



Mothers' Views on Donor Milk and Human Milk Banks

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Research Article

Volume 7 Issue 2

Received Date: June 10, 2022

Published Date: July 19, 2022

DOI: 10.23880/pnboa-16000165

Abstract

Aim: The goal of this study is to find out what factors affect mothers' knowledge and perspectives about wet-nursing and human milk banking.

Materials and Methods: This was a cross-sectional, descriptive, and comparative research project. 295 mothers volunteered to take part in the study. The data was gathered utilizing a data collection form that included information on wet-nursing and human milk banking, as well as a face-to-face interview. The collected data was analyzed in a computer program. Significance was accepted as $p < 0.05$.

Results: The study was completed with 295 women with a mean age of 27 years. It was determined that 90.2% of the women had never breastfed before, 46.8% had an only child, and 68.5% were in the neonatal period. It was determined that 67.5% of the women do not cause any religious problems, and more than half of them want milk banking and donate milk to banks. It was determined that the views of women on breastfeeding and breast milk banking were affected by their age, education, and working status ($p < 0.05$).

Conclusion: It was concluded that women in Turkey want their babies to receive breast milk. Their first choice is their own milk, and if their milk is not enough, they can apply to milk mothers or breast milk banks. In our country, as in other countries, families should be informed that breast milk is needed for babies to be healthy, and that breast milk can be obtained from banks if it is clean and safe.

Keywords: Human milk; Human milk bank; Donor milk; Wet nursing

Introduction

Breast milk is a naturally digestible food with high bioavailability, containing all the nutrients required for optimum growth and development of the newborn [1,2]. Not giving enough time to breast milk paves the way for malnutrition, diarrheal diseases, lower respiratory tract diseases, and child deaths that occur because of developing malnutrition [3]. The World Health Organization (WHO) reports that it is important for babies who cannot receive breast milk for several reasons to be fed with the milk of another mother through human milk banks instead of

formula and animal milk [4]. Human milk banks evaluate the suitability of volunteer mothers who want to donate milk according to internationally determined standards, accept suitable donor milk, and are an organization that puts donated milk through various tests, processes it, ensures its safety, preserves it, and enables it to be used by babies in need [5,6]. Human milk banks first appeared in Austria in 1909. Brazil is the world leader with 217 milk banks and 126 milk collection points [7]. The Nursing Mother Centers brought to the agenda by the Ministry of Health in Turkey in 2013 were subject to criticism due to religious concerns, and the project could not be started due to insufficient

infrastructure [8]. In a study conducted in our country, 406 women were asked about their opinions on wet nursing and human milk banking, and it was reported that 56.4% of the mothers did not want to be a wet nurse to someone they did not know, and 81% of them would not accept a stranger to be a wet nurse for their baby when the milk was insufficient [1]. In the world, in a study conducted in India in 2018, it was reported that the number of human milk banks of fifty was insufficient and the number should be increased [9].

While human milk banking studies continue in our country, there are differences of opinion on breast milk banking [1,2]. Despite growing evidence about the benefits of human milk banking practice, ethical issues, traditional beliefs, attitudes, family concerns about the safety of donor milk, and a lack of knowledge remain controversial. With this study, it is thought that opinions about wet nursing and human milk banks can be determined, and the results obtained can be a source for producing solutions on the subject. Therefore, this study aims to reveal the factors affecting mothers' perspectives on wet nursing and human milk banking.

Materials and Methods

This research was carried out as a descriptive and cross-sectional study to determine the views of mothers on breastfeeding and breast milk banking. The universe of the research consisted of all participants who could reach the data collection form prepared on the internet, while the sample consisted of those who met the inclusion criteria in the planned date range (01 January 2022–01 April 2022) and accepted the study after being informed about the study. The sample size was calculated as 253 participants at the 5% error level and 99% confidence interval, in line with the relevant literature [1]. A total of 295 mothers were reached between the specified dates.

The study was started after the decision of the Human Research Ethics Committee of Istinye University. In the study,

a data collection form consisting of 50 open and closed-ended questions, including the introductory characteristics of women (age, education status, duration of marriage, number of children), breast milk, and milk banking problems, which was created by the researchers by scanning the literature, was used. The opinions of the mothers on donor milk and milk banks were prepared as yes and no. The data collection form was filled in about 10 minutes of face-to-face interviews by the researchers. The prepared form was transferred to the internet, and the women had it filled out with a web-based messaging application. Before completing the form, informed consent was obtained from the women on the internet. When the submitted survey form file is clicked on, the created form opens, and first, the text of the informed consent form appears on the internet. The questions will become visible after the participants who read the text mark the option "I approve" to indicate that they agree to participate in the study.

After the data for the study was collected, the data obtained was analyzed by the researchers in the computer program Statistical Package for the Social Sciences (SPSS), Version 24 (IBM Company, Turkey). While performing data analysis, percentages and descriptive statistics were calculated. Non-parametric and parametric tests were used according to the normality distributions to compare the data. The Shapiro-Wilk test was used to determine whether the obtained data conformed to normal distribution. The Mann-Whitney U test and the Chi-square test were used to compare the data. A correlation test was used to investigate the relationship between variables. The statistical significance level for the study was determined as $p < 0.05$.

Results

The study was completed with 295 mothers with a mean age of 28 years. Descriptive characteristics of mothers and their children are given in Table 1, information on breastfeeding and wet nursing in Table 2, and information on human milk banking in Table 3.

Features		Mean \pm Sd	Median (min-max)
Mothers age		28 \pm 5	17-52 (27)
Number of pregnancies		2.2 \pm 1.5pm	1-8 (2)
		Number (n)	Percentage (%)
Your education	Primary	4	1.4
	Primary school	10	3.4
	Primary/primary school	63	21.4
	High school	81	27.5
	Secondary/Secondary School	51	17.3
	University and above	86	29.2

Your employment status	Working	95	32.2
	Notworking	200	67.8
Place of residence	Province	238	80.7
	County	54	18.3
	Village	3	1
Family type	Nuclear family	251	85.1
	Extended family	44	14.9
Number of children	1 child	138	46.8
	2 children	70	23.7
	3 children and more	87	29.5
How you have children	Spontaneous	290	98.3
	With treatment	5	1.7
Wanting the last baby	Yes	276	93.6
	No	19	6.4
How the last baby was born	Normal vaginal birth	189	64.1
	Cesarean	106	35.9
Age of the last baby (specify in months)	Less than 1 month	202	68.5
	1-2 months	11	3.7
	3-4 months	16	5.4
	5-6 months	66	22.4
Time of birth of the last baby	Premature	49	16.6
	Term	234	79.3
	Postmature	12	4.1
Gender of the last baby	Male	157	53.2
	Female	138	46.8
Breastfeeding your last baby	Yes	260	88.1
	No	35	11.9
Do you give your baby formula?	Yes	110	37.3
	No	185	62.7
Have you had any breastfeeding problems?	Yes	79	26.8
	No	216	73.2
If you had a breastfeeding problem, what did you experience?	No	216	73.2
	My milk didn't come	19	6.4
	Breast problem	15	5.1
	Disease of the child	45	15.3
TOTAL		295	100

Table 1: Descriptive characteristics of mothers and babies (N=295).

Features		Number (n)	Percentage (%)
Can another milk supplement the value of breast milk?	Yes	13	4.4
	No	282	95.6
Is there a risk of disease transmission with milk?	Yes	86	29.2
	No	209	70.8
Are diseases such as Eliza (such as AIDS) transmitted through milk?	Yes	96	32.5
	No	199	67.5
Is milk taken from the mother with blood incompatibility?	Yes	185	62,7
	No	110	37.3
Have you been a wet nursing before?	Yes	29	9.8
	No	266	90.2
Does wet nursing create a religious problem?	Yes	96	32.5
	No	199	67.5
I want to be a wet nurse of someone familiar	Yes	125	42.4
	No	170	57.6
I want to be the wet nurse of someone who is not familiar	Yes	97	32.9
	No	198	67.1
Does your baby have a wet nurse?	Yes	10	3.4
	No	285	96.6
Do you think you can wet nurse to your baby?	Yes	34	11.5
	No	261	88.5
TOTAL		295	100

Table 2: Distribution of information on breast milk and wet nursing.

Features		Number (n)	Percentage (%)
Have you heard of human milk banking?	Yes	133	45.1
	No	162	54.9
Would you buy milk from the human milk bank for your baby?	Yes	99	33.6
	No	196	66.4
Do you approve of human milk banking?	Yes	175	59.3
	No	120	40.7
Would you like to donate milk to the milk bank?	Yes	163	55.3
	No	132	44.7
If Turkey opened, would you buy milk from milk banking?	Yes	105	35.6
	No	190	64.4
Would you like to meet the wet nurse at the milk bank?	Yes	149	50.5
	No	146	49.5
Reasons why you don't want to if the answer is no*	Unnecessary	147	43.9
	Religious reasons	25	7.50%
	Trust problem / stranger	52	15.5
	I give animal milk	19	4,2

Does human milk banking create a religious problem?	Yes	103	34.9
	No	192	65.1
How do you think of human milk banking from an Islamic dimension?	Must be familiar	6	2
	Religiously forbidden	103	34.9
	The problem of marriage (milk siblings)	52	17.6
	Happens if they belong to the same religion	2	0.7
	Happens if permission is obtained from the spouse	1	0.3
	Convenient	131	44.4
Where would you turn if you were short of milk for your baby?*	Human milk bank	86	23.9
	Wet nurse	7	1.9
	Animal milk	36	10
	Formula milk / formula	230	63.9
	Supplementary nutrients	1	0.3
Will any milk other than breast milk harm your baby?	Yes	178	60.3
	No	117	39.7
Who becomes a wet nurse	Women who are breastfeeding/having milk	230	78
	Consanguineous	26	8.8
	Acquaintances	14	4.7
	Aliens	3	1
	Nobody	22	7.5

**Participants have selected more than one option.*

Table 3: Distribution of information on human milk banking.

The descriptive characteristics of the mothers and their knowledge of wet nursing and human milk banking were compared. Accordingly, mothers' cases of applying to human milk banking for their babies, age ($p=0.920$), education ($p=0.760$), employment status ($p=0.411$), number of children ($p=0.811$), the status of wanting the last baby ($p=0.850$) and there was no statistically significant difference between breastfeeding problems ($p=0.814$). When the status of confirming human milk banking was compared with age ($p=0.478$), working status ($p=0.053$), wanting the last baby ($p=0.539$), and breastfeeding the last baby ($p=0.416$), no statistically significant difference was found between them. However, a statistically significant difference was found between the approval status of human milk banking and education ($p=0.005$), and the number of children ($p=0.037$). Age ($p=0.425$), education ($p=0.404$), number of children ($p=0.331$), the status of wanting the last baby ($p=0.812$), and breastfeeding status of the last baby ($p=0.812$) were compared with the question "Would you like to donate milk to the milk bank?" ($p=0.070$) and no statistically significant difference was found between them. However, there was a statistically significant difference between the working

conditions ($p=0.033$).

A statistically significant difference was found when age ($p=0.087$), education level ($p=0.597$), number of children ($p=0.121$), wanting the last baby ($p=0.855$), and breastfeeding the last baby ($p=0.399$) were compared. However, a statistically significant difference was found between them and their employment status ($p=0.008$). No statistically significant difference was found between the questions of whether wet nursing creates a religious problem and age ($p=0.116$), education ($p=0.206$), wanting the last baby ($p=0.549$), and breastfeeding the last baby ($p=0.525$). However, a statistically significant difference was found between the number of children ($p=0.013$) and employment status ($p=0.018$).

Discussion

While it was determined that the mothers participating in our study were 27 years old on average and the number of those who had university education was low, it was also determined that the characteristics of the mothers were close

to each other in other studies in which the views of breast milk and breastfeeding were determined [10,11]. The average number of pregnancies of the mothers participating in this study is two, and 38.6% of them are women who have been married for more than five years. 80.7% of the participants live in the province, and 85.1% consist of nuclear families. In a study 31.4% of the mothers were primiparous and 68.6% were multiparous; It is seen that 80.2% of them lived in nuclear families [10]. In the other study the rate of those with a nuclear family structure was 77.4% [11]. The rate of people living in the province is 75.4% [11]. Considering this information, it is seen that the characteristics of women, such as age, education level, and the number of children, should be considered when evaluating their views on breastfeeding and breast milk banking.

It is thought that the number of children is effective in the views on wet nursing or human milk banking. In our study, it was observed that the rate of having a multiparous child and a cesarean delivery was high. Related results have been reported in other studies as well [10]. It is thought that the gestational week of the baby at birth causes differences and difficulties in many situations, especially nutrition after birth. In our study, it was found that 79.3% of the babies were born on time, 88.1% were breastfed, and most of them had no problems with breastfeeding. When the studies are examined, related results have been reported [10,11].

Breast milk is the most valuable and safest food for babies. Each mother's milk is produced specifically for her baby and meets all the nutritional needs of the baby for the first 6 months. When we look at the opinions of mothers about breast milk banking, in our study and in another study, it was reported that most mothers could not replace breast milk with another milk [12]. It is known that there is no risk of disease transmission, except for certain diseases (hepatitis, HIV, etc.), for which breast milk is a safe food. In our study, 70.8% of the mothers reported that there was no risk of disease transmission through milk. In a study, it was reported that 67.9% of the risk of disease transmission from milk was examined, and 62.2% in the other study [10,11]. In another study, contrary to these studies, the risk of transmission of diseases such as AIDS through milk was reported as 67.3% [12].

In our country, the concept of breastfeeding has been widely known in the past and it is applied especially in the absence of breast milk among relatives. Women allow relatives they know and trust to breastfeed their babies. In our study, it was observed that most of the mothers did not breastfeed or did not need to wet nurse because they did not experience breast milk insufficiency. In our study, when we were asked about the problem of breastfeeding in the past,

32.5% of them reported that they were religiously suitable for breastfeeding, while in the other study, the same answer was obtained [10]. The main reason for their indecision is that they are afraid that breastfeeding will cause problems in marriage in the later stages of their children's lives. For this reason, they do not agree with this idea unless they are familiar with wet nursing.

When mothers were asked about their hearing about human milk banking, it was determined that about half of them were aware of human milk banks and 33.6% reported that they could buy milk for their babies from the milk bank. In a study 41.6% of the mothers have heard of human milk banking and 52.5% of them reported that they can buy milk from the human milk bank for their baby [10]. In our study, it has been shown that mothers approve of human milk banking with the thoughts that they have a large amount of milk, the thought of helping others, that milk donation is healthy and natural, and that they may want the same practice if they need it. In another study, like our study, it was reported that mothers were willing to donate milk [10,13]. In our study, mothers who do not want to donate their milk show the risk of disease and why it is not appropriate in terms of religion. Studies conducted in different regions of Turkey show related results to our study, and positive opinions about breast milk sharing are in the majority [14]. In our study, it was thought that human bank milk would be logical if the lactating and lactating mothers knew each other and were sure of its sterility.

In Muslim-majority countries, there is no human milk bank practice, and human milk pools where milk is brought together, as practiced in the West, are viewed as a problem [10,15,16]. In our study, the majority of women reported that human milk banking would not cause a religious problem. In our study, 34.9% of the mothers did not take kindly to the fact that it was forbidden by religion, and 17.6% of them did not take kindly to marriage problems [17]. In a similar study, it was reported that this situation was not considered warmly because of their marriage to his foster sister [18]. The fact that human milk banking is seen as a problem may arise from the concern that marriages prohibited by Islam will occur because of milk kinship between babies who drink the same donor breast milk [16].

Although breast milk is necessary for the baby to be healthy and to grow and develop in a healthy way, women's perspectives on these concepts differ. It is thought that this point of view is influenced by the individual characteristics of women. In our study, it was determined that the views of women on wet nursing and human milk banking were affected by factors such as the age, education, and employment status of women and the number of children, which supports this

view. To ensure adequate and uninterrupted breastfeeding, it is necessary to determine the views of women on wet nursing or human milk banking [19]. Detecting negative or wrong views and correcting these views will allow their babies to receive breast milk uninterruptedly.

Conclusion

Human milk should be the first choice for the healthy growth and development of babies, and it is important to provide donor human milk in cases where breast milk is not available. Wet nursing or human milk banking is an important application that allows babies to receive breast milk. The issue of human milk banking could not be resolved in Turkey, mostly due to religious issues. Preventing prejudices, wrong beliefs, and attitudes and opening breast milk banks are significant in terms of improving the health of newborns. In initiatives for human milk bank application, all health personnel, mothers, and society should be informed about the issue.

Acknowledgements

Data availability statement: The datasets used or analyzed during the current study are available from the corresponding author on reasonable request.

Funding Information: No external or intramural funding was received.

Conflict of Interest Statement: The authors report no actual or potential conflicts of interests.

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