

## Breastfeeding Status of Infant from Birth to One Year and the Influence of Fathers in Society with Traditional Cultural Structure, Türkiye

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### Abstract

**Objectives:** The aim of this study was to focus on the father in breastfeeding, to determine the influence of fathers in breastfeeding in a society with a traditional culture consisting of different ethnic groups, and to determine the prevalence of breastfeeding at 0-1 years of age with their statements.

**Methods:** The sample of this cross-sectional study consisted of 410 infants aged 0-1 year and their fathers. Data were collected using a questionnaire including socio-demographic characteristics, the Breastfeeding Attitude, and Involvement Scale, which is the only scale that examines the cultural impact of attitudes and involvement together. The SPSS package program was used for statistical analysis.

**Results:** Fathers were found to have negative attitudes towards breastfeeding and low involvement in breastfeeding. Fathers' attitudes towards breastfeeding were negatively influenced by university or higher education (3.1-fold) and employment (0.4-fold) ( $p < .05$ ). Involvement in breastfeeding was positively influenced by working during the day (2.4-fold), having information about breastfeeding (1.7-fold) and attending breastfeeding (3.1-fold) ( $p < .05$ ). The prevalence of breastfeeding was 85.6% in among 12-month-old infants

**Conclusion:** This study highlights that paternal culture may play a role in breastfeeding. In addition, this study it was found that the breastfeeding rate was below the global targets and that role of the father and cultural influence had a significant impact on this rate. Future studies should continue to evaluate fathers' involvement in breastfeeding longitudinally so that relevant support can be rendered.

**Keywords:** Infant, Exclusive Breastfeeding, Role of Fathers, Attitude, Involvement

### Öz

**Geleneksel Kültür Yapısına Sahip Toplumlarda Bebeklerin Doğumdan Bir Yaşına Kadar Emzirme Durumu ve Babaların Etkisi, Türkiye**

**Amaç:** Bu çalışmanın amacı emzirmede babaya odaklanmak, farklı etnik gruplardan oluşan geleneksel kültüre sahip bir toplumda babaların emzirmedeki etkisini belirlemek ve babaların beyanlarıyla 0-1 yaş arası emzirme yaygınlığını tespit etmektir.

**Yöntem:** Bu kesitsel çalışmanın örneklemini 0-1 yaş arası 410 bebek ve babaları oluşturmuştur. Veriler sosyo-demografik özellikleri içeren bir anket formu ve tutum ve katılımın kültürel etkisini birlikte inceleyen tek ölçek olan Emzirme Tutumu ve Katılımı Ölçeği kullanılarak toplanmıştır. İstatistiksel analiz için SPSS paket programı kullanılmıştır.

**Bulgular:** Babaların emzirmeye yönelik tutumlarının olumsuz ve emzirmeye katılımlarının düşük olduğu bulunmuştur. Babaların emzirmeye yönelik tutumları üniversite veya yüksek öğrenim (3,1 kat) ve çalışma durumundan (0,4 kat) olumsuz etkilenmiştir ( $p < .05$ ). Emzirmeye katılımı gündüz çalışma (2,4 kat), emzirme hakkında bilgi sahibi olma (1,7 kat) ve emzirmeye katılma olumlu yönde etkilemiştir.

**Sonuç:** Bu çalışma, baba kültürünün emzirme üzerinde rol oynayabileceğini vurgulamaktadır. Ayrıca, bu çalışmada emzirme oranının küresel hedeflerin altında olduğu ve babanın rolü ve kültürel etkinin bu oran üzerinde önemli bir etkiye sahip olduğu bulunmuştur. Gelecekteki çalışmalar babaların emzirmeye katılımını boylamsal olarak değerlendirmeye devam etmelidir, böylece ilgili destek sağlanabilir.

**Anahtar Kelimeler:** Bebek, Sadece Anne Sütü, Babanın Rolü, Tutum, Katılım

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## INTRODUCTION

Breast milk is the most basic nutrition that the newborns should receive first and foremost to maintain healthy growth and development and to reduce mortality and morbidity in terms of maternal and child health (Çaylan & Yalçın, 2020; Özilice & Günay, 2018). Therefore, the first step is to support, protect, and promote breastfeeding. Breastfeeding is still very important for sustainable development and global prosperity and promoting and improving breastfeeding is emerging as an important public health strategy with many incentive programs being organised on this topic (Çaylan & Yalçın, 2020; Gutierrez-de-Terán-Moreno et al., 2021; Koruk et al., 2019; Leng et al., 2019; Özilice & Günay, 2018). However, despite these programmes, global breastfeeding indicators are still below target levels. The rate of exclusive breastfeeding for the 6 months was 48% worldwide based on data from 2015 to 2021 (UNICEF, 2022). According to the United States Center for Disease Control's 2021 National Immunisation Survey, 83.2% of children had ever been breastfed, with only 55.8% and 35.9% still being breastfed at 6 and 12 months of age, respectively (CDC, 2021). As of 2021, the World Health Organization (WHO) reported a global exclusive breastfeeding rate of 48% for the first 5 months of life (WHO, 2022). In Turkey, the median duration of exclusive breastfeeding was 1.8 months, and the prevalence of breastfeeding was 66% at one year of age (TNSA, 2019).

Despite all the known benefits of breast milk, breastfeeding rates have decreased, and breastfeeding duration has shortened in many parts of the world due to economic, social, and cultural reasons (Abu-Abbas et al., 2016; Baldwin et al., 2021; Ngoenthong et al., 2020; Toledo et al., 2022; UNICEF, 2021). Therefore, multiple perspectives should be considered when assessing factors that influence breastfeeding prevalence, and the role of fathers in breastfeeding should be investigated. Studies have shown that spouses are the most influential group and that spousal support increases breastfeeding rates and has a positive effect on the mother-baby relationship (Baldwin et al., 2021; Demontigny et al., 2018; Gültekin & Hazar, 2021; Ngoenthong., et al., 2020; Toledo et al., 2022). Despite this, fathers continue to report inadequate levels of information and support from health professionals regarding breastfeeding (Baldwin et al., 2021). However, there are limited studies in the literature on fathers' attitudes and involvement in breastfeeding, especially studies on how culture affects fathers' involvement in breastfeeding (Abu-Abbas et al., 2016; Leng et al., 2019; Ngoenthong., et al., 2020). Further research is needed to explore what influences fathers'/partners' attitudes to breastfeeding and how their needs relating to infant feeding could be best addressed by health professionals (Baldwin et al., 2021; Wynter et al., 2021). Man is a being who can act according to the culture in which he is formed

on the basis and within the limits of the social structure, and who shapes his life and behaviour accordingly. Differences between societies are differences between cultures (Küçük, 2020; Pithia et al., 2021; Tanriverdi, 2020). Şanlıurfa, the region in which this study was carried out, is a province with a male-dominated and patriarchal cultural structure in effect (Mercan & Şahin, 2017; Şanlı & Öztürk, 2015; Timurturkan, 2020). The population of Şanlıurfa consists of 4 ethnic groups (Arabs 30% Kurds 38%, Turks 25%, Zazas 7%). In Şanlıurfa, which is one of the provinces that reflects the basic characteristics of a patriarchal and traditional social structure, men are seen as the head of the household and the masters of property and social life, which makes them authoritarian and oppressive individuals. Since child-related responsibilities are associated with to femininity and motherhood, a man's assumption and maintenance of these roles can be perceived as a loss of masculine status. This situation distances fathers from home and childcare (Küçük, 2020; Yıldız, 2019; Tanriverdi, 2020). Therefore, it is very important to understand the cultural attitudes and behaviours of fathers regarding breastfeeding in this society and to determine the effect of breastfeeding prevalence. So, this study will fill the gaps in of the current prevalence of breastfeeding and the cultural influence of fathers on this process.

Another reason for conducting this study in this region is that Şanlıurfa is the province with the highest total fertility rate of 3.81 in 2021 and in parallel with this, the infant population is high (TÜİK, 2021). Şanlıurfa is also the second province with the highest infant mortality rate (15.3 per thousand) (TÜİK, 2019). Therefore, conducting this study on breastfeeding, which is one of the most important factors for infant health, in this region makes the results even more important.

## Aims

The aim of this study was to determine the attitudes and participation of fathers towards breastfeeding and the breastfeeding status of their infants in a multi-ethnic society where cultural values are dominant.

## METHODS

### Research Design

The reporting of this study conforms to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement, guidelines for the reporting of observational studies (Ghaferi et al., 2021).

### Research Questions

1. What is the rate of exclusive breastfeeding of infants?
2. What is the participation and attitude of fathers towards breastfeeding rate?

3. What are the factors affecting fathers' participation and attitude towards breastfeeding rate?

### Variables of the Study:

The prevalence of breastfeeding among infants aged 0–1 year and fathers' scores on the *Breastfeeding Attitude and Involvement Scale (BAIS)* are the main outcomes of the present study.

**Independent Variables:** Socio-demographic and cultural characteristics of fathers' characteristics (age, education, employment status, number of children, information about breastfeeding and breastfeeding support status) and their infants' characteristics (age, sex, breastfeeding cessation status, complementary feeding initiation).

**Dependent Variables:** Fathers' BAIS score and the presence of breastfeeding support.

### Population of the Study

This study was conducted in family health centers, which provide primary care services and register, monitor and follow up children aged 0-1 years. There is a total of 71 Family Health Centers (FHCs) in Şanlıurfa. All families registered at the FHCs are Turkish citizens. The population of this study consisted of 8132 infants aged  $\leq 1$  year and their fathers registered at 71 family health centers in Şanlıurfa Central Districts in 2022. The minimum sample size to estimate the prevalence of breastfeeding in infants  $\leq 1$  year (66% prevalence according to TNSA 2018) of age with 5% certainty and 95% confidence in a population of 8132 infants was calculated to be 331. A total of 410 infants and their fathers were contacted between April–September 2022. This is 24% more than the minimum sample size. Fathers were excluded from participation if they met the following criteria: 1) those who did not have a baby aged 0-1 months; 2) those who could not read or write Turkish; 3) those who did not answer all the questions in the survey.

### Data Collection Tools

**Survey Form:** The form consisted of eight questions describing the socio-demographic characteristics of father and child (age, gender, education, etc.) and twelve questions about breastfeeding status (month to stop breastfeeding? Month to start complementary feeding? Do you think men should be involved in breastfeeding? When do you give more support when your partner is breastfeeding). Breastfeeding status was determined according to the fathers' statements.

**Breastfeeding Attitude and Involvement Scale:** BAIS was developed by Abu-Abbas et al. (2016) and the Turkish validity and reliability study was conducted by Gültekin and Hazar (2021). The BAIS has two main sub-dimensions and aims to measure fathers' attitudes towards breastfeeding

(FAB) and fathers' involvement in the breastfeeding process (FIB). The scale consists of a total of 28 items, 14 items for FAB and 14 items for FIB. The items are rated on a five-point Likert scale ("1 = Strongly disagree," "2 = Disagree," "3 = Undecided," "4 = Agree," and "5 = Strongly agree"). The total score that can be obtained from the FAB subscale ranges from 14-70 and the cut-off point is 58. A total score of  $\geq 58$  is defined as positive attitude and  $< 58$  as negative attitude. The total score that can be obtained from the FIB subscale ranges between 14–70 and the cut-off point is 58. A total score of  $\geq 58$  is defined as good involvement and  $< 58$  as poor involvements. The Cronbach's alpha coefficients of FAB and FIB subscales are 0.73 and 0.73. In this study, the Cronbach's alpha coefficients of FAB and FIB subscales were 0.65 and 0.76. BAIS is a valid and reliable tool that determines the cultural influence of fathers on breastfeeding and measures FAB and their involvement in the breastfeeding process together, which, to the best of our knowledge, is the only such tool available in the literature.

### Data Collection

The researchers randomly visited 26 ASMs every day for 3 months. Data were collected through face-to-face interviews with 306 fathers of 0–1-year-old infants in (FHCs). The purpose of the study was explained to the fathers, and verbal consent was obtained from all participants. During this period, 64 fathers who met the research criteria did not agree to participate in the study and 61 fathers did not want to answer all the questions of the questionnaire. As most parents attending the FHCs were mothers, data collection was moved to an online medium to increase the sample size and reach more fathers. Therefore, Google Forms was used as the online survey platform for data collection. The remaining 45 FHCs reached the fathers online. A link to the online survey was created. Father's Mobil phones were contacted through FHC nurses or doctors. FHC nurses were given a link to the survey and asked to share it on the fathers' WhatsApp. Participants were informed that their participation was voluntary, and the purpose, risks and benefits of the study were explained in writing on an online introductory page before accessing the questionnaire. Electronic consent was obtained when participants selected "agree to participate" at the beginning of the questionnaire. Once their consent was given, participants were allowed to proceed to the study questionnaire. Those who chose "not to participate," were automatically sent the survey without completing the questionnaire. All participants were informed that they had the right to stop participating at any time. Participants' names were not collected to ensure anonymity. The primary investigator maintained the data collected. We implemented password security measures for access to the online questionnaire to protect the confidentiality of participants' data. The survey was available online between 1 July 2022 and 12 September

2022. The researchers reminded the nurses once a week to try to increase the number of completed questionnaires. The first author was responsible for transferring the data from Google Forms to SPSS. 126 responses were received online. However, 3 of the respondents were excluded from the study because they were not fathers and 19 had children over the age of 1. This left 104 people who were included in the online survey. Consent and forms obtained by the researchers were recorded and stored digitally. It took 10-15 minutes to complete the questionnaire.

At the end of the survey, 306 fathers were reached face-to-face and 104 online, making a total of 410 fathers. This number represents fathers who have a baby aged 0-1 in Sanliurfa and who are Turkish citizens.

### Ethics Considerations

Permission was obtained from Harran University Clinical Research's Ethics Committee (Date: 21.02.2022, Decision no: HRÜ.22.04.12). Permission to use the scale was obtained from the researchers who conducted the Turkish validity and reliability study of the measurement tool. Consent to participate in the study was obtained from the fathers, and the study was conducted with volunteer participants.

### Data Analysis

The data obtained were recorded and analyzed using IBM SPSS Statistics software version 22.0. Means were used to determine participants' attitudes and participation in breastfeeding, t-test and F-test were used to evaluate attitudes and participation in breastfeeding according to participants' socio-demographic characteristics, and binary logistic regression analysis was used to determine how much and how participants' characteristics influenced attitudes and participation in breastfeeding.

For the descriptive analysis, the mean  $\pm$  standard deviation, the minimum and maximum values were used for the continuous variables and the number and the percentage were used for the nominal variables.

The normality of continuous variables was assessed using the Kolmogorov-Smirnov test, normal distribution plots, and skewness and kurtosis coefficients. The significance of differences in continuous variables was examined using independent samples t-test and F-test (One-way ANOVA). Pearson correlation analysis was used to determine the strength find the degree and direction of the relationship between two numerical variables. The variables that were significant in the t-test and F-test were identified as possible confounders.

Participant score on the BAI was categorized for a better understanding of the multivariate analysis. Binary logistic regression was used to control for the effects of potential confounding variables on the association between fathers'

breastfeeding attitudes and involvement and fathers' educational level, employment status, work arrangement, breastfeeding knowledge, duration of breastfeeding and male involvement in the breastfeeding process. Results were presented as adjusted odds ratios (AOR) with 95% confidence intervals and *p*-values. The Hosmer and Lemeshow goodness of fit test was used to determine whether the model provided a satisfactory fit to the data. For all analyses, *p*-values below 0.05 were considered significant.

### RESULTS

The mean age of the participating in the study was  $33.1 \pm 6.7$  years and 39.5% of the participants were  $\leq 30$  years of age. 61.4% of the participants had completed primary education. It was found that 81.2% of the participants were employed and 79.5% had social security. It was found that 51.2% of the working participants ( $n=210$ ) worked only during daytime hours. Participants reported that 40.5% of the mothers were employed and 57.1% of the participants reported that their monthly family income was moderate (Table 1).

Of the participants, 43.4% had three or more children and 41.4% had three or more breastfeeding experiences. It was found that 54.6% of the participants and 59.5% of their wives had received information about breastfeeding, and the majority of the participants (71.5%) had received this information from family elders or friends. 53.2% of participants answered no to the question "Are men involved in the breastfeeding process?" Of the participants who said that they were supportive of breastfeeding, 58.8% said that they were always supportive, 26.6% said that they were supportive at night, and 14.6% said that they were supportive during the day.

Table 2 shows the socio-demographic characteristics and breastfeeding status of the infants included in the study. Accordingly, 52.2% of the infants were 7–12 months old and 55.6% were male. Among the infants aged 7–12 months, 48.6% were exclusively breastfed during the first 6 months of life. Breastfeeding was cessation of breastfeeding in 8.5% of babies aged 6 months or less and in 5.9% of babies aged 6 months or less, for a total of 14.4% of babies who stopped breastfeeding before the age of 1 year. 37.1% of the participants reported that their babies started complementary feeding before the age of 6 months. Of the participants who reported continuing breastfeeding, 55.9% said that they planned to stop breastfeeding at the age of 24 months.

It was found that participants had a negative attitude toward breastfeeding with a mean attitude score of  $45.1 \pm 8.8$  and weak involvement in the breastfeeding process with a mean score of  $48.4 \pm 9.8$ . A very weak positive relationship was found between breastfeeding attitude and breastfeeding involvement sub-dimensions.

**Table 1.** Socio-demographic characteristics of fathers

Variables	n (%)
<b>Aged</b>	
≤30 years of age	162 (39.5)
>30 years of age	248(60.5)
<b>Educational Level</b>	
Basic education	252(61.4)
University and above	158(38.6)
<b>Employment Status</b>	
No	77(18.8)
Yes	333(81.2)
<b>Social security</b>	
No	84(20.5)
Yes	326(79.5)
<b>Work Schedule</b>	
Not working	77(18.8)
During day	210(51.2)
Night and day	123(30.0)
<b>Spouse Employment status</b>	
No	244(59.5)
Yes	166(40.5)
<b>Income Status</b>	
Poor	89(21.7)
Moderate	234(57.1)
Good	87(21.2)
<b>Number of children</b>	
1	117(28.5)
2	115(28.0)
3 and above	178(43.5)
<b>Breastfeeding Experience</b>	
1st time	122(29.7)
2nd time	118(28.9)
3 and above	170(41.4)
<b>Knowledge about breastfeeding</b>	
No	186(45.4)
Yes	224(54.6)
<b>Spouse's knowledge about breastfeeding</b>	
No	166(40.5)
Yes	244(59.5)
<b>Are men involved in breastfeeding?</b>	
No	218(53.2)
Yes	192(46.8)

n: Number, %: Percentage

As seen in Table 3, the mean attitude score of the participants with basic education level was  $46.50 \pm 9.6$ , while the mean attitude score of the participants with higher education level was  $43.04 \pm 6.8$  ( $p < .05$ ). On the other hand, the mean involvement score was  $46.17 \pm 10.3$  for participants with basic education and  $52.05 \pm 7.8$  in participants with university and higher education ( $p < .05$ ).

Participants with a one child had a mean involvement score of  $50.4 \pm 8.2$ , whereas this score was  $46.3 \pm 10.0$  for participants with  $\geq 3$  children. A statistically significant difference was found between the mean FIB scores according to the number of children ( $p < .05$ ).

**Table 2.** Socio-demographic characteristics and breastfeeding status of infants

Variables	n (%)
<b>Sex of the baby</b>	
Girl	182(44.4)
Boy	228(55.6)
<b>Infant age</b>	
0–6 months	196(47.8)
7–12 months	214(52.2)
<b>Exclusive breastfeeding in the first 6 months (among 7–12-month-old infants, n = 214)</b>	
Yes	104(48.6)
No	110(51.4)
<b>Breastfeeding discontinuation</b>	
Before 6 months	35(8.5)
After 6 months	24(5.9)
Continued	351(85.6)
<b>Starting complementary feeding</b>	
Before 6 months	152(37.1)
After 6 months	104(25.4)
Infant not on supplementary food	154(37.5)
<b>When are the parents considering stop breastfeeding (n = 290)</b>	
12 months	128(44.1)
24 months	162(55.9)

n: Number, %: Percentage

The mean FIB score was  $50.0 \pm 9.3$  for participants who reported cessation of breastfeeding before 6 months and  $51.0 \pm 9.2$  for participants who reported cessation of breastfeeding after 6 months. In contrast, the mean FIB score was  $47.5 \pm 10.0$  among participants who reported continued breastfeeding ( $p < .05$ ).

The mean FAB score was  $47.2 \pm 8.9$  among participants who were employed in any income-generating job compared to  $44.6 \pm 8.7$  among participants who were not employed, and the difference was statistically significant ( $p < .05$ ). The mean FIB score was  $51.9 \pm 6.7$  for participants who worked during the day, compared to  $40.3 \pm 11.2$  for participants who were unemployed ( $p < .05$ ). The mean FIB score was  $49.3 \pm 9.4$  among participants with social insurance, compared to  $45.0 \pm 10.7$  for participants without social insurance ( $p < .05$ ). The mean FAB score was  $43.6 \pm 7.6$  and mean FIB score was  $50.7 \pm 8.1$  for participants whose spouses were employed. In contrast, mean FAB and FIB scores were  $46.1 \pm 9.3$  and  $46.9 \pm 10.6$  among participants whose spouses were unemployed, and the difference between FAB and FIB scores with respect to employment status of the spouse was statistically significant ( $p < .05$ ).

A significant difference was found in the mean FAB and FIB scores between participants with and without breastfeeding information ( $p < .05$ , attitude:  $43.7 \pm 8.1$  and  $46.8 \pm 9.3$ , and participation:  $50.7 \pm 8.1$  and  $46.9 \pm 10.6$ ).

The mean FAB score was  $43.8 \pm 8.3$  for participants who answered “yes” to the question “Are men involved in breastfeeding?”, compared to  $46.3 \pm 9.0$  for participants who answered “no” ( $p < .05$ ). In contrast, the mean FIB score was  $51.5 \pm 9.2$  for those who answered “yes” to this question and  $45.7 \pm 9.6$  for those who answered “no” ( $p < .05$ ).

**Table 3.** Mean Breastfeeding Attitude and Breastfeeding Involvement scores of fathers with respect to the socio-demographic characteristics of the infants

Variables	Breastfeeding Attitude			Breastfeeding Involvement		
	Mean $\pm$ SD	t	p	Mean $\pm$ SD	t	p
<b>Educational Level</b>		3.941	<b>.000</b>		-6.132	<b>.000</b>
Basic education	46.50 $\pm$ 9.6			46.17 $\pm$ 10.38		
University and above	43.04 $\pm$ 6.8			52.05 $\pm$ 7.8		
<b>Number of children</b>		0.505*	.604		7.666*	<b>.001</b>
1	45.1 $\pm$ 8.6			50.4 $\pm$ 8.2		
2	44.4 $\pm$ 8.7			49.7 $\pm$ 10.0		
3 and above	45.5 $\pm$ 9.0			46.3 $\pm$ 10.0		
<b>Breastfeeding Experience</b>		1.063*	.346		4.556*	<b>.011</b>
1st time	45.2 $\pm$ 8.0			50.2 $\pm$ 8.6		
2nd time	44.2 $\pm$ 9.3			49.0 $\pm$ 9.4		
3 and above	45.7 $\pm$ 8.9			46.8 $\pm$ 10.4		
<b>Breastfeeding discontinuation status</b>		0.869*	.420		4.687*	<b>.010</b>
Before 6 months	43.4 $\pm$ 8.6			50.0 $\pm$ 9.3		
After 6 months	45.6 $\pm$ 11.0			51.0 $\pm$ 9.2		
Continued	45.2 $\pm$ 8.0			47.5 $\pm$ 10.0		
<b>When considering stopping breastfeeding</b>		0.307*	.736		3.595*	<b>.028</b>
Discontinued	45.6 $\pm$ 9.6			47.1 $\pm$ 10.5		
12 months	45.0 $\pm$ 8.8			47.6 $\pm$ 10.0		
24 months	44.8 $\pm$ 8.1			50.0 $\pm$ 9.0		
<b>Social security</b>		0.809	.419		-3.580	<b>.000</b>
No	45.8 $\pm$ 10.0			45.0( $\pm$ 10.7		
Yes	44.9 $\pm$ 8.3			49.3 $\pm$ (9.4		
<b>Employment Status</b>		2.371	<b>.018</b>		-0.473	.636
No	47.2 $\pm$ 8.9			47.9 $\pm$ 10.5		
Yes	44.6 $\pm$ 8.7			48.5 $\pm$ 9.7		
<b>Work Schedule</b>		0.104*	.901		48.550*	<b>.000</b>
Not working	45.3 $\pm$ 9.4)			40.3 $\pm$ 11.2		
During day	44.9 $\pm$ 7.7			51.9 $\pm$ 6.7		
Night and day	45.3 $\pm$ 10.0			47.6 $\pm$ 10.4		
<b>Spouse Employment status</b>		2.907	<b>.004</b>		-3.930	<b>.000</b>
No	46.1 $\pm$ 9.3			46.9 $\pm$ 10.6		
Yes	43.6 $\pm$ 7.6			50.7 $\pm$ 8.1		
<b>Knowledge about breastfeeding</b>		3.501	<b>.001</b>		-2.864	<b>.004</b>
No	46.8 $\pm$ 9.3			46.9 $\pm$ 9.2		
Yes	43.7 $\pm$ 8.1			49.7 $\pm$ 10.2		
<b>Spouse's knowledge about breastfeeding</b>		0.811	.418		-3.693	<b>.000</b>
No	45.5 $\pm$ 9.6			46.3 $\pm$ 10.4		
Yes	44.8 $\pm$ 8.1			49.9 $\pm$ 9.2		
<b>Are men involved in breastfeeding?</b>		2.878	<b>.004</b>		-6.256	<b>.000</b>
No	46.3 $\pm$ 9.0			45.7 $\pm$ 9.6		
Yes	43.8 $\pm$ 8.3			51.5 $\pm$ 9.2		

\*One-way ANOVA used. t:independent samples t-test

**Table 4.** Binary logistic regression model of factors affecting breastfeeding status of fathers and infants

Variables (Type: Categorical)	B	Standard Deviation	p	AOR	95% Confidence Interval
<b>Breastfeeding attitude</b>					
<b>Code 1: positive attitude with a total score <math>\geq 58</math>; Code 0: negative attitude with a total score <math>&lt; 58</math></b>					
Education level (Basic Education vs. University and above)	1.1	0.4	=.005	3.1	1.39-6.85
Employment status (Employed vs. Unemployed)	-0.8	0.3	=.017	0.4	0.21-0.85
Knowledge about breastfeeding (Yes vs. No)	-0.9	0.3	=.007	0.4	0.20-0.78
<b>Involvement in breastfeeding</b>					
<b>Code 1: Good involvement with a total score <math>\geq 58</math>; Code 0: Weak involvement with a total score <math>&lt; 58</math></b>					
Education level (Basic Education vs. University and above)	-0.6	0.2	=.012	0.5	0.31-0.86
Work schedule (Not working vs. Working during the day)	0.8	0.4	=.031	2.4	1.08-5.39
Knowledge about breastfeeding (Yes vs. No)	0.5	0.2	=.041	1.7	1.02-2.90
Do you think men should be involved in breastfeeding? (Yes vs. No)	1.1	0.2	=.000	3.1	1.84-5.38
Breastfeeding status (Discontinued vs. Continued)	-0.5	0.2	=.025	0.5	0.32-0.92

\*Logistic regression modeling was performed with the Enter method. B: standardized regression coefficient, AOR: proportion of variation in dependent variable explained by regression model, p: the level of statistical significance.

No significant differences in mean FAB and FIB scores were found with respect to participants' age, monthly income, infants' sex, age, and exclusive breastfeeding status for the first 6 months.

The binary logistic regression model investigating participants' factors affecting infants' breastfeeding status is shown in Table 4. According to this model, participants' attitudes towards breastfeeding were positively influenced by lower education (less than university) (AOR = 3.1, CI: 1.39-6.85) and negatively influenced by being employed (AOR = 0.4, CI: 0.21-0.85) and having information about breastfeeding (AOR = 0.4, CI: 0.20-0.78).

Involvement in breastfeeding was positively influenced by working during the day (AOR = 2.4, CI: 1.08-5.39), having information about breastfeeding (AOR = 1.7, CI: 1.02-2.90) and participating in breastfeeding (AOR = 3.1, CI: 1.84-5.38), whereas it was negatively influenced by lower education (less than a university degree) (AOR = 0.5, CI: 0.31-0.86) and having an infant who is still breastfeeding (AOR = 0.5, CI: 0.32-0.92).

## DISCUSSION

Parents' child rearing attitudes are more important than many social and environmental factors and affect the social, emotional and cognitive development. It is a widely accepted fact that the socio-cultural structure of the family is a significant factor affecting the child rearing values and beliefs of parents. The fact that there are differences among child rearing attitudes of parents in

different cultures can be explained with cultural values (Gültekin & Hazar, 2021; Şanlı & Öztürk, 2015). In the present study, it was found that FABs were negative and their involvement in the breastfeeding process was weak, and a very weak correlation was found between the attitude and involvement sub-dimensions. The validity and reliability study of the BAIS in Turkish culture was conducted in a province in northern Turkey. In this study, the mean breastfeeding attitude score was  $56.2 \pm 5.8$  and the mean involvement score was  $56.8 \pm 7.1$  (Gültekin & Hazar, 2021). In the study conducted by Abu-Abbas et al. who developed the original form of the BAIS, the mean scores of both attitude and involvement were above 50 points (Abu-Abbas et al., 2016). In another study using only the involvement sub-dimension of this scale, the mean score was also above 50 (Mat Navi & Abdul Hamid, 2021). To the best of our knowledge, there are no other studies in the literature using this scale. In the present study, the mean scores for attitude and involvement scores were significantly lower than in the above studies. In their study, Abu-Abbas et al. (2016) attributed the consistent negative attitudes of participants towards breastfeeding in their community to the conservative cultural norms of the country. Effective interaction with fathers is the first step in breastfeeding support. Fathers' breastfeeding knowledge, their attitudes, participation in the decision-making process, and practical and emotional support are extremely important for initiating and maintaining breastfeeding and for mothers' coping with breastfeeding problems. The father's support greatly affects the feeding process and breastfeeding time. While the self-efficacy of mothers who are supported in this regard increases, they

prefer more breastfeeding and breastfeed for a longer duration (Abbass et al., 2019; Davidson & Ollerton, 2020; Evgin & Özdil, 2022; Rempel et al., 2017). However, there is insufficient support and practice for health professionals to contact, work with and educate fathers (Baldwin et al., 2021; Wynter et al., 2021). Therefore, this finding suggests that in Şanlıurfa province, which is located in the Southeastern Region of Türkiye, the role of fatherhood is under the influence of the social structure and traditional roles are more dominant. In Şanlıurfa, the mother takes full responsibility for the baby during the first year of life and the contribution of the father is very limited (Mercan & Şahin, 2017; Şanlı & Öztürk, 2015; Timurturk, 2020). Although the changing conditions have changed the role of fatherhood and the father's contribution to the care of the child, the results of the present study show that this is still not at the desired level in Şanlıurfa.

In the present study, it was found that the educational level of the fathers influenced the attitudes towards breastfeeding and involvement in breastfeeding scores. Logistic regression analysis showed that positive attitudes towards breastfeeding were 3.1 times more common among participants with basic education than among participants with university or higher education. Cultural values have a significant impact on attitudes. In Turkish culture, breastfeeding is seen as a phenomenon that represents natural motherhood both culturally and biologically and fathers have positive attitudes toward the continuing breastfeeding (Mercan & Şahin, 2017; Şanlı & Öztürk, 2015; Timurturk, 2020). Therefore, this result suggests that participants with basic education have more dominant cultural values. However, in a study conducted in the Turkish culture, the likelihood of showing positive attitudes increased as the educational level of fathers increased (Gültekin & Hazar, 2021). The results of the present study can be attributed to the more dominant cultural values in Şanlıurfa.

When the effect of educational level on involvement in the breastfeeding process was examined in the present study, a contradictory result was obtained. It was observed that the mean involvement score of participants increased with increasing educational level, and involvement scores were 0.5 times high in participants with university and higher education. Good involvement scores can be attributed to participants with higher levels of education having more information about breastfeeding. Another supporting finding is that involvement scores were 1.7 times higher among participants who reported having knowledge about breastfeeding and 3.1 times higher among participants who reported that men should be involved in the breastfeeding process. If the level of knowledge on breastfeeding is insufficient, fathers may not want to. Mothers who are consciously supported by their spouses during breastfeeding are reported to experience fewer breastfeeding problems, have increased self-efficacy,

preferred more breastfeeding, and maintain breastfeeding for longer durations (Abbass et al., 2019; Davidson & Ollerton, 2020; Evgin & Özdil, 2022; Rempel et al., 2017).

This study came to some important and thought-provoking conclusions. One of these results was that participants who were unemployed had 0.4 times more positive attitudes, while participants who worked during the day were 2.4 times more involved in the breastfeeding process. It is natural to assume that unemployed participants are more supportive and involved in the breastfeeding process because they have more time. Fathers working in professions based on shifts, such as soldiers, police, or security guards, were found to provide more support to their wives in breastfeeding and childcare (Kartal & Erişen, 2020). Furthermore, fathers' support levels increased as their income level increased. It is known that fathers who have reached a satisfaction level in business life participate more in the care of the child and have better relationship with them (Evgin & Özdil, 2022). In addition, it has been reported that fathers with definite working hours also increases the time and quality provided to the child (Abbass et al., 2019). However, in the present study, employed participants were more involved in the breastfeeding process and developed positive attitudes. This may be explained by the fact that employed participants have access to better information or benefit from technological developments such as the internet. However, these results could not be compared with other studies in the literature.

The results also showed that the mean involvement score was higher for participants with a one child than for participants with two or more children. The same result was also observed for breastfeeding experience. However, the only other study in the literature that examining these factors found no significant difference in relation to the number of children (Gültekin & Hazar, 2021). One study showed that all mean scale scores of the families with a core family structure and one child were determined to be higher than those observed in others. This suggests that mothers who have more than one baby and who live in a large family can be negatively affected in breastfeeding behavior by the elders in their family (Evgin & Özdil, 2022). This may be explained by the fact that participants with their first child are more enthusiastic and take more responsibility for childcare.

When analyzing the effect of participants on the prevalence of breastfeeding, it was found that participants who reported having stopped breastfeeding their babies showed 0.5 times better involvement in the breastfeeding process. In addition, participants who reported thinking about stopping breastfeeding at 24 months of age had high involvement scores. These findings are important and form the main conclusion of the study, i.e., breastfeeding rates will increase as the father's involvement in the breastfeeding process increases.

In the present study, the breastfeeding rate of 12-month-old infants was 85.6% and the rate of exclusive breastfeeding in the first 6 months was 48.6% in infants aged 7–12 months. According to 2018 data, the breastfeeding rate of 12-month-old babies in Turkey was 66% and the rate of exclusive breastfeeding in the first 6 months was 40.7% (TNSA, 2019). In the 2019 study conducted in Şanlıurfa FHCs, the breastfeeding rate in the first 6 months was 31.0% (Koruk et al., 2019) and 42.8% in 2020 (Bahar & Koçakoğlu, 2022). The global breastfeeding rate for the first 6 months is 48% (UNICEF, 2022; WHO, 2022). In the United States, the breastfeeding rate for the first 6 months was 55.8% (CDC, 2021). In addition, Worldwide, the 12-month breastfeeding rate is generally above 80% in low-income countries such as Sub-Saharan Africa but fall below 20% in high-income countries such as Norway (Özilice & Günay, 2018). The breastfeeding rate found in this study is below the global targets. The global nutrition target is to increase this rate up to at least 50% by 2025 (WHO 2019; UNICEF 2022). However, the rate in this study is still higher than in other studies, suggesting that breastfeeding programmes and initiatives on breastfeeding in our region are effective and that fathers are also benefiting from these programmes.

## Limitations

The cross-sectional design of the study and the fact that the data were collected at a particular time may have influenced the relationship between participants' attitudes towards breastfeeding and their involvement in the breastfeeding process. In addition, the data were based on participants' statements, mothers were not interviewed, the consistency of the information could not be checked, and the data could not be officially verified. Family health centres reach all registered families via mobile phones. Filling in online questionnaires, although it is assumed to partially improve internet use and technological literacy, may be a limitation of the research as it may lead to selection bias as it will still differ according to the socio-economic and educational status of the users.

## CONCLUSIONS

This study shows that paternal culture may play a role in breastfeeding. FABs were negative and fathers' involvement in the breastfeeding process was low. Factors influencing FAB were educational level, employment status, spouse's employment status, knowledge about breastfeeding and involvement in the breastfeeding process. Factors influencing involvement in the breastfeeding process were level of education, number of children, number of breastfeeding experiences, breastfeeding cessation status, age of infant when parents thought about stopping breastfeeding, social security, employment status, spouse's employment status, level of father's and spouse's information about breastfeeding, and status of involvement in the breastfeeding process. The second finding of this study is that the breastfeeding rate for

infants aged 12 months is 85.6% and the rate of exclusive breastfeeding in the first 6 months for infants aged 7-12 months is 48.6% in Şanlıurfa.

Findings from this study may assist in the development of quantitative studies on a larger scale and with limited study bias. Future studies should also consider the effectiveness of fathers' involvement in breastfeeding and antenatal classes with breastfeeding outcomes.

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**Author Contributions:**

Research idea:SK, ZY

Design of the study:SK, ZY

Acquisition of data for the study:ZY

Analysis of data for the study:SK,SH

Interpretation of data for the study:SK,SH

Drafting the manuscript:SK, SH, ZY

Revising it critically for important intellectual content:SK, SH

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