



**WOMEN PERCEPTIONS OF MILK BANKING IN GUMUSHANE CITY CENTER
LOCATED IN EASTERN BLACKSEA REGION**

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ABSTRACT

It is stated that breast milk provides not only immunologic, neurologic and socio-economical advantages to an individual but also lower levels of morbidity–mortality rate and cardiovascular risks in later life. Milk bank is a profound source for the infants who could not receive breast milk for various reasons

The aim of this study was to determine women perceptions of milk banking in Gumushane city center.

Material and Method: Study data; between the dates of 1.03.2014-30.06.2014 Gumushane State Hospital was gathered with women who applied to the outpatient clinics. A total of 362 women (response rate: 98%) who agreed to volunteer to participate in the study formed the sample.

Findings: 45.0% of the participants of the study were aged between 15 and 25, 50% of them were undergraduates, and 58% of them had professions. 91.8% of the mother participants stated that they breastfed their babies for almost 14 months. 28.7% of the participants support the idea of milk banking concerning infant health and 20.9% of them also support this idea in relation to some emergency cases. 51.8% of the participants, who were not in favor of milk banking, claimed that milk sharing is not acceptable because of Islamic religious aspects. Those who think that milk banking is not suitable for Muslims especially feel uneasy about the possibility that the infants

can accidentally get married in the future with the other infants who share the same milk.

Conclusion: In this research it was shown that women in Gumushane have a positive attitude towards milk banking but they have some concerns related to religious aspects. Thus, this subject needs further investigation.

Introduction: It is stated that breast milk provides immunologic, neurologic and socio-economical advantages to an individual and it also ensures lower levels of morbidity–mortality rate and cardiovascular risks in later life (Lam, 2012). World Health Organization (WHO) puts forward that exclusive breastfeeding for 6 months is the most appropriate way of feeding the infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond. (WHO/UNICEF, 2009). Over 1 million infants and children die from diarrhea, respiratory tract infection and similar diseases every year because of inadequate breast feeding (Turkish Ministry of Health, 2014).

For those infants who could not receive breast milk for varied reasons, milk banking is a profound source (Demirtaş, 2011). Mothers can alternatively use donated pasteurized milk from the banks in case of having insufficient or unusable breast milk (Lam, 2012). When human breast milk gained a growing importance, milk banking became crucial especially for premature and low birth weight babies. Milk banking functions both as a secondary healthcare in terms of being palliative care and treatment strategy and as a primary healthcare because it reduces morbidity-mortality rate by preventing long term complications (Arnold, 2006).

Because various problems can occur in donor human milk practice, multidisciplinary teamwork and supportive institutions are very crucial (Szucs et al., 2009). Mother's consent, protocols of milk banks, continuous controls, multidisciplinary teamwork, feeding premature infants are the factors that formalize this utilization culture (Carroll, 2012). Feeding the infant in intensive care unit should be based on medical procedures rather than personal perceptions (Meier et al., 2010). Beliefs and knowledge about breast milk are very important for donor human milk practice (Bartle, 2010).

Other advantages of milk banking are that it reduces the complications (bacteremia, sepsis, infiltration, hypoglycemia) related to Total Parental Nutrition (TPN) and length of hospital stay and accordingly health expenses (Torres et al., 2010). It is also seen that milk banking decreases premature infant morbidity and mortality rate considerably (Lucas, 1997).

Milk banking was first practiced in the 1940s in Australia where this procedure is very common nowadays. However, during those years the people were planning to use the excessive milk that they had collected in maternities after the war. Recently, milk banking also aims to feed the premature babies and encourage mothers to breast feed during night (Thorley 2011). American Academy of Pediatrics proposes

to establish donor milk banks in order to provide healthcare standards for each premature baby (American Academy of Pediatrics, 2012; Arslanoğlu et al., 2010).

In a survey study carried out with the participation of the members of American Academy of Pediatrics, it is seen that 55% of the neonatologists support donor human milk and they also believe that milk banking plays a crucial role in especially intensive care units (Harris, 2005).

Research on milk banking is limited in Turkey. In a study by Demirtaş, it is stated that milk banking is essential especially for premature babies with breastfeeding problems and low birth weight. Demirtaş also proposes that milk banking policies should be explicitly integrated into existing policies and put into practice by programme development procedures (Demirtaş, 2011).

All in all the aim of this study was to determine women perceptions of milk banking in Gumushane city center.

Material and Method: The sampling group of this descriptive study consists women living in Gumushane. According to

the Turkish Statistics Institution (TSI), there are 9.708 female citizens in Turkey aged between 20 and 45. The number of women in sampling group was calculated and determined as 370 with a 95% confidence interval. It was at first aimed to reach 400 women seeing the expected loss. Study data; between the dates of 1.03.2014-30.06.2014 Gumushane State Hospital was gathered with women who applied to the outpatient clinics. A total of 362 women (response rate: 98%) who agreed to volunteer to participate in the study formed the sample. Written permission was received from Gumushane State Hospital Union General Secretaries. All of the participants were informed about the aim and method of the study and they signed the consent forms. After the literature review, data gathering process was carried out by conducting a 32- question-survey form about the participants' socio-demographic features and their perceptions of breast milk and milk banking. Data was collected by face-to-face interview method. Statistical Package for Social Sciences (SPSS) was used for data analysis. Chi-square test, standard deviation, arithmetic mean and percentage values were used in the data analysis process. $p < 0.05$ was accepted as meaningful.

Results:

The participants' socio-demographic features are shown in Table 1.

Table 1. The participants' socio-demographic features (N=362)

Descriptive Characteristics	n	%
Age Group (n= 362)		
15-25 Age	163	45.0
26-35 Age	120	33.2
36-45 Age	79	21.8
Total	362	100.0
Education (n = 350)		
Primary Education	83	23.7
High School	92	26.3
University	175	50.0
Total	350	100.0
Long-Time Location (n = 353)		
City	259	73.4
Rural	43	12.2
Village	51	14.4
Total	353	100.0
Working Condition (n: 338)		
Employed	235	69.5
Housewife	103	30.5
Total	338	100.0
Family Condition (n:358)		
Small Family	304	84.9
Extended Family	54	15.1
Total	358	100.0

45.0% of the participants are aged between 15 and 25, 50.0% of them are university graduates, 73.4% live in

Gumushane city center, 31.9% are medical personnel and 84.9% have small families (Table 1).

40.3% of the participants have been married for ten years and above, 23.6% of them have been married for 6-10 years, and 24.0% have been married for 2-5 years. 69.4% of the participants have children, 37.4% of them have one child, 35.5% have two, 27.6% have three, and 11.3% have four children or above. It is seen that 62.9% of the participants had normal delivery and 22.8% of them had caesarean section and 14.4% had them both.

It is seen that 91.8% of the mother participants breastfed their baby approximately 14.72 months \pm 10.5 months

(min: 1 month, max: 76 months). 98.3% of the participants believe that breast milk is protective and 97.4% of them know about the advantages of breast milk, 53.3% of them know that it is advised to breast feed the infants at least for 6 months.

Participants stated that breastfeeding is important because 89.5% of them believe that it supports the immune system of the infants, 43.1% of them think that it is easy to use, 66.3% believe breastfeeding bonds the baby and the mother, and 43.6% think it is necessary for baby to gain weight.

Table 2. Evaluation of the participants' perceptions of breast milk and milk banking (N: 362)

Have you heard about the term “milk siblings”?		
	n	%
Yes	39	11.4
No	304	88.6
Total	343	100.0
Have you ever given milk to other people’s babies?		
	n	%
Yes	23	8.1
No	260	91.9
Total	283	100.0
Would you give your milk to one of your relatives’ baby in case of an emergency?		
	n	%
Yes	110	62.5
No	66	37.5
Total	176	100.0
Do you think that it is appropriate to share milk among the relatives?		
	n	%
Yes	164	48.4
No	175	51.6
Total	339	100.0
Would you make use of milk banks if they were available?		
	n	%
Yes	124	36.9
No	212	63.1
Total	336	100.0
Have you heard about milk banking?		
	n	%
Yes	187	53.4
No	163	46.6
Total	350	100.0
Would you donate your milk to the milk banks?		
	n	%
Yes	158	46.5
No	182	53.5
Total	340	100.0
Do you think that milk banking is necessary in Turkey?		
	n	%
Yes	203	58.0
No	149	42.0
Total	352	100.0

11.4% of the participants stated that they had heard about milk siblings, 8.1% of them had given their milk to other infants, 62.5% of them indicated that they can give their

milk to another infant in case of emergency, 48.4% of them approve milk sharing with the relatives, and 57.7% have positive perceptions about milk banking (Table 2).

Table 3. Evaluation of the participants' socio-demographic features and their perceptions of milk banking

Do you think that milk banking is necessary in Turkey?					
	Yes		No		
Marital Status	n	%	n	%	
Married	110	54.5	98	66.7	
Single	92	45.5	49	33.3	
Total	202	100.0	147	100.0	
X²: 5.269, p: 0.022					
Do you think that milk banking is necessary in Turkey?					
	Yes		No		
Age Group	n	%	n	%	
15-25 Age	99	48.5	55	37.2	
26-35 Age	65	31.9	55	37.2	
36-45 Age	40	19.6	38	25.6	
Total	204	100.0	148	100.0	
x²:4.665, p:0.097					
Do you think that milk banking is necessary in Turkey?					
	Yes		No		
Education	n	%	n	%	
Primary Education	43	22.2	39	26.5	
High School	52	26.8	39	26.5	
University	99	51.0	69	47.0	
Total	194	100.0	147	100.0	
x²:0.949, p:0.622					
Do you think that milk banking is necessary in Turkey?					
	Yes		No		
Occupation	n	%	n	%	
Medical personnel	80	42.8	50	35.0	
Educationist	8	4.2	12	8.3	
Officer-Worker	48	25.7	30	21.0	
Housewife	51	27.3	51	35.7	
Total	187	100.0	143	100.0	
x²:6.119, p:0.106					

In this study chi-square test was applied for participants' socio-demographic features and their perceptions of milk banking. As a result, a meaningful relation was found between milk banking and the marital status

of the participants, but it was seen that profession, age or education do not affect perceptions of milk banking (Table 3).

Table 4. The reasons of participants' positive and negative perceptions about milk banking

Positive perceptions about milk banking	n	%
For the infants' health	48	28.7
For poor children to make use of breast milk	31	18.6
For mothers who do not have enough milk for their babies	22	13.2
For emergencies (in case of maternal mortality, premature delivery, low birth weight)	35	20.9
Because of the importance of breast milk	14	8.3
Because milk banking makes breast milk easily accessible	2	1.1
Because this can happen to anybody	4	2.2
Because it can provide the infants with the breast milk for the minimum duration	1	1.1
Because milk banking can help working mothers	3	1.8
Because some infants can have breastfeeding problems	7	4.1
Total	167	100.0
Negative perceptions of milk banking	n	%
Not acceptable because of religious beliefs	45	51.8
Not trustworthy in our country	7	8.0
Not reliable	12	13.8
Because of infectious diseases	7	8.0
Not necessary	6	6.8
Because people cannot trust the other people's milk	7	8.0
Because it can ruin the infant and mother binding	1	1.2
Because breast milk should be private to people	1	1.2
Because there are alternative feeding options	1	1.2
Total	87	100.0

In this study, regarding the positive perceptions of milk banking, it is seen that participants believe that breast milk is important in terms of infant health, and their protection from diseases. On the other hand, it is shown that negative perceptions focus on religious aspects, because according to

Discussion: World Health Organization (WHO) and UNICEF claim that breastfeeding for 6 months is the most appropriate way of feeding the infants. Thereafter even if the infants receive

Islamic belief system it is not acceptable for a person to get married with a milk sibling. Participants think that it would be difficult to investigate milk siblings and there can be some problematic issues in the future (Table 4).

complementary foods, they should be fed with continued breast milk up to 2 years of age or beyond (Yiğit et al., 2009; WHO, 2014; UNICEF, 2014). 91.8% of the participants of this study are the mothers

who breastfed their babies approximately 14.72 months. This can be accepted as a satisfying situation for the study, because the breastfeeding duration is long enough for the infants.

Breast milk is advised for especially the infants who are premature and have low birth weight. However; mothers can only use milk banks as an alternative when they have breast feeding problems or maternal diseases and when they do not want to breast feed their babies or do not have enough milk for their babies (Agostoni et al., 2009; Dempsey 2010; Panczuk et al., 2014). As a result of the study, it is seen that 58% of the participants have positive perceptions of milk banking. According to the remarks of the participants milk banking is necessary especially in case of emergency situations when the infants' health is in danger. They also state that milk banking is essential for providing the poor children with breast milk. The other advantages of milk banking are that it helps working mothers and provides enough feeding duration for the infants. The percentages of the women who think that milk banking is necessary is not shown to be enough, therefore common-public education and health plans related to this matter are crucial in order to raise awareness among mothers.

On the other hand, even if there is a lot of evidence about the advantages of milk

banking, it is a known fact that HIV is transmitted by breast milk (Lording, 2006). Therefore, the reasons of the negative perceptions of the participants also consists the fear of infectious diseases that can be transmitted by breast milk because it is difficult to investigate the reliability of the milk.

There are different opinions regarding milk banking, but the authorities in medical field mainly support this idea. Midwives/Nurses have more positive attitudes against milk banking than the neonatologists (Lam et al., 2012). According to the results of the study, 58.0% of the participants said yes to the question of 'Should we open milk banks in Turkey?' and 61.5% of these positive perceptions come from the participants who are medical personnel.

As a result of this study it is seen that there is a meaningful relation between the marital status and milk banking perceptions. Single people have more positive attitudes against milk banking than the married people. The reason of this situation is considered to be caused by the fact that the majority of the married participants already breastfed their babies and did not have many problems.

51.8% of the participants who have negative attitudes against milk banking

believe that milk sharing can be a problem because of the possibility of future marriages between the milk siblings. However, in the literature it is heavily emphasized that the nutrition of the infants in the intensive care unit should be based on medical procedures rather than personal beliefs (Meier et al., 2010). In Turkey, which is an Islamic country, Turkish Religious Foundation released a report about milk siblings. In this report it is clearly stated that milk relativity is a term which explains the relationship between an infant and the milk provider and also some of her own relatives. According to this report milk sharing infants are accepted as milk siblings and also their mothers and their immediate family are claimed to be milk relatives. Therefore, milk relatives cannot get married. Also, according to the Islam Authorities the milk which is taken by an infant in the first two years of his life causes milk relativity no matter the amount of the milk is little or high (İSAM, 2009; Dönmez, 2006). In a study by Özdemir, 401 religious officers are interviewed and they are asked about their perceptions of milk banking. 71.3% of the participants in this study state that it is acceptable on the condition that the number of the milk receivers is limited (Özdemir et al., 2014).

As a result of the study it is clearly seen that the participants mainly have

positive perceptions about milk banking but they have some doubts because of religious aspects. This is a generally known fact that the regulations related to this matter should be revised and organized considering the cultural and religious factors. Thereafter, people should be educated and informed about this subject in order to raise awareness. Besides, there should be a union regarding the human donor milk banks and they should be established all over the country. Milk banks should be available especially in case of emergencies related to the infants' health. National Coordination Centers and Secretaries should be founded and the authorities should budget these institutions. In a study carried out in India about milk banking, they established a national counseling center in coordination with the Ministry of Health, the Government and family health representatives. They compared literature reviews, other countries' experiences, instructions, cultural factors and needs (Bharadva, 2014).

In Turkey it is a need to make more investigations about milk banking. This study focuses only on a city but further and wider studies are necessary. Coordination between institutions should be established and they should raise awareness in the society. Milk banking is an elaborate and important procedure which requires milk donation, stocking, making regulations,

keeping medical records, selecting suitable donors, pasteurization. For that matter it is essential to establish a multidisciplinary

approach, national policies and coordination among the related institutions.

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