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Original Article

Milk Sharing and Human Milk Banking Among Lactating Women Living in the Southeastern Anatolia Region of Turkey: Knowledge, Opinions, and Practices

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ABSTRACT

Objective: We aimed to determine the knowledge, opinions, and practices among lactating women in Turkey with regard to milk sharing and human milk banking.

Methods: The research was conducted from November 2021 to April 2022 in a province in the southeastern Anatolia region of Turkey. A mixed-methods approach was applied in this study. Data were collected from 415 surveys and 19 participant interviews.

Results: Of the participants, 84.1% knew about the concept of wet nursing, 30.1% had had a wet nurse, and 34.9% had wet-nursed a baby. Of the participants, 57.6% did not know about human milk banking, 33.5% did not want to donate milk to human milk banks, and 32.8% did not want to feed their babies human milk that had been banked. According to the qualitative findings of the study, while their husband's approval played an active role in shaping the opinions of the participants toward human milk banking, religious concerns, commercial gain, hygiene, and decreased nutritional value were also found to be significant factors.

Conclusion: Lactating women's knowledge, opinions, and concerns about human milk banking should be considered in educational programs planned by health professionals to correct negative thoughts toward human milk banking.

Keywords: Human milk banking, human milk sharing, lactation, mixed method, wet nursing

Introduction

Human milk has long been considered the "gold standard" of infants nutrition, supporting optimal growth and development in the neonate.[1] However, there may be times when the mother cannot breastfeed her baby because of various problems. For example, mother and baby separation, mother's illness, medication, or diet may prevent the mother from breastfeeding the baby. In similar cases, milk sharing (MS) is an important way to overcome the lack of availability of human milk for infants.[2] The World Health Organization has supported MS, reporting that in cases when a baby cannot be breastfed for whatever reason, the best alternative is having access to human milk banking (HMB) or a healthy wet nurse.[3]

Human milk banking is increasing worldwide because of increased awareness and the continuous demand for donor milk. In many countries, HMB is protected, encouraged, and supported as an extension of national breastfeeding policies by being included in child healthcare policy.[4] Despite the potential benefits, HMB practice is not encountered in countries where the majority of the population is Muslim. Turkey is among these countries. In Turkey, the "HMB project" is a current issue; however, it has not yet been implemented due to various disagreements.[5] The most frequently cited disagreement is that HMB is not compatible with the religious beliefs of Turkish society. Human milk banking is also not accepted because of a failure to meet hygienic conditions and an increase in infectious diseases.[6]

Little is known about Turkish women's knowledge, opinions, and practices with regard to MS and HMB.[7,8] The majority of citizens in the province where the study was conducted have different non-Turkish ethnic groups (e.g., Kurds and Arabs).[9] Because of the ethnocultural and religious structures in this province, breastfeeding is considered a virtue, and breastfeeding is highly encouraged.[10] In addition, MS is accepted as "a good deed." For this reason, in this province, MS is conducted in the practice of "wet nursing," which is an integral part of the traditional culture.[5]

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If women increase their knowledge that HMB can be established without harming the religious and cultural structure and that it is beneficial for infants who will benefit from HMB, they can develop positive opinions about this practice.[11,12] Previous studies conducted in metropolitan areas of Turkey showed that more than half of the women did not have enough knowledge about HMB and held negative opinions about it.[2,13] However, it is expected that in regions of the country, where there is high religious sensibility, the opinions and practices of women about MS and HMB will differ from those of other regions.[7] Knowing these differences will help in the preparation of more comprehensive and efficient programs to raise awareness of HMB.[14] In this direction, the present study aims to determine the knowledge, opinions, and practices among lactating women in Turkey with regard to MS and HMB.

Methods

Study Design

In the present study, a convergent parallel mixed-methods design was implemented. In the quantitative phase, a descriptive and cross-sectional research method was used. The qualitative phase was conducted with face-to-face interviewing techniques.

This study was performed in line with the principles of the Declaration of Helsinki. Ethics committee approval was obtained from Siirt University Non-Interventional Clinical Research Ethics Committee (application date: 01/10/2021 and approval number: 16058), and written informed consent was obtained from all participants.

Setting

The present study was conducted in Siirt Province, located in the southeastern Anatolia region of Turkey. Siirt Province consists of a small settlement with large areas of farmland and a lack of socioeconomic opportunities.[15]

The present study was undertaken in the Training and Research Hospital in Siirt. This hospital is the only health institution providing secondary health care in the province.

Sample

All lactating mothers accompanying their babies attending the pediatric outpatient clinic at the hospital comprised the study population.

A convenience sampling method was used to obtain the quantitative data. The sample size was based on Naing's formula using $\alpha = 0.05$, a 95% significance level, and a 50% estimated prevalence of knowledge, opinions, and practices.[16] A sample size of 384 participants was found to be adequate. Because of the potential for sample loss, 422 participants were included in the study, an increase of 10%.

The inclusion criteria for the quantitative part of the study were as follows: (i) currently lactating; (ii) over the age of 18; (iii) able to communicate in Turkish; and (iv) literate. Exclusion criteria were as follows: (i) mental instability; (ii) did not complete the questionnaire fully; (iii) visitors who are not original residents of the province; or (iv) not willing to participate in the study. Seven participants filled in the questionnaire incompletely, eventually 415 participants were included in the sample.

For the qualitative study, mothers were selected by purposive sampling among the participants in the quantitative study. The criteria for creating a representative quantitative sample were sought to determine the participants to be interviewed. The following 3 main characteristics of participants with different sociodemographic characteristics were inclusion criteria in the qualitative study: (i) mothers who welcomed the establishment of HMB (n = 7); (ii) mothers who did not welcome the establishment of HMB (n = 6); and (iii) mothers who were neutral about the establishment of HMB (n = 6). The exclusion criterion for the qualitative study was not willing to participate. Three participants did not allow their interviews to be audio-recorded and so were excluded from this part of the study. As a result of interviews with 19 participants, the saturation point was reached and the qualitative data were completed.

Measurement

The quantitative data of the study were collected by the researchers using a data collection form prepared in Turkish in line with the literature.[13,17] This form included the following questions: 7 questions about the sociodemographic characteristics of the participants (e.g., age, education, perceived income, etc.); 3 questions about knowledge of MS and HMB, including wet nursing and information sources; 1 question about opinion on wet nursing (being a wet nurse if necessary); 16 questions about opinions of HMB (e.g., donating milk to HMB, benefits from HMB, and welcoming HMB); and 8 questions about MS practices (e.g., having a wet nurse, being a wet nurse, etc.).

An interview form consisting of 5 open-ended questions (what do you think about wet nursing?, what do you think about HMB?, etc.) was created in Turkish to collect the qualitative data. This form was confirmed and evaluated by an expert.

Data Collection

The data of the study were collected by the researcher between November 2021 and April 2022. The first researcher interviewed the participants face to face and gave information about the purpose of the study, HMB, and MS practices. After their approval for participation, data collection forms were given to the participants to fill out.

To evaluate the clarity and usefulness of the questions, a pre-test was conducted among 10 participants, and the necessary corrections were made. The data from the pre-test participants were not included in the study.

Table 1. Descriptive Characteristics of the Participants

Variables	Overall (%) (n = 415)	Qualitative (%) (n = 19)
Education level		
Literate	85 (20.5)	4 (21.1)
Primary school	111 (26.7)	5 (26.3)
High school	99 (23.9)	5 (26.3)
University or higher	120 (28.9)	5 (26.3)
Employment status		
Employed	182 (43.9)	9 (47.4)
Unemployed	233 (56.1)	10 (52.6)
Perceived income level		
Poor	203 (48.9)	9 (47.4)
Moderate	158 (38.1)	8 (42.1)
Good	54 (13.0)	2 (10.5)
Family type		
Nuclear	228 (54.9)	10 (52.6)
Extended	112 (27.0)	7 (36.7)
Broken	75 (18.1)	2 (10.5)
Place of residence		
City center	199 (48.0)	8 (42.1)
District	118 (28.4)	6 (31.5)
Village	98 (23.6)	5 (26.4)
Language spoken at home		
Turkish	220 (53.0)	10 (52.6)
Kurdish	99 (23.9)	5 (26.3)
Arabic	96 (23.1)	4 (21.1)

Table 2. Distribution of Participants' Knowledge About Milk Sharing and Human Milk Banking

	Agree	Disagree	Neutral
Variables	**n (%)**	**n (%)**	**n (%)**
Being a wet nurse if necessary	265 (63.9)	150 (36.1)	0 (0)
Willingness to donate milk to HMB	141 (34.0)	139 (33.5)	135 (32.5)
Desire to benefit from HMB	109 (26.3)	136 (32.8)	170 (41.0)
Welcome the establishment of HMB	147 (35.4)	68 (16.4)	200 (48.2)
Does not want to donate milk to HMB if her husband disapproved	219 (52.8)	107 (25.8)	89 (21.4)
Does not want to benefit from milk of HMB if her husband disapproved	230 (55.4)	105 (25.3)	80 (19.3)
Infectious diseases would be passed on to babies	153 (36.9)	120 (28.9)	142 (34.2)
Does not want to donate milk to HMB due to their religious beliefs	131 (31.6)	154 (37.1)	130 (31.3)
Does not want to benefit from HMB due to their religious beliefs	120 (28.9)	163 (39.3)	132 (31.8)
The bond between mother and baby weakens	113 (27.2)	188 (45.3)	114 (27.5)
It has less nutritional value	98 (23.6)	166 (40.0)	151 (36.4)
Opinions on establishment of HMB in the place of residence			
It gains a commercial dimension	191 (46.0)	120 (28.9)	104 (25.1)
Causes ethical problems	146 (35.2)	159 (38.3)	110 (26.5)
Not suitable for our culture	130 (31.3)	174 (41.9)	111 (26.7)
Not hygienic	126 (30.4)	148 (35.7)	141 (34.0)
It is unnecessary	99 (23.9)	227 (54.7)	89 (21.4)
Negatively affects baby health	96 (23.1)	182 (43.9)	137 (33.0)

HMB, human milk banking.

Participants filled out the data collection forms themselves in an environment where they could fill in and ensure confidentiality, and then handed them over to the researcher. Participants stated that the average time for filling out data collection forms was 15-20 minutes.

Qualitative data were collected by the first researcher using a face-to-face interview technique in a private room at the hospital. The interviews were recorded with a voice recorder. The interviews lasted about 35 minutes. In qualitative data, participants were coded by numbers from 1 to 19.

Data Analysis

The Statistical Package for the Social Sciences 22 package programs were used for the analysis of the quantitative findings (IBM SPSS Corp.; Armonk, NY, USA). Descriptive and comparative (chi-square) tests were used in the analysis of the data. Ordinal logistic regression analysis was used to determine the predictors of participants' opinions on willingness to donate milk to and desire to benefit from HMB. The results were evaluated at the 95% confidence interval level and the significance level was $P < .05$.

The framework analysis method was used for the analysis of the qualitative findings. This involves a 5-step process: familiarization; identifying a thematic framework; indexing; charting; and mapping and interpretation.[18] During the familiarization process, the researchers coded all the interviews. In the process of identifying the thematic framework, the codes were compared for consistencies, similarities, and differences; categories were assigned to the codes that arose from 3 or more transcripts. The process of indexing involved the application

Table 3. Distribution of Factors Affecting Participants' Opinions on Human Milk Banking

	Willingness to Donate Milk to HMB				Desire to Benefit from HMB			
	Agree	Disagree	Neutral		Agree	Disagree	Neutral	
Variables	**n (%)**	**n (%)**	**n (%)**	***P***	**n (%)**	**n (%)**	**n (%)**	***P***
Age group								
18-29	57 (39.9)	33 (23.1)	53 (37.1)	**0.020***	45 (31.5)	36 (25.2)	62 (43.4)	0.084
30-34	47 (33.6)	52 (37.1)	41 (29.3)		37 (26.4)	47 (33.6)	56 (40.0)	
35 and higher	37 (28.0)	54 (40.9)	41 (31.1)		27 (20.5)	53 (40.2)	52 (39.4)	
Education level								
Literate	10 (11.8)	51 (60.0)	24 (28.2)	**<.001***	11 (12.9)	35 (41.2)	39 (45.9)	**<.001***
Primary school	23 (20.7)	43 (38.8)	45 (40.5)		17 (15.3)	41 (36.9)	53 (47.7)	
High school	45 (45.4)	19 (19.2)	35 (35.4)		34 (34.3)	25 (25.3)	40 (40.4)	
University or higher	63 (52.5)	26 (21.7)	31 (25.8)		47 (39.2)	35 (29.2)	38 (31.7)	
Employment status								
Employed	77 (42.3)	54 (29.7)	51 (28.0)	**.007***	65 (35.7)	51 (28.0)	66 (36.3)	**.001***
Unemployed	64 (27.5)	85 (36.5)	84 (36.1)		44 (18.9)	85 (36.5)	104 (44.6)	
Perceived income level								
Poor	64 (31.5)	74 (36.5)	65 (32.0)	.702	53 (26.1)	59 (29.1)	91 (44.8)	.477
Moderate	56 (35.4)	48 (30.4)	54 (34.2)		40 (25.3)	58 (36.7)	60 (38.0)	
Good	21 (38.9)	17 (31.5)	16 (29.6)		16 (29.6)	19 (35.2)	19 (35.2)	
Family type								
Nuclear	100 (43.9)	58 (25.4)	70 (30.7)	**<.001***	71 (31.1)	69 (30.3)	88 (38.6)	**.038***
Extended	28 (25.0)	39 (34.8)	45 (40.2)		26 (23.2)	34 (30.4)	52 (46.4)	
Broken	13 (17.3)	42 (56.0)	20 (26.7)		12 (16.0)	33 (44.0)	30 (40.0)	
Place of residence								
City center	95 (47.7)	50 (25.1)	54 (27.2)	**<.001***	70 (35.2)	61 (30.7)	68 (34.2)	**.001***
District	32 (27.1)	40 (33.9)	46 (39.0)		27 (22.9)	38 (32.2)	53 (44.9)	
Village	14 (14.3)	49 (50.0)	35 (35.7)		12 (12.2)	37 (37.8)	49 (50.0)	
Language spoken at home								
Turkish	111 (50.5)	40 (18.1)	69 (31.4)	**<.001***	79 (35.9)	56 (25.5)	85 (38.6)	**<.001***
Kurdish	19 (19.2)	42 (42.4)	38 (38.4)		17 (17.2)	38 (38.4)	44 (44.4)	
Arabic	11 (11.5)	57 (59.4)	28 (29.1)		13 (13.5)	42 (43.8)	41 (42.7)	
Knowledge about HMB								
Yes	78 (44.4)	49 (27.8)	49 (27.8)	**.001***	62 (35.2)	53 (30.1)	61 (34.7)	**.002***
No	63 (26.4)	90 (37.6)	86 (36.0)		47 (19.7)	83 (34.7)	109 (45.6)	

*$P < .05$

HMB, human milk banking.

of textual codes to categories. During the indexing of the data analysis, the data were imported into the NVivo version 11 package program. The researchers agreed on the textual codes. The data were charted into categories. In the process of charting, framework matrices were created on a case-wise basis across all categories. Finally, to confirm the accuracy of transcribed interviews, an expert (a sociologist experienced in qualitative research) independently analyzed the data and compared the themes.

Results

Participant Characteristics

The mean (SD) age of the participants was 32.18 (6.03) years old. The sociodemographic characteristics of the participants are given in Table 1.

Knowledge About Milk Sharing and Human Milk Banking

Of the participants, 84.1% knew of the concept of wet nursing and 57.6% did not have any knowledge about HMB (Table 2).

Education, employment status, family type, place of residence, language spoken at home, and knowledge about HMB had a significant impact on the willingness to donate milk to HMB and the desire to benefit from HMB ($P < .05$). The age variable had a significant effect on the willingness to donate milk ($P < .05$) (Table 3).

In this study, many factors that are thought to affect the willingness to donate milk to HMB and the desire to benefit from HMB were examined by constructing an ordinal logistic regression model. When examined in terms of the willingness to donate milk, those who spoke Arabic had 5.48 times and those who spoke Kurdish had 2.94 times more negative opinions compared with those who spoke Turkish. In terms of the desire to benefit from HMB, those who were unemployed (1.59 times), those who spoke Arabic (3.18 times), and those who spoke Kurdish (2.44 times) expressed negative opinions ($P < .05$) (Table 4).

Opinions and Practices about Milk Sharing and Human Milk Banking

Of the participants, 63.9% were willing to wet nurse if necessary, and 33.5% of the participants were not willing to donate their milk to HMB. If their husbands disapproved, 52.8% of the participants did not agree to donate milk to HMB, and 55.4% of the participants did not desire to benefit from HMB. Of the participants, 30.1% had a wet nurse; 34.9% wet-nursed a baby. The babies of 34.5% of the participants were wet-nursed by someone (Table 5).

Qualitative Results

As a result of the qualitative analysis, 3 main themes and 8 sub-themes were determined. The main themes were barriers to the establishment of HMB, facilitators for the establishment of HMB, and the value of MS (Table 6).

Table 4. Ordinal Logistic Regression Model of Variables Predicting Participants' Opinions on Human Milk Banking

	Willingness to Donate Milk to HMB[1]			Desire to Benefit from HMB[2]		
Variables	**Estimate β**	***P***	**OR (95% CI)**	**Estimate β**	***P***	**OR (95% CI)**
Age group				*	*	*
18-29	−0.402	.105	1.49 (0.919-2.428)	*	*	*
30-34	−0.076	.754	1.07 (0.672-1.732)	*	*	*
35 and higher	0[a]			*	*	*
Education level						
Literate	−0.722	.112	0.48 (0.199-1.185)	−0.096	.824	0.98 (0.389-2.123)
Primary school	−0.365	.294	0.69 (0.351- 1.373)	0.044	.898	1.04 (0.536-2.036)
High school	0.171	.553	1.18 (0.673-2.091)	−0.289	.305	0.74 (0.432-1.301)
University or higher	0[a]			0[a]		
Employment status						
Employed	0[a]			0[a]		
Unemployed	−0.018	.936	0.98 (0.625-1.541)	0.466	**.036**	1.59 (1.032-2.462)
Family type						
Nuclear	0[a]			0[a]		
Extended	0.177	.605	1.19 (0.611-2.333)	−0.083	.801	0.87 (0.461-1.667)
Broken	0.392	.162	1.48 (0.852-2.562)	−0.441	.103	0.64 (0.378-1.094)
Place of residence						
City center	0[a]			0[a]		
District	0.075	.722	1.07 (0.560-2.074)	−0.158	.544	0.85 (0.514-1.421)
Village	0.103	.811	1.10 (0.650-1.889)	−0.242	.449	0.78 (0.420-1.468)
Language spoken at home						
Turkish	0[a]			0[a]		
Kurdish	1.080	**.004**	2.94 (1.409-6.153)	0.894	**.015**	2.44 (1.186- 5.041)
Arabic	1.702	**<.001**	5.48 (2.519-11.943)	1.158	**.003**	3.18 (1.496 -6.782)
Knowledge about HMB						
Yes	0.249	.224	1.28 (0.858-1.917)	0.232	.245	1.26 (0.852-1.866)
No	0[a]			0[a]		

HMB, human milk banking.

[1]Final Model −2 Log Likelihood = 669.841, χ^2 (*df* 13) = 95.057, $P < .001$; Goodness of Fit. Pearson χ^2 (*df* 423) = 433.960, $P = .346$; Link Function = Logit; Nagelkerke $R^2 = 0.230$; Parallelism −2 Log Likelihood 552.794, χ^2 (*df* 13) = 21.990, $P = .056$.

[2]Final Model −2 Log Likelihood = 465.516, χ^2 (df. 11) = 36.024, $P < .001$; Goodness of Fit. Pearson χ^2 (*df* 269) = 301.026, $P = .087$ Link Function = Logit; Nagelkerke $R^2 = 0.094$; Parallelism −2 Log Likelihood 44.828, χ^2 (*df* 11) = 22.688, $P = .020$.

[a]Parameter is set to 0 because it is redundant.

*This variable was not included in the model.

Barriers with Human Milk Banking Establishment

Ten of the participants expressed their concerns about donating milk. The reasons for these concerns were their husband's lack of support, religious concerns, the thought of financial gain, hygiene problems, and decreased nutritional value.

Nine participants reported that HMB establishment would be a problem if their husbands did not support. One participant reported about this topic:

Whatever my husband says at home, it is. If he does not want me to benefit from the milk in the milk bank, I will not use it at all. He is usually against such things. He does not make his baby drink someone else's milk (38 years old, primary school graduate).

Table 5. Opinions and Practices of Participants on Milk Sharing

Variables	n (%)
Knowledge about wet nursing	
Yes	349 (84.1)
No	66 (15.9)
Knowledge about HMB	
Yes	176 (42.4)
No	239 (57.6)
Information source about HMB[a]	
Internet	96 (54.6)
Television	36 (20.4)
Friends	23 (13.1)
Health professionals	21 (11.9)
Having a wet nurse	
Yes	125 (30.1)
No	290 (69.9)
Blood ties with wet nurse[b]	
Yes	72 (57.6)
No	53 (42.4)
Being a wet nurse	
Yes	145 (34.9)
No	270 (65.1)
Reasons for being a wet nurse[c]	
Death of a baby's mother	36 (24.8)
Insufficient milk of mother	34 (23.4)
Illness of mother	27 (18.6)
Pregnancy of mother	27 (18.6)
Working of mother	21 (14.6)
Blood ties with wet nursed baby[c]	
Yes	89 (61.4)
No	56 (38.6)
Having a wet nurse for own child	
Yes	143 (34.5)
No	272 (65.5)
Reasons for having a wet nurse for own child[d]	
Pregnancy	50 (34.9)
Working	32 (22.4)
Lack of milk	31 (21.7)
Illness	30 (21.0)
Blood ties of your child with wet nurse[d]	
Yes	94 (65.7)
No	49 (34.3)

HMB, human milk banking.
[a]The participants who have knowledge about HMB, n = 176.
[b]The participants who have a wet nurse gave answer, n = 125.
[c]The participants who wet-nursed a baby gave answer, n = 145.
[d]The participants who having a wet nurse for own child gave answer, n = 143.

Eight participants stated that they had religious concerns. One participant reported about this topic:

It is not in accordance with our religion. Let us say I breastfeed a boy. My donated milk was given to a girl. With my son, that girl becomes a milk sister. Our religion also says that we cannot marry our milk brothers and sisters (40 years old, primary school graduate).

Six participants reported that HMB would be a source of financial gain. One participant reported about this topic:

I am worried that this situation will turn into a commercial dimension. A mother who donates her milk can demand money. She may want to sell her milk for money. Also, in order to earn money, she can deprive her milk (38 years old, university graduate).

Five participants reported that HMB would cause problems in terms of hygiene practices. One participant reported about this topic:

I am one of those who want the establishment of human milk banking. However, the cleanliness of the milking environment is very important. Will everyone who donates milk be able to pay attention to hygiene practices? (25 years old, high school graduate).

Five participants reported that the nutritional value of the milk donated and kept in banks would decrease. One participant reported that:

This is human milk, and the storage conditions make me think. To me, human milk banks should be everywhere, like blood banks, but human milk is logically perishable. It stays outside for 3 hours. During this time, its content deteriorates and turns into useless food (30 years old, high school graduate).

Facilitators for Human Milk Banking Establishment

Nine participants reported facilitating factors for the establishment and dissemination of HMB. Among these factors, nutrient-rich content of human milk, being cost-effective, and avoiding waste were included.

Eight participants reported the nutritional value of human milk and its effect on infants health. One participant reported about this topic:

It is a nutrient that has no equivalent of human milk. It contains a lot of vitamins, and all of them are very important for the health of babies (27 years old, university graduate).

Expressing that the cost of formula is high and that human milk can be a cost-effective alternative, 4 participants stated. One participant reported about this topic:

A relative of mine started to use a drug that will pass into her milk because of her illness. Because of this, she had to stop breastfeeding her 3-month-old baby. We searched a lot to give someone else's milk to the baby, but we could not obtain it. If there were human milk banks, we could have obtained milk from there (42 years old, primary school graduate).

Three participants reported that some mothers may have too much milk for their babies, indicating that milk may be wasted. One participant reported about this topic:

When I breastfeed my baby, my milk is too much. I am milking and pouring more. If there are human milk banks like this, I will give my excess milk there. At least my milk will not go to waste (22 years old, high school graduate).

Table 6. The Data Structure for Qualitative Results

Theme	Subtheme	Examples of Representative Quotes
Barriers with HMB establishment	Lack of husband's support	Whatever my husband says at home, it is. If he does not want me to benefit from the milk in the milk bank, I will not use it at all. He is usually against such things. He does not make his baby drink someone else's milk (38 years old, primary school graduate).
		My husband provides all the care for the child. I do not work. Therefore, if he approves, I would like it too, but the environment we grew up in does not look very warmly at this subject. My husband is very influenced by the environment. I do not think he would like me to give my milk to the bank (37 years old, high school graduate).
		My husband will never accept milk banking (36 years old, literate).
		Why not if husband wants it? But his ideas are very important because my baby is his child too (36 years old, university degree graduate).
	Religious concerns	It is not in accordance with our religion. Let us say I breastfeed a boy. My donated milk was given to a girl. With my son, that girl becomes a milk sister. Our religion also says that we cannot marry our milk brothers and sisters (40 years old, primary school graduate).
		Children breastfed by the same mother cannot get married in Islam (23 years old, high school graduate).
		My Islamic rules worry me about it (28 years old, university degree graduate).
		According to our religion, this is a very harmful practice (32 years old, literate).
	Financial gain	I am worried that this situation will turn into a commercial dimension. A mother who donates her milk can demand money. She may want to sell her milk for money. Also, in order to earn money, she can deprive her milk (38 years old, university graduate).
		This practice is used with malicious purposes. It may be desirable to sell breast milk (25 years old, literate).
		What if more nutrient-rich content milk is sold for money? How can we prevent this? (36 years old, primary school graduate).
	Hygiene problems	I am one of those who want the establishment of human milk banking. However, the cleanliness of the milking environment is very important. Will everyone who donates milk be able to pay attention to hygiene practices? (22 years old, high school graduate).
		I do not think hygiene rules will be done carefully (30 years old, primary school graduate).
		How can I tell if microbes or bacteria occur? Because the hygiene rules will not be paid enough attention (29 years old, high school degree).
	Decreased nutritional value	This is human milk, the storage conditions make me think. To me, human milk banks should be everywhere, like blood banks, but human milk is logically perishable. It stays outside for 3 hours. During this time, its content deteriorates and turns into useless food (30 years old, high school graduate).
		Human milk is perishable. How will I know if the content is corrupted? (29 years old, high school degree).
		The longer the human milk waits, the less beneficial it is for infants (28 years old, university degree graduate).
Facilitators for HMB establishment	Nutrient-rich content	It is a nutrient that has no equivalent of human milk. It contains a lot of vitamins, and all of them are very important for the health of babies (27 years old, university graduate).
		I prefer to give nutritious human milk rather than formula. For this, milk bank is a useful practice (42 years old, primary school graduate).
		What could be more nutrient-rich content than human milk? (29 years old, university graduate).
		I think the content of the milk in the human milk bank is like the milk I put in the refrigerator. I think human milk is more beneficial than formula (23 years old, high school degree).
	Cost-effective	A relative of mine started to use a drug that will pass into her milk because of her illness. Because of this, she had to stop breastfeeding her 3-month-old baby. We searched a lot to give someone else's milk to the baby, but we could not obtain it. If there were human milk banks, we could obtain milk from there (42 years old, primary school graduate).
		Human milk bank is cheaper than formula? (29 years old, university graduate).
		It is useful for mothers who have financial difficulties (19 years old, literate).
	Avoiding waste	When I breastfeed my baby, my milk is too much. I am milking and pouring more. If there are human milk banks like this, I will give my excess milk there. At least my milk will not go to waste (22 years old, high school graduate).
		Excess breast milk can be donated there (29 years old, university graduate).
		I know a lot of lactating women who have lots of human milk. They can donate there (36 years old, literate).
Value of milk sharing	Satisfaction with helping	We are a benevolent society. Milk sharing is also a very important aid. Thus, babies in need of human milk can easily access it (37 years old, high school graduate).
		Mothers want to help babies in need by giving them human milk (42 years old, primary school graduate).
		The idea of sharing human milk with someone. I think it is a great virtue (23 years old, high school degree).
	Need	Imagine a baby whose mother has died. There may also be people staying in institutions. Human milk is a very important need for these babies (27 years old, university graduate).
		Human milk is very important for the development of the baby. I had very little human milk; if there was a human milk bank, I would have obtained milk for my baby from there. If this was the practice, I would not have started solid food early (36 years old, university graduate).
		It fulfills a very important need (19 years old, literate).

HMB, human milk banking.

Value of Milk Sharing

Ten participants stated that MS would be an important practice in terms of benevolence and that the needs of babies in need could be met with this method. Five participants reported that the value of MS is equivalent to helping. One participant stated:

We are a benevolent society. Milk sharing is also a very important aid. Thus, babies in need of human milk can easily access it (37 years old, high school graduate).

Five participants reported that MS is a necessary practice, especially for babies in need. One participant stated:

Imagine a baby whose mother has died. There may also be people staying in institutions. Human milk is a very important need for these babies (27 years old, university graduate).

Discussion

It is important to determine the knowledge, opinions, and practices of mothers about MS and HMB during their lactation periods.[19] In the present study, it was determined that the majority of the participants had knowledge about wet nursing and that one-third of the participants was a wet nurse. While one-third of the participants were wet nurses for someone else's baby, the rate of those who used wet nurses for their babies was similar.

More than half of the participants in the present study did not have knowledge about HMB. In the study by Ergin and Uzun,[13] 37.5% of the participants did not know about HMB. In a Chinese survey conducted by Tian et al,[12] 59.9% of lactating women were not aware of HMB. When the present study is compared with previous studies in different regions, it becomes apparent that it is important to increase women's knowledge of HMB in Turkey. In the present study, the participants indicated that health professionals were the last source of information. Similarly, a study by Smyk et al[11] reported that only 14.2% of the participants had heard of HMB from health professionals. Although the present study was conducted with participants who applied to a health institution, it is dramatic that health professionals ranked last as the group providing information about the HMB. As a matter of fact, Bai and Kuscin[20] reported that the reason underlying the negative perception about HMB is that health professionals do not routinely educate mothers about HMB. However, health professionals are in a good position to help mothers make informed decisions about HMB.

Although more than half of the participants in the present study reported that, if necessary, they were willing to wet nurse, two-thirds of the participants had negative opinions about HMB. These findings show that the participants are not actually against MS and that there is a need to increase their consciousness and awareness of HMB. Researchers who have studied this topic in different countries have shown that participants have negative opinions about HMB related to religious concerns.[4,19] In the study by Karadag et al,[14] the majority of mothers approached the subjects of donating their human milk and benefiting from HMB more positively when their religious concerns were resolved. The present study found that participants' husbands' approval was the main factor affecting their opinions about donating human milk. Because of the cultural structure of the region where the study was conducted, the man in the family is dominant, an authority.[21] For this reason, it is necessary to evaluate the husband's opinion when planning the establishment of HMB. A study conducted by Bujold et al determined that the knowledge of participants' husbands about HMB is an important factor that positively supports HMB use.[22]

Sociodemographic and cultural factors are important determinants of opinions and practices toward HMB.[23] In the present study, participants who spoke Arabic or Kurdish and those who were unemployed had negative opinions toward HBM. Murage et al[17] stated that ethnic differences play an important role in the decision to share milk through an HMB. The study by Biggs[24] found that unemployed participants were skeptical about whether milk from HMB would contribute to infant development, even though commercial infant formula is expensive. Similarly, Paynter and Goldberg[25] emphasized that race and employment status have different and intersecting roles in influencing MS through the HMB. The results of the present study revealed the importance of income-generating employment and information and counseling services provided in harmony with different languages and cultures in increasing the acceptance of HMB.

The present study had some limitations. The first was related to the sample of the study as only women living in a rural province were included. Another limitation of this study was that the target population had not yet been exposed to HMB. The findings of this study were limited to the data obtained from the women who were at least literate, spoke Turkish, and applied only to a health institution. The participants included in the present study were determined by the convenience sampling method. Finally, due to the fact that this is a cross-sectional study, it is not sufficient to interpret the causal relationships identified in the present study.

Conclusion

In conclusion, if necessary, most of the participants would donate milk to another baby but were hesitant about willingness to donate milk to HMB and desire to benefit from HMB. Husband's approval and religious concerns play an active role in shaping the opinions of the participants toward HMB. Based on these results, educational programs should be planned to negotiate and address lactating women's concerns about the establishment of HMB. There is a need for a specialized health department and health professionals to routinely provide guidance to mothers about HMB. In this way, health professionals can contribute to the formation of positive societal thoughts about HMB.

Ethics Committee Approval: Ethical committee approval was received from the Ethics Committee of Siirt University (Approval no: 16058, Date: 01.10.2021).

Informed Consent: Written informed consent was obtained from the participants who agreed to take part in the study.

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