	55.8	0.041	0.840
	≥25	63	44.7	32	43.2	95	44.2		
<b>The way of controlling the bath water temperature</b>	With elbow	73	51.8	36	48.7	109	50.7	3,430	0.489
	With wrist	46	32.6	24	32.4	70	32.6		
	With water thermometer	22	15.6	14	18.9	36	16.7		
<b>How the newborn is bathed</b>	Putting water in the tub	26	18.4	16	21.6	42	19.5	0.313	0.576
	Pouring water on the newborn	115	81.6	58	78.4	173	80.5		
<b>What to wash the newborn's body with</b>	Special soap	67	47.5	34	46.0	101	47.0	0.546	0.761
	Regular soap	11	7.8	8	10.8	19	8.8		
	Shampoo	63	44.7	32	43.2	95	44.2		

$\chi^2$ : Chi-square analysis

When examining newborn bathing practices in relation to the mothers' education levels, it was evident that a majority did not engage in traditional practices during bathing. Among those who did, mothers with secondary school education and below were more prevalent, and they often favored washing their babies with salt water. Notably, mothers who had completed high school were more inclined to opt for a whole-body bath for the newborn's first bath. For university graduate mothers, the trend was to give the newborn's first bath after the umbilical cord stump had fallen off. Additionally, these mothers primarily received information about newborn bathing from healthcare professionals and showed a preference for bathing their babies between meals. A statistically significant difference was found between the educational status of mothers and the sources from which they obtained previous information about newborn bathing. Mothers with secondary school education and below were more likely to set the newborn's room temperature to 24 degrees Celsius or below during the bath and preferred to gauge bathwater temperature using their elbows. Conversely, university graduate mothers generally favored pouring water on the newborn during the bath. Moreover, mothers with secondary school education and below tended to use special soap while washing the newborn's body, while university graduate mothers leaned towards pouring water on the baby ( $p < 0.05$ ) (Table 4).



**Table 4***The Practices of Mothers on Newborn Bathing According to Their Educational Status*

		Educational Status								Statistics	
		Secondary school $\geq$		High school		University		Total			
		n	%	n	%	n	%	n	%	$\chi^2$	p
<b>Traditional practice in bathing</b>	Washing with salt water	4	33.3	9	32.1	27	15.4	40	18.6	7.439	0.059
	Washing with egg water	0	0.0	1	3.6	1	0.6	2	0.9		
	Fortieth-day bath	2	16.7	2	7.1	19	10.9	23	10.7		
	None	6	50.0	16	57.2	128	73.1	150	69.8		
<b>The way of newborn's first bath is done</b>	Wiping bath	1	8.3	4	14.3	29	16.6	34	15.8	3.931	0.686
	Head wash and body wipe	1	8.3	0	0.0	5	2.9	6	2.8		
	Whole-body bath	10	83.4	24	85.7	141	80.5	175	81.4		
<b>Newborn's first bath time</b>	As soon as the baby is born	3	25.0	2	7.1	11	6.3	16	7.5	6.268	0.394
	Within the first week	4	33.3	10	35.7	51	29.1	65	30.2		
	After umbilical cord stump fell	5	41.7	16	57.2	113	64.6	134	62.3		
<b>The person who received information about the newborn bath</b>	Health personnel	2	16.7	3	10.7	63	36.0	68	31.6	10.562	0.014
	Family elders	3	25.0	12	42.9	39	22.3	54	25.1		
	TV, newspaper, internet	0	0.0	2	7.1	24	13.7	26	12.1		
	Nobody	7	58.3	11	39.3	49	28.0	67	31.2		
<b>The status of washing the newborn when hungry or full</b>	Hungry	2	16.7	6	21.4	23	13.1	31	14.4	15.907	0.069
	Full	7	58.3	6	21.4	29	16.6	42	19.5		
	Between two meals	2	16.7	11	39.3	96	54.9	109	50.8		
	Anytime	1	8.3	5	17.9	27	15.4	33	15.3		
<b>Newborn's room temperature during bath</b>	$\leq 24$	8	66.7	10	35.7	102	58.3	120	55.8	7.408	0.060
	$\geq 25$	4	33.3	18	64.3	73	41.7	95	44.2		
<b>The way of controlling the bath water temperature</b>	With elbow	9	75.0	18	64.3	82	46.9	109	50.7	15.306	0.225
	With wrist	3	25.0	8	28.6	59	33.7	70	32.6		
	With water thermometer	0	0.0	2	7.1	34	19.4	36	16.7		
<b>How the newborn is bathed</b>	Putting water in the tub	2	16.7	11	39.3	29	16.6	42	19.5	7.684	0.053
	Pouring water on the newborn	10	83.3	17	60.7	146	83.4	173	80.5		
<b>What to wash the newborn's body with</b>	Special soap	7	58.3	11	39.3	83	47.5	101	47.0	8.816	0.184
	Regular soap	3	25.0	3	10.7	13	7.4	19	8.8		
	Shampoo	2	16.7	14	50.0	79	45.1	95	44.2		

 $\chi^2$ : Chi-square analysis

Examining newborn bathing practices based on the mothers' working status revealed that the majority refrained from traditional practices during bathing. However, among those who did engage in traditional practices, working mothers were predominant, and their preference leaned towards washing their babies with salt water. Non-working mothers, on the other hand, exhibited a preference for a whole-body bath for the newborn's initial bath, typically after the umbilical cord stump had fallen off. Additionally, it was found that working mothers were more likely to be informed about newborn bathing, primarily acquiring information from health personnel. Further differences in preferences emerged between working and non-working mothers: working mothers typically opted to wash their

babies between two meals and maintained the newborn's room temperature at 24 degrees and below during bathing. Conversely, non-working mothers mostly favored controlling the bathwater temperature with their elbows. Notably, working mothers tended to prefer pouring water on the newborn and using shampoo while washing the baby's body. These distinctions were statistically significant ( $p < 0.05$ ) (Table 5).

**Table 5**  
*The Practices of Mothers on Newborn Bathing According to Their Working Status*

		Mother Working Status				Total n	%	Statistics	
		Working		Not working				$\chi^2$	p
		n	%	n	%	n	%		
<b>Traditional practice in bathing</b>	Washing with salt water	19	19.8	21	17.6	40	18.6	0.161	0.688
	Washing with egg water	1	1.0	1	0.8	2	0.9		
	Fortieth-day bath	7	7.3	16	13.4	23	10.7		
	None	69	71.9	81	68.2	150	69.8		
<b>The way of newborn's first bath is done</b>	Wiping bath	18	18.8	16	13.5	34	15.8	5.392	0.067
	Head wash and body wipe	5	5.2	1	0.8	6	2.8		
	Whole-body bath	73	76.0	102	85.7	175	81.4		
<b>Newborn's first bath time</b>	As soon as the baby is born	7	7.3	9	7.6	16	7.4	4.445	0.109
	Within the first week	36	37.5	29	24.4	65	30.2		
	After umbilical cord stump fell	53	55.2	81	68.0	134	62.4		
<b>The person who received information about the newborn bath</b>	Health personnel	33	34.4	35	29.4	68	31.6	0.605	0.437
	Family elders	25	26.0	29	24.4	54	25.1		
	TV, newspaper, internet	10	10.4	16	13.4	26	12.1		
	Nobody	28	29.2	39	32.8	67	31.2		
<b>The status of washing the newborn when hungry or full</b>	Hungry	11	11.5	20	16.8	31	14.4	7.331	0.062
	Full	17	17.7	25	21.0	42	19.5		
	Between two meals	58	60.4	51	42.9	109	50.7		
	Anytime	10	10.4	23	19.3	33	15.4		
<b>Newborn's room temperature during bath</b>	$\leq 24$	59	61.5	61	51.3	120	55.8	2.241	0.134
	$\geq 25$	37	38.5	58	48.7	95	44.2		
<b>The way of control the bath water temperature</b>	With elbow	45	46.9	64	53.8	109	50.7	5.061	0.281
	With wrist	31	32.3	39	32.8	70	32.6		
	With water thermometer	20	20.8	16	13.4	36	16.7		
<b>How the newborn is bathed</b>	Putting water in the tub	16	16.7	26	21.8	42	19.5	0.908	0.341
	Pouring water on the newborn	80	83.3	93	78.2	173	80.5		
<b>What to wash the newborn's body with</b>	Special soap	43	44.8	58	48.7	101	47.0	1.191	0.551
	Regular soap	7	7.3	12	10.1	19	8.8		
	Shampoo	46	47.9	49	41.2	95	44.2		

$\chi^2$ : Chi-square analysis

## **DISCUSSION**

This study is a descriptive research initiative aimed at scrutinizing the knowledge and practices of mothers with newborns admitted to the Gynecology and Obstetrics Service of a university hospital. The hospital serves a diverse region, catering to patients with varying socio-cultural characteristics. Given the influence of cultural differences, there exists a wide spectrum of practices surrounding the initial bathing rituals for newborns (Memon et al., 2019; Utaş, 2011). In our investigation, a predominant pattern emerged as most mothers opted for a whole-body bath for their newborns rather than a wipe bath. The common practice was to conduct the first bath after the umbilical cord stump had naturally fallen off. Additionally, our findings revealed that mothers tended to administer baths less frequently during the winter, typically bathing their infants less than three times a week, while in the summer months, the frequency increased to five times or more weekly. These observations align with recommendations from a comparable study, wherein whole-body bathing is advocated over merely wiping off the vernix caseosa following birth, especially for newborns at risk of infection from their mothers. The term newborn's skin is naturally coated with vernix caseosa at birth, which may introduce contaminants such as maternal blood, cellular debris, and meconium. The study emphasizes that if there is no risk of infection, a wipe bath is recommended for the newborn's first bath (Dağ et al., 2022).

The studies concluded that, once the newborn's vital signs and body temperature have stabilized, the first bath should be administered between 2-4 hours after birth to minimize the risk of hypothermia. Furthermore, it is recommended to maintain control over the environmental temperature post-bath. The first bath is advised to be postponed for at least 24 hours, especially for babies born before 36 weeks gestation. Additionally, a bathing frequency of twice a week is suggested for term newborns, while preterm newborns are recommended to be bathed every 4 days (Fernandes et al., 2011; Twintoh et al., 2021). The studies emphasize that bathing a newborn without first stabilizing their body temperature as they adapt to extrauterine life may lead to hypothermia.

As a result of the conducted studies, it has been considered appropriate to bathe newborns using water that is close to lukewarm rather than exclusively hot water. Additionally, it is suggested that during the initial bath, the protective vernix caseosa should not be completely removed (Aslan, 2004; Gelmetti, 2001; Perk, 2005). Notably, in our study, the prevalent preference among mothers for a whole-body bath for their newborns rather than a wiping bath suggests a potential lack of accurate information on this matter. Conversely, a separate study recommends wiping or swaddling baths for newborns (Ceylan & Bolışık, 2022).

Several studies have proposed that leaving the Vernix caseosa in place is beneficial to prevent evaporative losses and heat loss, which commonly occur after birth and following the newborn's bath. Immediate bathing after birth is discouraged, as Vernix caseosa acts as a protective layer against heat loss and infections. The World Health Organization supports this approach and recommends delaying bathing as part of its guidelines to prevent heat loss during birth. Adhering to these recommendations can effectively prevent hypothermia in newborns (Dağoğlu, 2000; World Health Organization, 2022). However, it is advisable to clean newborns with bloody and feces-contaminated skin by wiping if necessary.

Multiple studies recommend refraining from tub or whole-body baths for newborns with an umbilical cord stump (7-14 days) and those who have undergone circumcision until the circumcision wound is fully healed. This precautionary measure aims to prevent infections and the delayed detachment of the umbilical cord stump. Moreover, certain studies highlight the significance of avoiding a wet and humid environment, as it may hinder the drying process of the umbilical cord, potentially leading to infections caused by microorganisms (Bölükbaş et al., 2009; Kido et al., 2023; Priyadarshi et al., 2022; Taşkın, 2000; Yıldız, 2002). If cultural norms dictate bathing, it is recommended not to do so

within the first 6 hours after birth. Instead, the second or third day is preferable. Despite cultural practices advocating for immediate bathing to prevent infections, nurses acknowledge the importance of prompt bathing to maintain the newborn's warmth. There's a common belief that if specialists administer the bath, the newborn will experience less coldness, but in reality, the person giving the bath doesn't significantly impact this aspect. While it's often assumed that hospital environments provide a warmer setting for baths compared to home, research indicates that the individual administering the bath has a more significant influence on temperature regulation than the location itself (Medves & O'Brien, 2004). In our study, it was found that mothers typically prefer to personally bathe their babies rather than having them take their first bath in the company of others, such as fathers or family elders. Interestingly, in contrast to findings from a previous study suggesting that bathing may delay the natural detachment of the umbilical cord, mothers in our study expressed the belief that bathing had no impact on the timing of the umbilical cord's fall. Moreover, our observations indicated that mothers adeptly managed the room temperature while bathing their newborns.

Certain studies have highlighted the importance of opting for a non-alkaline, soft formula that is neutral or slightly acidic, odorless, liquid, and syndets for skin cleaning. It is advised to refrain from using soaps containing glycerine in newborns, as these can cause dryness and irritation due to their humectant properties. Gentle handling is recommended, and rubbing the newborn's skin should be avoided. After bathing, special attention should be given to carefully drying skin folds (Dhar, 2007; Fernandes et al., 2011). Concerning baby shampoos, studies have demonstrated the absence of a standard pediatric formula. It is not imperative to use shampoos containing amphoteric and non-ionic agents for newborns with short, thin, and fragile hair strands. Therefore, a preference for shampoos with a soft formula that does not cause eye irritation is encouraged. Additionally, the use of antiseptic soaps, lotions, and wet wipes is discouraged in newborns (Karabulut, 2011; Medves & O'Brien 2004). In our study, it was found that mothers followed a specific sequence while bathing their newborns, beginning with washing the baby's body. The common practice involved pouring water on the newborn during the bath. Notably, mothers faced the greatest challenge when washing the newborn's head and expressed the highest level of concern about the potential risk of slipping and falling during this process. The preferred choice for washing the newborn's hair was baby shampoo, while the mothers opted for baby soap to cleanse their babies' bodies. Additionally, a prevalent practice among mothers was the use of sponges for cleaning the newborn's body.

Some studies have recommended preparing a set of items, including a large plastic tub, clean cloth, cotton pads, towels, blankets, and clean clothes, for a wiping bath. During the first weeks, using warm water alone is deemed sufficient for this type of bath. In cases of heavy contamination, such as the groin area, soap without deodorant, dye, and preservative chemicals can be used if necessary (Apak, 2005; Yıldız, 2002). The recommended bath temperature is 24-25°C, and it is advised to conduct the bath in a room with no airflow. Timing is crucial, with the suggestion to bathe the newborn between two breastfeeding sessions. Immediate bathing after breastfeeding can lead to vomiting, aspiration, and restlessness in the hungry newborn. It is emphasized that the newborn should never be left alone and unprotected during the bath. Conducting the bath on a bench or table is considered convenient for the mother. Moreover, seeking guidance from experienced family elders or healthcare personnel in newborn bathing can help prevent potential issues during the process (Çavuşoğlu, 2015; Yıldız, 2002). In our study, it was observed that participating mothers predominantly opted for a whole-body bath rather than a wiping bath for their newborns' first bathing experience. The common practice was to wash the newborns between two breastfeeding sessions. Additionally, it was noted that mothers had prior knowledge about newborn bathing, and health workers emerged as the most informed source of information on this subject.

In some studies, it has been observed that a significant number of mothers engage in a traditional practice of salting their babies, typically 15-20 days after birth, as a means to prevent unpleasant odors and rashes caused by sweat (Dinç, 2005; Kahriman, 2007). This tradition of salting newborns is prevalent in many parts of the country. However, considering the sensitivity of a newborn's skin, this practice is deemed harmful, potentially causing pain, skin redness, compromise of skin integrity, fluid loss, and dehydration (Özmen et al., 2008). Another traditional practice in our society involves bathing both the mother and newborn on the twentieth and fortieth days, known as the "Forty Extraction" procedure. Studies indicate that such practices persist at rates ranging from 70-98% in our country (Eğri & Konak, 2011; Gözen et al., 2011). In our study, it was found that approximately one-third of the mothers engaged in traditional practices during newborn bathing, with washing the newborn with salt water and the fortieth-day bath being the most commonly adopted traditional practices, respectively. Consequently, there is a crucial need to raise awareness among mothers regarding these practices, starting from the prenatal period.

Dandruff is a common, non-itchy scalp issue that often arises in infants during the first three months. Mothers may find it challenging to touch the baby's skin, particularly around the fontanelle, and struggle to clean it effectively during bath time. Once dandruff has formed, applying baby oil or olive oil to the affected area before washing the newborn's head is recommended. It is advised to wait for a few hours before washing the newborn's head, and the crusts should be gently collected using a baby comb to avoid excessive irritation (Çiftçi et al., 2005; Pekcan & Kiper, 2006). The formation of dandruff on the newborn's head is attributed to the accumulation of oil-like substances, particularly in excessive amounts during the initial months of the newborn's life (Çavuşoğlu, 2015; Törüner & Büyükgönenç, 2017).

In our study, it was found that a majority of mothers employed various remedies when their newborns had dandruff on the head. Most mothers opted for a bath with olive oil when dandruff appeared, and some also utilized an olive oil-carbonate mixture or baby oil. Similar to our findings, nearly half of the mothers in a previous study applied olive oil to the newborn's head and gave them a bath (Çalışkan & Bayat, 2011). Studies indicate that as socio-demographic characteristics such as age and education level increase among mothers, there is a more conscious and informed approach to newborn bathing (Bilgen Sivri, 2012; Tegene et al., 2015). Consistent with these observations, our study revealed that as the age and educational status of the mothers increased, their practices regarding newborn bathing were more accurate, and their awareness levels were higher.

## **CONCLUSION**

The observation indicates that mothers often possess insufficient knowledge and may engage in practices during newborn bathing that might not be optimal for infant health and care. Furthermore, it has been noted that with increasing age and education levels, mothers tend to adopt relatively more accurate practices in newborn bathing. To improve infant health and safety during bathing, offering planned education to mothers before and after childbirth can be a significant contribution. Given that mothers typically seek information from nurses and health professionals, it is crucial to share correct information and practices about newborn bathing with them. In this context, during training sessions conducted by nurses and other health personnel, mothers should be informed about the most appropriate bathing practices in terms of infant health, prioritizing evidence-based guidelines over personal beliefs or traditional practices.

## **LIMITATIONS**

The study's generalizability is restricted to mothers who were hospitalized in the specific university hospital where the research was conducted and had recently given birth. This limitation

underscores that the findings may not be broadly applicable to a more diverse population beyond the scope of the studied hospital and postpartum period.

### **Ethical Approval**

This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving research study participants were approved by the research ethics committee approval was received from the Ethics Committee Scientific Research of Avrasya University on 16 November, 2022. Protocol number 2022/59.

### **Conflict of Interest**

The authors declare that they have no conflict of interest.

### **Financial Support**

No financial support.

### **Author Contributions**

Design: SB, İK, SDP, Data Collection or Processing: SB, Analysis or Interpretation: SB, Literature Search: SB, Writing: SB.

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