

# Breastfeeding Frequency of Primary Healthcare Professionals and Effective Factors

## Abstract

**Background:** To determine the frequency of breastfeeding of mothers working in primary care, the differences between different employment groups, and the effective factors.

**Methods:** This descriptive research study was conducted with a self-report online survey design. The snowball sampling method was used for the sample selection, and 151 family physicians and 126 family health professionals were included in the study during the research period (June 2019-December 2019). A 35-item survey was used to collect data. The response rate was 44.9% (49.5% family physicians/40.3% family health professionals).

**Results:** The mean duration of exclusive breastfeeding was  $3.9 \pm 2.0$  months, and the mean duration of total breastfeeding was  $16.7 \pm 8.5$  months. There was no significant difference between the family physicians and family health professionals in terms of exclusive breastfeeding ( $P = 0.580$ ) and total breastfeeding ( $P = 0.325$ ) durations. The most common reasons for weaning was reduced milk supply (25.6%) and not being able to use breastfeeding leave (23.1%) due to problems at work. Of the sample, 41.3% had problems with their co-workers and 41.9% had problems related to patient care when taking breastfeeding leave. Working in a baby-friendly center ( $P = 0.010$ ), prolonged exclusive breastfeeding ( $P < 0.001$ ), and increased hours of breastfeeding leave taken ( $P = 0.001$ ) had a positive effect on breastfeeding for  $\geq 24$  months while experiencing problems with co-workers in taking breastfeeding leave ( $P = 0.023$ ) had a negative effect on this variable.

**Conclusions:** All of the factors that were determined to affect the continuation of breastfeeding for  $\geq 24$  months are modifiable. It is very important for relevant authorities to undertake necessary action to improve the conditions of working mothers based on these results. Health professional that can maintain the balance between family and work will work more efficiently.

**Keywords:** physician mothers, primary care, breastfeeding, breastfeeding leave, employee health

**What's known**

- Working mothers experience many problems such as early start time, night shifts, not being able to take milk leave. These problems negatively affect the breastfeeding duration of working mothers.
- Studies have shown that doctors and nurses cannot breastfeed their children at a desired frequency due to their heavy workload.

### **What's new**

- Working conditions of primary care are quite different from other health care systems. The number of studies on this subject in primary health care is quite limited.
- We found that working in a baby-friendly center, prolonged exclusive breastfeeding, and increased hours of breastfeeding leave taken had positive effect on breastfeeding for  $\geq 24$  months while experiencing problems with co-workers in taking breastfeeding leave had negative effect on this variable. These all of the factors are modifiable.

### **Introduction**

Today, the benefits of breastfeeding for the mother and infant are well known (1). Breast milk is the ideal food for the growth and development of an infant. In addition, breastfeeding reduces the risk of the infant developing diabetes, obesity, asthma, and otitis, and it increases the chance of survival in premature babies. The most well-known benefits of breastfeeding on the mother are reduced risk of type II diabetes and cardiovascular diseases, decreased risk of breast and ovarian cancer, and decreased prevalence of depression (2). In this regard, the World Health Organization and many health institutions recommend exclusive breastfeeding for the first six months (3-5). However, despite the known benefits of breast milk and the recommendations of health organizations, breastfeeding rates are still not at desired levels worldwide (6). There are many data in the literature regarding the interventions and regulations to increase breastfeeding frequency. Primary healthcare professional play an important role in increasing the frequency of breastfeeding since they are aware of the cultural, familial and personal variables of mothers and provide care both before and after birth (7). Studies have shown that receiving breastfeeding education and support in family health centers (FHCs) will increase the frequency and duration of breastfeeding (8).

Working mothers experience various problems in breastfeeding their babies, including early return to work, night shifts, unsuitable environment for pumping breast milk at work, and

using breastfeeding leave rights (9, 10). These problems may affect the breastfeeding durations of working mothers (11, 12). Studies have shown that doctors and nurses cannot breastfeed their children at a desired frequency due to their heavy workload (13, 14). This study aimed to determine the breastfeeding frequency of mothers working in primary healthcare and effective factors. The secondary aim was to determine the differences between family physicians and family healthcare workers in terms of breastfeeding frequency and effective factors.

## **Method**

### *Design*

This descriptive research study was based on a self-report online survey design. The ethical approval for the study was granted by the Non-Interventional Clinical Research Ethics Committee of Cumhuriyet University (approval date: 02.01.2019, number: 2019-01/03). In addition, necessary permission was taken from the Turkish Public Health Agency to conduct the research.

### *Setting and participants*

In Turkey, there are a total of 25,198 FHCs (15). However, we were not able access the total number and rate of female family physicians (FPs) and family health professionals (FHPs) or the rate of taking breastfeeding leave among these employees, which were required to define the required size of the population; therefore, we used the snowball sampling method to recruit participants. The inclusion criteria were working as an FP or FHP in an FHC in Turkey, being female, and having taken breastfeeding leave when working in an FHC. The participants were reached using online communication media, informed about the study, and sent the survey link. Furthermore, the contact addresses of those who meet the participation criteria in their social surroundings were requested from the participants. They were also sent the survey link after being informed about the study by the researchers. Using this method, of the individuals we were able to reach during the research period between June 2019 and Dec 2019 (305 FPs/312 FHPs), 151 FPs and 126 FHPs that agreed to participate in the study and completed the survey were included in the study. The response rate was 44.9% (49.5% FPs/40.3% FHPs).

### *Measurement*

The data were collected using a 35-item tool. There were nine items related to the mothers' sociodemographic and workplace characteristics and five items related to medical history. A

further nine items concerned the baby's first food after birth, the mother's antenatal goals for breastfeeding, duration of exclusively breastfeeding in months, total duration of breastfeeding in months (currently breastfeeding mothers did not answer this question), breast milk feeding method (suckling, pumping, or both), current breastfeeding status, spousal support for breastfeeding, smoking or alcohol use during the breastfeeding period, and reasons for weaning. The remaining 12 items were aimed to determine the mother's working conditions, extent to which they used their breastfeeding leave rights, and their relationship with co-workers while taking breastfeeding leave.

### *Statistical Methods*

IBM SPSS Statistics version 25 software program was used for data analysis (16). For the descriptive analysis of the data, summary statistics (i.e., mean, standard deviation [SD], minimum, and maximum) for continuous variables and proportions for categorical variables were used. IBM SPSS Statistics version 25 was used for data analysis (16). For the descriptive analysis of the data, summary statistics [i.e., mean, standard deviation (SD), minimum, and maximum values) were used for continuous variables, and proportions for categorical variables. The Mann-Whitney U test was conducted to compare continuous variables that did not show a normal distribution between the FPs and FHPs while the chi-square analysis was performed for the comparison of categorical data.

A logistic regression analysis was undertaken to investigate the factors affecting breastfeeding for  $\geq 24$  months. The outcome variable (length of breastfeeding duration) had two categories ( $\geq 24$  months and  $< 24$  months). Only the mothers who had weaned their baby were included in the model. The Wald chi-squared test was used to determine the significance of the model coefficients generated using logistic regression. The continuous variables in the model were the duration of exclusive breastfeeding and the duration of breastfeeding leave taken. The categorical variables in the model were breastfeeding education (yes/no), working in a baby-friendly clinic (yes/no), delivery method (vaginal/cesarean), using breastfeeding leave rights (completely vs. not at all or partially), having available time to pump breast milk at work (yes/no), co-workers' attitude toward breastfeeding (supportive/unsupportive or occasionally supportive), problems related to patient care due to taking breastfeeding leave (yes/no), problems with co-workers due to taking breastfeeding leave (yes/no), and problems with supervisors due to taking breastfeeding leave (yes/no). The results were presented using estimated coefficients, standard errors, Wald chi-squares, p-values, odds ratios, and

confidence interval (CI). A *P*-value of less than 0.05 was considered to be statistically significant at a 95% CI level.

## Results

A total of 277 women volunteered to participate in the study. Of the participants, 55.2% (*n* = 153) were FPs and 44.8% (*n* = 124) were FHPs. The mean age of the participants was  $35.1 \pm 5.5$  (min: 23 - max: 52) years. The descriptive characteristics of the participants concerning work are shown in Table 1.

The participants had a mean number of  $1.7 \pm 0.7$  (min: 1 - max: 4) children. While 23.1% (*n* = 64) of the participants gave birth by normal spontaneous vaginal route, 76.9% (*n* = 213) underwent a cesarean delivery. Of those that gave birth by cesarean section, 18.4% (*n* = 40) had chosen this method voluntarily and 81.6% (*n* = 177) due to a medical indication. Breast milk was the first food given to the babies of 85.9% (*n* = 238) of the participants. At the time of conducting the study, 33.9% (*n* = 94) of the participants were still breastfeeding their babies while 66.1% (*n* = 183) had weaned. The mothers' antenatal goal for the mean exclusive breastfeeding duration was  $5.9 \pm 0.7$  months, but they were able to achieve a mean duration of  $3.9 \pm 2.0$  months. Similarly, the mean value for the planned total duration of breastfeeding was  $23.8 \pm 4.7$  months in contrast to the mean actual value of  $16.7 \pm 8.5$  months. The mean duration of breastfeeding leave taken within the first six months was  $2.2 \pm 0.9$  (min: 0 - max: 3.5) hours. Table 2 presents the variables related to the breastfeeding status of the participants.

The exclusive and total breastfeeding durations of the participants are given in Figure 1 and Figure 2, respectively.

The time to return to work for the FHPs was significantly earlier compared to the FPs (*P* < 0.001). According to the responses of the participants, 51.3% (*n* = 142) received complete support and 40.4% (*n* = 112) received partial support from their spouses in relation to breastfeeding while 8.3% (*n* = 23) did not receive any spousal support.

Table 3 shows the data on the participants' exercising their breastfeeding leave rights after delivery.

The mothers who had weaned were divided into two groups according to their breastfeeding duration being  $\geq 24$  months (*n* = 67; 36.6%) or <24 months (*n* = 116; 63.4%). Breastfeeding

for  $\geq 24$  months was positively affected 3.3-fold by working in a baby-friendly centre by ( $P = 0.010$ ), 0.4-fold by prolonged exclusive breastfeeding ( $P < 0.001$ ), and 0.4-fold by increased breastfeed leave hours taken ( $P = 0.001$ ) while having problems with co-workers due to taking breastfeeding leave had a 3.1-fold negative effect ( $P = 0.023$ ). The results of the binary logistic regression analysis are shown in Table 4. The sensitivity of the binary logistic regression model was 82.3%, and the specificity was 61.5%. The Nagelkerke R<sup>2</sup> value of the model was 0.439.

## Discussion

A striking finding of the study is that the participants could not achieve their antenatal goals concerning the durations of exclusive and total breastfeeding. Another important result concerns the main reasons for weaning being determined as reduced milk supply and the inability to take breastfeeding leave due to problems at work.

According to the results of the Demographic and Health Survey conducted across Turkey in 2018 (TDHS-2018), the mean total duration of breastfeeding was 16.7 months. In the same study, the mean duration of breastfeeding was reported as 1.8 months, which increased to 3.6 months when the babies were fed with additional liquids such as water that did not contain milk, in addition to breast milk (17). In two different studies conducted with Turkish physician mothers, the total duration of breastfeeding was found to be 14 months and 16 months, respectively (10, 18). In a study evaluating FPs in Canada, 53% of the participants breastfed for six months exclusively, and among them, 39% breastfed for  $\geq 12$  months (19). In another study conducted with international participants, 41% of the mothers reached their six-month exclusive breastfeeding goal and 55% reached their 12-month breastfeeding goal (13). In our study, the frequency of exclusive breastfeeding for the first six months was similar to the data of these studies but the frequency of total breastfeeding for  $\geq 12$  months was found to be higher. Our results were similar to those reported for Turkish society and other Turkish mothers working as physicians. This difference may be due to cultural characteristics, and specifically the importance that Turkish women attach to breastfeeding (20).

Our participants stated that they most frequently stopped breastfeeding because they had problems related to reduced milk supply. This was followed by workplace problems in relation to taking breastfeeding leave and the baby being over two years old. For a healthy development of the baby, the World Health Organization recommends that breastfeeding should continue until the baby is at least two years of age (3). However, it is unfortunate that

problems related to taking breastfeeding leave was among the first three reasons for weaning. Similarly, as a result of the study conducted by Ersen et al. with Turkish physician mothers, the most common reasons for weaning were associated with workplace conditions preventing the use of breastfeeding leave rights (10). In a study by Akbayram evaluating pediatric healthcare professionals, the most common reason for weaning was the mother working (21). In another study, Muda et al. determined that among working mothers, return to work was one of the most common reasons for weaning (22). In our research, it was found that having problems with co-workers in relation to the use of breastfeeding leave rights was inversely related to breastfeeding for  $\geq 24$  months. Almost half of our participants stated that they experienced problems with their co-workers while exercising their breastfeeding leave rights. The rate of supportive attitude from co-workers to breastfeeding was lower compared to the literature studies conducted with healthcare professionals (10, 13, 23). The low rate of co-worker support for breastfeeding mothers in family medicine, which is the cornerstone of breastfeeding support for society, is an important finding that needs to be further examined. Sattari et al. determined that the physician mothers receiving co-worker support had a longer duration of exclusive breastfeeding (13). In contrast, in other studies involving other professional groups, the data indicated that co-worker/supervisor support was not related to breastfeeding duration (24, 25). The question of whether the importance of breastfeeding support for healthcare professionals differs from other professions can be investigated in future comparative studies.

As a result of the research, it was determined that increased duration of taking breastfeeding leave (number of hours within the first six months) positively affected the total breastfeeding duration being  $\geq 24$  months. Similarly, Sattari et al. observed that the increase in the duration of maternity leave increased the duration of breastfeeding (13), and Al-Katufi et al. reported that breastfeeding-friendly policies were associated with continuing exclusive breastfeeding after returning to work (26). The variability in the breastfeeding leave hours taken within the first six months in our study can be attributed to the regulation that was put into effect in Turkey in 2017, reducing the duration of breastfeeding leave to 1.5 hours a day for the first six months after birth among FPs and FHPs, unlike other civil servants. On June 21, 2018, with the amendments to the 'Principles regarding contracted personnel employment', the breastfeeding leaves of the FPs and FHPs were revised as three hours a day for the first six months, followed by 1.5 hours a day for a further six months (27).

In our study, it was found that working in a baby-friendly center had a positive effect on breastfeeding for  $\geq 24$  months. There was no difference between the FPs and FHPs in terms of having available time or a suitable environment to pump breast milk at work. In a study by Ersen et al., the rate of physicians from other branches to find a suitable environment for pumping milk at workplace was found to be 42%, which was lower than our findings. The availability of time for pumping breast milk was found at a similar rate (33%) (10). In a study conducted in Saudi Arabia, despite baby-friendly policies, the frequency of finding a suitable environment was found to be 4% and the frequency of finding sufficient time was 3.5% among primary care professionals (26). In the study of Sattari et al., these rates were reported as 45% for the availability of time and 59% for the presence of a suitable work environment (13). Having a suitable work environment and available time to pump breast milk is very important for the continuation of breastfeeding. Based on the data of the studies carried out to date, it can be stated that physician mothers have difficulties in finding such opportunities.

In conclusion, we determined that the breastfeeding duration of the FPs and FHPs being  $\geq 24$  months was positively affected by working at a baby friendly FHC, exclusive breastfeeding duration, breastfeeding leave hours taken, and the support of co-workers. All of these factors are modifiable. Relevant authorities can substitute health professionals on temporary duty to prevent early return to work. Satisfactory additional payments can be made for co-workers that fill in for breastfeeding mothers. These strategies can minimize difficulties that working mothers experience in exercising their breastfeeding leave. Health professionals that can maintain the balance between family and work will work more efficiently.

## **Limitation**

The most important limitation of this study is that it was quantitative research since it investigated the investigation of the responses to questions related to problems that have already been put forward in the literature. Some of our data were very different in primary care professionals compared to other healthcare professionals. Further studies with a qualitative research design can particularly focus on the issue of why primary care professionals receive less co-worker support when exercising their breastfeeding leave rights. Lastly, due to lack of certain data, we were not able to calculate the required sample size for the study; therefore, we used the snowball sampling method for sample selection. Thus, our results cannot be generalized to all health professionals working in FHCs in Turkey.



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## Tables

**Table 1.** Work-related descriptive characteristics of the participants †

	FP n (%)	FHP n (%)	Total n (%)	Total <i>M ± SD</i>
Title				
Family medicine specialist doctor	-	-	55 (19.9%)	-
General practitioner	-	-	98 (35.4%)	-
Midwife	-	-	75 (27.1%)	-
Nurse	-	-	40 (14.4%)	-
Other ‡	-	-	9 (3.2%)	-
Geographical region				
Marmara	41 (26.8%)	38 (30.6%)	79 (28.5%)	-
Aegean	17 (11.1%)	21 (16.9%)	38 (13.7%)	-
Mediterranean	11 (7.2%)	23 (18.5%)	34 (12.3%)	-
Central Anatolia	62 (40.5%)	16 (12.9%)	78 (28.2%)	-
Black Sea	7 (4.6%)	6 (4.8%)	13 (4.7%)	-
East Anatolia	2 (1.3%)	4 (3.2%)	6 (2.2%)	-
Southeast Anatolia	13 (8.5%)	16 (5.8%)	29 (10.5%)	-
Location of FHC				
City center	128 (83.7%)	81 (65.3%)	209 (75.5%)	
District/Town	25 (16.3%)	43 (34.7%)	68 (24.5%)	
Number of FHC units	-	-	-	4.6±2.3
Estimated number of daily patients	-	-	-	65.4±31.4
Is the FHC baby-friendly?				
Yes	113 (75.8%)	87 (70.2%)	200 (73.2%)	-
No	33 (22.2%)	24 (19.4%)	57 (20.9%)	-
Do not remember	3 (2.0%)	13 (10.4%)	16 (5.9%)	-
Breastfeeding education				
Yes	92 (60.1%)	105 (84.7%)	197 (71.1%)	-
No	58 (37.9%)	15 (12.1%)	73 (26.4%)	-
Do not remember	3 (2.0%)	4 (3.2%)	7 (2.5%)	-

† The participants responded to the questions about their work environment considering the time they exercised their breastfeeding leave rights.

‡ Emergency medical technician, contracted nurse, health officer

M, mean; SD, standard deviation; FP, family physician (Family medicine specialist doctors, general practitioners); FHP, family health professional (Midwife, nurse, emergency medical technician, contracted nurse, health officer); FHC, family health center

**Table 2.** Various breastfeeding characteristics of the participants and their comparison between the

groups	Total	FP	FHP	<i>P</i>
Antenatal goal for exclusive breastfeeding duration (months) ( <i>M</i> ± <i>SD</i> )	5.9±0.7	6.0±0.8	5.9±0.7	0.489
Actual exclusive breastfeeding duration (months) ( <i>M</i> ± <i>SD</i> )	3.9±2.0	3.8±2.2	4.1±1.9	0.580
Antenatal goal for total breastfeeding duration (months) ( <i>M</i> ± <i>SD</i> )	23.8±4.7	23.5±5.3	24.2±4.1	0.423
Actual total breastfeeding duration (month) ( <i>M</i> ± <i>SD</i> )	16.7±8.5	16.3±8.3	17.3±8.8	0.325
Time to return to work (months) ( <i>M</i> ± <i>SD</i> )	4.3±2.1	4.7±2.5	3.8±1.3	<b>&lt;0.001</b>
Breastfeeding leave hours used within the first six months	2.2±0.9	2.2±0.9	2.2±0.9	0.862
Reason for weaning [n (%)] †				
Reduced milk supply	71 (25.6%)	35 (49.3%)	36 (50.7%)	0.152
Problems at work in relation to using breastfeeding leave	64 (23.1%)	31 (48.4%)	33 (51.6%)	0.135
Baby older than two years	63 (22.7%)	36 (57.1%)	27 (42.9%)	0.421
Tiredness and stress	51 (18.4%)	27 (52.9%)	24 (47.1%)	0.416
Baby stopping breastfeeding	39 (14.1%)	24 (61.5%)	15 (38.5%)	0.249
Heavy workload	35 (12.6%)	18 (51.4%)	17 (48.6%)	0.380
No available time to pump breast milk at work	29 (10.5%)	12 (41.4%)	17 (58.6%)	0.083
Work environment not suitable to pump breast milk	21 (7.6%)	4 (19.0%)	17 (81.0%)	<b>0.001</b>
Baby not putting on enough weight	17 (6.1%)	9 (52.9%)	8 (47.1%)	0.519
Health problems	13 (4.7%)	3 (23.1%)	10 (76.9%)	<b>0.017</b>
Regular sleep routine needed for the baby	12 (4.3%)	9 (75.0%)	3 (25.0%)	0.133
New pregnancy	8 (2.9%)	4 (50.0%)	4 (50.0%)	0.518
Method of breast milk feeding				
Suckling	84 (30.3%)	43 (51.2%)	41 (48.8%)	0.075
Pumping	20 (7.2%)	7 (35.0%)	13 (65.0%)	
Both	173 (62.5%)	103 (59.5%)	70 (40.5%)	
Habits and medication use				
Smoking	19 (6.9%)	12 (63.2%)	7 (36.8%)	0.318
Alcohol	5 (1.8%)	5 (100.0%)	0 (0.0%)	0.050
Medicine	20 (7.2%)	15 (75.0%)	5 (25.0%)	0.051
None	241 (87.0%)	129 (53.5%)	112 (46.5%)	0.096

† The total of the column is greater than 100% since the participants were allowed to choose more than one option.

M, mean; SD, standard deviation; FP, family physician; FHP, family health professional

**Table 3.** Data on the participants' exercising their breastfeeding leave rights after delivery and

comparison between the groups ( <i>N</i> = 277)				
	Total	FP	FHP	<i>P</i>
Exercised breastfeeding leave rights				
Completely	133 (48%)	84 (63.2%)	49 (36.8%)	<b>&lt;0.001</b>
Used fewer days	21 (7.6%)	4 (19.0%)	17 (81.0%)	
Used fewer hours	104 (37.5%)	51 (49.0%)	53 (51.0%)	
Not exercised	19 (6.9%)	14 (73.7%)	5 (26.3%)	
Who filled in for you at work when you were at breastfeeding leave?				
I finished all my work before I took breastfeeding leave.	119 (43.0%)	74 (62.2%)	45 (37.8%)	0.094
A co-worker agreed to do it without a fee.	83 (30.0%)	39 (47.0%)	44 (53.0%)	
A co-worker agreed to do it for a fee.	75 (27.0%)	40 (53.3%)	35 (46.7%)	
Did you do night shifts during your breastfeeding leave?				
No night shifts at my unit	246 (86.6%)	135 (54.9%)	111 (45.1%)	0.445
<2 years	13 (4.6%)	7 (53.8%)	6 (46.2%)	0.568
Overtime during day shift	11 (3.9%)	3 (27.3%)	8 (72.7%)	0.068
>2 years	14 (4.9%)	12 (85.7%)	2 (14.3%)	<b>0.016</b>
Was the work environment suitable to pump breast milk? †				
Yes	156 (56.9%)	92 (59.0%)	64 (41.0%)	0.067
No	118 (43.1%)	58 (49.2%)	60 (50.8%)	
Did you have time to pump breast milk at work? †				
Yes	100 (36.5%)	60 (60.0%)	40 (40.0%)	0.115
No	174 (63.5%)	90 (51.7%)	84 (48.3%)	
Co-workers' attitude toward breastfeeding <sup>a</sup>				
Supportive	148 (54.0%)	77 (52.0%)	71 (48.0%)	0.155
Opposing	11 (4.0%)	9 (81.8%)	2 (18.2%)	
Neither	115 (42.0%)	64 (55.7%)	51 (44.3%)	
Did you have problems‡ concerning patient care because you took breastfeeding leave?				
Yes	116 (41.9%)	93 (80.2%)	23 (19.8%)	<b>&lt;0.001</b>
No	161 (58.1%)	60 (37.3%)	101 (62.7%)	
Did you have problems with your co-workers because you took breastfeeding leave?				
Yes	115 (41.3%)	64 (56.1%)	50 (43.9%)	0.430
No	162 (58.7%)	88 (54.3%)	74 (45.7%)	
Did you have problems with your supervisors because you took breastfeeding leave?				
Yes	60 (21.7%)	23 (38.3%)	37 (61.7%)	<b>0.002</b>
No	217 (78.3%)	130 (59.9%)	87 (40.1%)	

† *N* = 274

‡ Penal action, patient loss, etc.

FP, family physician; FHP, family health professional

**Table 4.** Results of the binary logistic regression model regarding breastfeeding for  $\geq 24$  months (compared to  $< 24$  months)

	Coefficient ( $\beta$ )	SE ( $\beta$ )	W	p	OR	95% CI	
						Lower	Upper
Having breastfeeding education (yes/no)	0.743	0.494	2.257	0.133	0.476	0.181	1.254
Working at baby-friendly clinic (yes/no)	1.215	0.473	6.603	<b>0.010</b>	3.370	1.334	8.515
Delivery method (vaginal/cesarean)	1.022	0.544	3.535	0.060	2.779	0.958	8.063
Months of exclusive breastfeeding	0.774	0.147	27.904	<b>&lt;0.001</b>	0.461	0.346	0.614
Hours of breastfeeding leave	0.902	0.259	12.116	<b>0.001</b>	0.406	0.244	0.674
Using breastfeeding leave rights (completely/not at all or partially)	0.528	0.492	1.153	0.283	1.695	0.647	4.444
Work environment being suitable to express milk (yes/no)	0.472	0.516	0.836	0.360	1.604	0.583	4.413
Having time to express milk at work (yes/no)	0.229	0.556	0.170	0.680	1.257	0.423	3.736
Colleagues' attitude toward breastfeeding (supportive/unsupportive or occasionally supportive)	0.300	0.468	0.411	0.521	1.350	0.540	3.376
Problems with patient care while using leave (yes/no)	-0.869	0.466	3.482	0.062	0.419	0.168	1.045
Problems with co-workers while using leave (yes/no)	-1.137	0.502	5.136	<b>0.023</b>	3.116	1.166	8.327
Problems with supervisors while using leave (yes/no)	-0.567	0.495	1.313	0.252	0.567	0.215	1.496

N = 178, Nagelkerke  $R^2 = 0.439$ 

SE, standard error; W, Wald chi-square; OR, odds ratio; CI, confidence interval

## **Figures**

**Figure 1.** Rates of exclusive breastfeeding

**Figure 2.** Rates of total breastfeeding