

Questionnaire on the breastfeeding and the donation of 70 mothers\donors.

Pasqua aNNA Quitadamo (✉ pasquaq@tiscali.it)

Ospedale Casa Sollievo della Sofferenza <https://orcid.org/0000-0003-3131-8700>

Giuseppina Palumbo

Ospedale Casa Sollievo della Sofferenza

Liliana Cianti

Ospedale Casa Sollievo della Sofferenza

Paola Lurdo

Ospedale Casa Sollievo della Sofferenza

Leonilde Sorrentino

Ospedale Casa Sollievo della Sofferenza

Maria Assunta Gentile

Ospedale Casa Sollievo della Sofferenza

Pierpaolo Cristalli

Ospedale Casa Sollievo della Sofferenza

Research

Keywords: human milk donation, experience of HM donation, human milk banking

Posted Date: January 21st, 2020

DOI: <https://doi.org/10.21203/rs.2.21036/v1>

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Abstract

INTRODUCTION In feeding premature babies, the first choice is the fresh milk from mother and if this is not possible, the donated milk from the HMBs. The support to the donation of the human milk have proved to be an efficient method of promotion to the breastfeeding. **OBJECT** The aim is to know the motivations and the experience of the donation to draw lessons for the improvement of our activity about the promotion of breastfeeding and the donation of the milk.

MATERIAL AND METHODS 70 donors have been recruited. The questionnaire includes 15 questions which relate to the breastfeeding and donation. It focuses on data concerning the possible factors which favor the breastfeeding linked to the donation and to the subjective description of the donation's experience and of personal suggestions.

RESULTS 67,7% of the interviewed women was made aware of the possibility to donate by the direct information from the HMB staff; for the 83,3% of donors there is an altruistic reason at the base of the donation. For the 24,14% it was the second or third experience. The length of the breastfeeding together with the donation exceeds about 2 months the time occurred for the other sons without donation. For 61,76% it was not demanding to donate the milk and for 75,86% the donation is considered a factor which favors the breastfeeding. Some donation's experiences were very intense and captivating.

CONCLUSIONS The conclusions were categorized into: input received, data sharing and key messages from which operational proposals arose.

Introduction

Mother's milk is the best feeding for premature infants and his protective effect against the complications of prematurity has also been demonstrated [1–6].

When the mother's milk is not available, the alternative is represented by the donor human milk recommended by World Health Organization and others [7–11].

The presence of a Human Milk Bank (HMB) in NICU improves both the availability of mother's milk for feeding the premature baby and breastfeeding with higher percentages of nutrition with mother's milk on discharge from NICU [12–14].

The HMB of "Casa Sollievo della Sofferenza" Hospital is an integral part of the NICU, it is active since September 1, 2010 and is part of the AIBLUD (Italian Association of Human Milk Banks) that, at present, consists of 38 HMBs. AIBLUD's main mission is to promote breastfeeding and donation of human milk and in this context that this work moves.

The practices to support the donation of human milk are now included among those proven to be effective for the protection and promotion of breastfeeding [15–18]. It is widely demonstrated that the two things enhance each other and contribute to the improvement in a synergistic way of child health and survival, precisely through the exclusive feeding of all newborns, even the most vulnerable, with human milk [9–10]. The questionnaire was created with the intention of exploring the lives of women who breastfeed their children and

at the same time feed other infants who do not have access to their mother's milk. Furthermore, through dedicated questions we set ourselves the objective of obtaining useful indications for a targeted promotion of both breastfeeding and donation, which is our primary target in the care of both the healthy newborn and the premature or pathological newborn.

Objective

The aim of the paper is to know the motivations and the experience of the donation to improvement of our activity about the promotion of breastfeeding and the donation of the mother milk.

Materials And Methods

Recruitment

Our HMB has created a social group on the Net that involves between the attendees, the bank staff and women donors who accepted to be part.

The platform is the vessel of recruitment of mothers involved in this study. Accepting to take part to the study they've been asked an e-mail address in order to send the written version of the questionnaire after explaining the aim and the meaning. The mothers who didn't state their willing to be part of the social platform, have been contacted separately and invited personally to fill out the questionnaire. We gave them a 6-months period to give in writing the answers and send them to the bank address - in this way, they've been able to freely express their ideas without time conditions. To date, 70 women have been recruited and on this sample lies the work. All the donors involved in the study, as per the protocol, signed an informed consent to donate their milk at the time of enrollment also for clinical or research use.

The questionnaire

The questionnaire includes 15 questions that can be found in the box.

1. How did you become acquainted about the possibility of donating milk?
2. What prompted you to do this gesture?
3. Is it the first time you donate milk?
4. Your child was born of:
 - a. cesarean section
 - b. vaginal delivery
5. How long have you been breastfeeding your child?
6. How much has your child grown?
7. Do you have other children?
8. How long have you been breastfeeding them?
9. When did you pump the milk for the Bank ?
 - a. after breastfeeding
 - b. before breastfeeding
10. Did it seem demanding to collect and store milk for the Bank?
 - Δnot at all
 - Δa little
 - Δenough
 - Δa lot
11. Do you believe that the donation to the bank has favored the breastfeeding of your child?
 - ΔIf yes, how?
 - ΔIf not, why?
12. On the basis of your experience in all its aspects, do you have any suggestions concerning the promotion of breastfeeding and milk donation for future mothers who will address to our birth point?
13. How do you feel when you breastfeed your child?
14. Could you describe your experience as a donor?
15. Other comments

The first question is about the way through which they've become aware of the possibility to donate their milk and of the existence, in our NICU, of a milk bank. It is an effective parameter to monitor the spreading activity of our reality.

The second question is crucial because it analyzes the motivations of the donation.

In the third questions, women are asked if they've already donated their own milk during previous pregnancies. This aspect is very important and is to be examined in depth because a multiple donation is one of the objectives to be pursued and optimized.

The forth question is about the kind of delivery. The reason lies in the fact that women are recruited during their hospitalization – the Caesarean section represents additional difficulty in the early stages of breastfeeding and we need to understand if it can or could have some repercussion in the possibility to donate. Other 2 parameters taken into consideration (in points 5-6-7-8) are the weight of the child and the length of the breastfeeding. More specifically, we've analyzed the weight gain during the breast-feeding and the donation and mothers have been asked to provide data about the length of the breastfeeding both during the puerperium (with milk donation) and the exclusive breastfeeding of other sons (without milk donation).

Questions 9 and 10 have a practical perspective. Mothers have been asked the precise moment when they used to produce milk to donate to the bank: if before or after the milk feed and preferably in which part of the day (morning, afternoon, evening or indifferently) in order to be familiar with the management of the donation.

The eleventh question quantifies the perception of the care which is necessary to carry out the tasks required for the donation, collection, storage and delivery to the carrier of donated milk, through four entries: no commitment, little commitment, enough commitment, hard commitment.

The question n°12 asks to donors if they believe getting (or not) an advantage during the breastfeeding of their baby – when combined to the donation and the answer is motivated (both if positive and if negative).

In the thirteenth question, each mother on the basis of their experiences is asked to give some personal suggestions on how to favour the breastfeeding and the milk donation to the benefit of future mothers of our department. This presumes a thorough analysis of the perception of each aspect of our work which is particularly detailed since it includes different moments of the care: pregnancy, delivery, hospitalization; it involves different professionals - obstetrician, gynecologist, neonatologist, nurse.

The thirteenth and fourteenth question explore the profound past of the mothers. They are asked first and foremost to express their emotions during the breastfeeding so to make them available for women who are or will be pregnant since we believe it to be the most important and effective way to promote the breastfeeding. In this frame, the following question invites mothers to describe in detail their experiences as donors. We've chosen a free scheme because it is more functional in the analysis of this crucial point; it is indispensable in processing the discovery of thoughts, emotions, difficulties, the joy or any other feeling related to the donation because we could better pinpoint tools, moments, opportunities to support and promote our initiative.

The last question asks, specifically, some comprehensive remarks that, once again, can improve the management of the breastfeeding during the hospitalization and the activity of the HMB.

Results

In the Table 1, the answers are summarized.

Table 1

Results and discussion					
Question 1 1.How did you become acquainted about the possibility of donating milk?	67,7%: direct information from the bank staff during hospitalization	16,2% information material in the Obstetrics department	3,2%: word of mouth between acquaintances	3.2%: personal research	
	Discussion				
	The direct information for mothers during postpartum hospitalization, which the bank staff performs in a standardized and widespread manner, is a strength and a model to be exported.	The disclosure in centers other from ours is lacking.	There is little information for women about the existence of milk banks. This gives rise to the need for greater diffusion.		
Question 2: the reason What prompted you to do this noble gesture?	83,8% altruistic reason	23% combines altruism with the abundance of milk produced.	26,9% reports that altruism is derived from a previous experience.	7,69% combines altruism, satisfaction and pride. 7,6% explains they strongly believe in mother milk.	16,2% reported the sorrow to throw the extra milk away.
	Discussion				
	Datum in line with the literature	Positive datum that gives a measure of the sensitivity of mothers in our area towards premature babies and this should be further encouraged through information campaigns on the reality of prematurity, little known by public opinion.			
Question 3 Is it the first time you donate milk?	76,86%: first experience of donation	24,14%: double or triple experience	Mothers who have already donated are a fertile ground to be cultivated because the possibility that a woman who has donated can do it again is high. She instinctively tends to renew the satisfying feeling, and if we succeed in exalting it through moments of awarded private and public recognition, the goal of repeated donation is closer.		
Question 4 Way of delivery	Caesarean section: 54,2%	The type of childbirth does not affect the ability to donate against the idea of a difficult start to breastfeeding, which often affects the continuation for women who are subjected to Caesarean section. The donor recruitment phase is not affected by the mothers' initial difficulties in the first days after the birth with breast attack and the start of breastfeeding			

Results and discussion		
<p>Average duration of the breastfeeding</p> <p>5.How long have you been breastfeeding your child?</p> <p>7. Do you have other children?</p> <p>8.How long have you been breastfeeding them?</p>	<p>Average duration of the breastfeeding of newborn during the donation: 13,84 months (36 – 2 months)</p> <p>Average duration of the breastfeeding of other sons without donation: 12 months</p> <p>Comment</p> <p>It could be a confirmation of how donation does not undermine breastfeeding but favors it</p>	
<p>Question 6</p> <p>Average weight gain.</p> <p>How much has your child grown?</p>	<p>1135 grams per month</p>	<p>The growth of breast-fed infants during the donation was more than satisfactory and this data can be disclosed to dispel one of the mothers' main fears regarding donation that is to say not to guarantee the adequate growth of their child.</p>
<p>Question 9: When did you pump the milk for the Bank ?</p>		
<p>The milk for donation was extracted from the breast:</p>	<p>After the suckling: 70%</p> <p>Before the suckling: 26,47%</p>	<p>In the morning: 26,64%</p> <p>In the evening: 7,7%</p> <p>In the afternoon: 5,1%.</p> <p>Indifferently: 59%</p>
<p>Discussion</p> <p>Regarding the timing of the extraction for donation, the time of day was unimportant, while 70% of women who provide milk for donation after nursing is significant. Probably having already nourished his own child creates a greater serenity which is preparatory to the gesture of donation.</p>		
<p>Question 10: The commitment for the donation</p>		
<p>Was it demanding to collect and keep the milk?</p>	<p>No: 61,76%</p> <p>A little: 26,47%</p> <p>Enough: 11,76%</p> <p>A lot: 0</p>	<p>Discussion</p> <p>The percentage of the interviewees who defined “zero” the commitment necessary for the collection, storage and delivery of the milk obtained for the donation is very reassuring.</p> <p>This is also a key message to dissolve another perplexity that limits the donation: the fear of not being able to honor the commitment with the HMB. The perception of our activity does not have connotations of intrusiveness or insistence but is lived with a certain serenity, ultimately a positive feedback for our team.</p>
<p>Question 11</p>		<p>Discussion</p>

Results and discussion			
Do you believe that the donation to the bank has favored the breastfeeding of your child? If yes, how? If not, why?	75.86% answered in positive explaining that this happened through: greater production due to greater stimulation: 72.7% avoiding the breast engorgement: 9%, greater serenity induced by the gesture of donation: 9% not hindering breastfeeding in any way.	24.13% of the women answered that the donation did not affect breastfeeding by having plenty of milk.	The donation is considered a method for improving and prolonging the feeding of their child.
Question 12 On the basis of your experience in all its aspects, do you have any suggestions concerning the promotion of breastfeeding and milk donation for future mothers who will address to our birth point?	Suggestions and impressions - to inform (also before the delivery) women about: the advantages of mother milk, the possibility to breast-feed and donate, the difficulties or the first days, the breastfeeding upon request that promotes the stimulation and therefore the production - information needs to go with support and reassurance and it's necessary both before and after the delivery, also at home - the necessity to widely promote the reality of the HMB and donation - to share the beautiful experience of the donation among mothers so as to spread it - the donation is a due towards the most fragile newborns and propose to visit the NICU to take account of it - to keep the newborn as close as possible so as to favour the breastfeeding upon request with breast emptying and stimulation - to empty the breast until the last drop and educate other women to do it		

Under point 1 show that 67,7% of women have become aware of the possibility to donate some milk thanks to the direct information of the bank staff during the hospitalization, 16,2% thanks to dedicated posters present in Maternity Unit; 3.2% thanks to the word of mouth with acquaintances and 3.2% thanks to a personal interest.

The point 2 focuses on the motivation of the donation. The prevailing answer concerns 83,8% with altruistic reasons referred to 23% with the abundance of milk, 26,9% refers that the altruistic boast is derived from a previous experience (during the breastfeeding of other sons with abundance of milk or in case of denied breastfeeding for other reasons such as premature birth), 7,69% combines the altruistic motivation with personal satisfaction and pride and we reported the same percentage in women who strongly believe in the power of mother milk. The remaining part explained the choice in the sorrow of throwing the extra-milk away.

Under point 3, women have been asked if it was their first experience of donation: 76,86% of women gave a positive answer and for the remaining 24,14% it was the second\third experience.

54,2% of women gave birth with vaginal delivery, the others with Caesarean section.

The length of breastfeeding combined with the donation is 13,84 months with a maximum value of 36 months and a minimum of 2 months. The length of the breastfeeding of other sons, required at question 8, was on

average 12 months.

The growth of the newborn was on average 1135 grams a month.

The milk for the donation is expressed after the milk feed in 70% and in 26.47% before. The remaining percentage refers to non-answers. 59% of women expressed milk during the day interchangeably, 26,64% in the morning, 7,7% in the evening and 5,1% in the afternoon.

Under point 10 women have been asked if they considered demanding to collect and store the milk, 61,76% answered "for nothing", 26.47% "a little", 11.76% "enough" and nobody answered "very".

Under point 11, evaluating the perception of the donation as a factor benefitting (or not) the breastfeeding, 75,86% answered "yes" explaining, to the following entry that the donation occurred because of a major production following a further stimulation for the majority of women (72,7%), avoiding the obstruction (9%), through a bigger serenity derived from the donation (9%) and the remaining percentage affirmed it didn't impede in any way the breastfeeding.

For 24.13% of interviewed women, the donation didn't influence the breastfeeding because the milk was aplenty.

At this point, a comment should be made. The answers to the last three questions are more difficult to summarize and categorize, since they represented a way to widely describe their thoughts, beliefs, acquaintances and experiences regarding the breastfeeding and the donation in all their aspects.

The experience of breastfeeding at point 13, has been described as unique, intense, indescribable and not to be missed, even if in the presence of initial difficulties or after resuming work.

For 15 mothers, it needs to start from the concept that if they want they can breast-feed and donate too.

In particular, a mother who experienced a difficult and painful breastfeeding due to bleeding fissures healed after 3 months (after precluding previous child's breastfeeding) gives an important suggestion. The frustration for the missing breastfeeding of the first child and the strong motivation with the second one to breast-feed and donate, underlie the achievement of the aim and generates the suggestions for new mothers to find "their way" to breast-feed. Moreover, this can arise only from an accurate information, in other words "there's no breast without milk... we don't own milk, we produce it... and the continual sucking of the child is the only way to let it increase: if I succeeded despite having painful fissures, everybody can do it". On the same wavelength is the answer of another mother who suggests to the HMB team "to let mothers understand and know that the mother milk comes out always and however and that all mothers are able to produce it both with a Caesarean section and a natural delivery, with a big or small breast. Everything, definitely depends on will". The topic of information was peculiar for this answer.

In detail 50 mothers suggested to inform (also before the delivery) women about: the advantages of mother milk, the possibility to breast-feed and donate, the difficulties (13) or the first days, the breastfeeding upon request (11) that promotes the stimulation and therefore the production.

15 women affirm that the possibility to donate depends on the will.

More than half of women suggest that information needs to go with support and reassurance and it's necessary both before and after the delivery, also at home. It has been highlighted also the necessity to widely promote the reality of the milk bank and donation (35 answers) also in other birth points. Some of them (30) referred that outside the hospital's walls, little is known about our HMB. On the same topic, 18 answers suggest to share the beautiful experience of the donation among mothers so as to spread it.

4 women write that the donation is a choice to be made with serenity. 3 women retain that the donation is a due towards the most fragile newborns and propose to visit the NICU to take account of it. Another suggestion from two mothers is to keep the newborn as close as possible so as to favour the breastfeeding upon request with breast emptying and stimulation. 2 mothers suggest to empty the breast until the last drop and educate other women to do it. 4 women don't give a specific answer as everything was excellent; the remaining part didn't answer.

The question "Could you describe your experience as donor?" allowed mothers to express their opinion in complete freedom. However, we after had to quote entire parts of the stories both because only in this way we could pull out the real sense of donation, and because a summary could have damaged the authenticity of the recordings.

80% of the mothers identified the moment of the milk shipment to the driver as the most satisfactory one because they saw the full bottles and received other empty bottles to fill in. 28 mothers admitting that the donation is a great experience, repeated it also in the following pregnancies.

It's necessary to do a distinction between those who donated more times. Some of them (around 50%) lived similar and positive experiences with different sons, others found some differences.

A donor, for example, refers that the last daughter came in a stressful period, there was no milk and she had to appeal to the formula; this caused sadness because she felt as she didn't give the newborn the same opportunities of the previous sons and couldn't honor the commitment with the milk bank as in the past. But she calmed down – thanks to the support of a friend who gave her hope, patience and strength - and produced enough milk for her daughter and for the milk bank, specifically "for a newborn who didn't have the same good fortune". "I insisted and, when I was waiting for the bottle to fill in, I imagined, as during my pregnancy, the child who would have received my milk. I found myself thinking to him, imagining his future and cheering him." "I was moved because my milk was nourishment and relief from a life that, reluctantly, made him fight since the early stages of life. This gave sense to my commitment and rewarded me".

Another mother discusses about pregnancy during a stressful moment: she refers she felt guilty. The pregnancy came after the loss of her 6-year-old firstborn; when she was asked to donate milk, she promptly answered in the affirmative – it was a way to regain self-esteem and to feel "strong and proud". "When I gave my milk, I felt useful and proud... when they told me that after the sixth month, they wouldn't have come to take it anymore I was sorry".

Therefore, a cleansing effect is highlighted in the donation of 2/3 of mothers.

Another woman (to the second experience) reports that she was proud of helping children without their mother milk and encouraged her friends to do the same but with limited results because they always fear to deprive

their child of milk.

The pride of donating milk to children in need is given in 60 reports with particular reference to the moment of shipment.

The term “commitment” is found in 15 answers but with different acceptations. Specifically: one of them (at the beginning) was skeptical, she was afraid of not following the rules and that it was a huge responsibility but when she filled in the first bottles, all the fears disappeared. Another woman describes the donation as “demanding” because it requires breast-care, a proper hygiene and diet that she carried out without difficulty even bringing up other children: “every time they came home to take the milk, I felt happy. I knew that my milk was useful to children in need and I thank those who gave me this possibility because I felt twice as woman”.

Another mother talks about little commitment, which is necessary for the care and the storage of the milk in view of a great present, the hope of a major survival for babies and families in difficulties. Another donor, due to the milk abundance, lived the donation in an easy way; moreover, she tells that the collection was easy thanks to the availability of the couriers who arrived in any moment after a call.

“For my part, it was the most beautiful experience I’ve ever had. When I thought that my milk could help someone less fortunate than my son, I felt good; it wasn’t demanding, the only thing you need is the organization.” That’s the experience of a donor that considered the commitment minimal.

Another woman, happy to be part of the project, considers the donation something natural and a right and duty for each woman; she says “my commitment with the pump and the bottles which are useful to the collection and storage of the milk made me feel mother of other children” and “giving the mother milk is a marvellous love feast that is good for the heart of donors”. She also thanks the drivers because they planned days and times for the collection, always meeting her needs. The combination “motivation to do good-not onerous commitment” is reported in 62 answers.

Outside the box there’s a mother, already mentioned, who says that the breastfeeding and, consequently, the donation was not simple: actually, during the first months “it was a Calvary with painful fissures and recurring mastitis... the donation was the reward for all my efforts”.

Another woman was not so confident because she was afraid of not honoring the commitment. But she succeeded with a kind of success.

There’s also someone who saw something positive in this commitment: “it was amazing to be committed... a sort of appointment with suckling and shipment... a feeling related to the act of donating and being useful to those in need. It was very rewarding and I’d like to repeat this experience during the next pregnancy”. Others felt free since “the commitment didn’t seem onerous. I was happy because my milk could help other children to grow up. I’ve never considered it as an onerous commitment and the staff never pushed me to meet certain standards, so this freedom contributed to the successful outcome of my commitment”.

The mothers who had a direct or indirect experience of a pre-term delivery deserve a separate chapter: “ when you feel guilty because you failed to protect your (pre-term) baby and you donate your milk, you are in a team that does good (Neonatology Department)” or “ I was happy to help helpless creatures because I knew what

meant to have a premature baby on your hands feeling powerless... Hoping for the best and be sure that, thanks to my donation (that didn't hurt me), a newborn could have survived", or yet, "Direct experience: in my room there was a mother and we gave birth on the same day... she underwent an emergency Caesarean section. I was thinking to them... to that child that was upstairs in an incubator, who needed milk and to her mother who was bedridden". Ultimately, a woman gave birth to a daughter with problem in a hospital far from our HMB and donated us the milk she wasn't able to give to her baby.

Analysis of responses and discussion (Table 1)

The answers point out our local reality and are particularly rich of useful cues to improve our activity. Specifically, let's start from the first operational steps: the information about the possibility of donating. We can affirm that the direct information during the hospitalization and after the delivery (performed by the bank staff in a standard and capillary manner), really works: thank to it, 70% became aware of the bank. This is certainly a strong point which is possible because the bank is equipped with dedicated staff and also for the number of births, compliant with a personal systematic approach and a recruitment method that could be exported. The downside is represented by the awareness (coming from this survey) that the divulgation in other hospitals is lacking. It's necessary to put in place some initiatives for mothers who don't give birth in our department. Only 3,2% was informed about the existence of the HMB and worked to find one on the territory. From this, comes the need of a major divulgation through media and the Net.

The second question about the reason of the donation is the altruism which is prevailing in 83,3% of answers. This datum is in line with the literature [19–29] and is a positive one even if we consider it together with the abundance of milk produced (23%), because it sheds light on mothers' sensitivity regarding pre-term babies; we should encourage them through information campaigns on this reality which is little known by the public opinion except for anecdotal cases that get into papers, media and on the Net.

24,4% of women is not at the first experience. The datum contains some indirect conclusions about the perception of the previous experience that affects the following one and our work. Mothers who have already donated their milk are breeding ground that is to be cultivated because there's a high possibility that they would do it again. Instinctively, a women tends to renew the feeling of pride and satisfaction and if we succeeded in gratifying it through moments of worthy public and private appreciation, the goal of multiple donation is closer.

The answers to the forth question are related to the kind of delivery that does not influence the possibility to donate despite the idea of a difficult start (of breastfeeding) that often influences the continuation of women who underwent caesarean section.

The point 5 concerns the length of the breastfeeding in the puerperium where the donation has occurred. We also analyzed the length of breastfeeding not related to donation comparing it with babies who didn't receive donated milk. In the first case, the length was superior of about two months - a satisfying datum if combined to the growth of newborns. It can be disclosed to dispel one of the main fears related to the donation that is to say not guaranteeing the intakes suitable for the child growth.

The moment, during the day, is not important while 70% of women pull their milk out after breastfeeding. Probably, the fact that they've already fed their child creates a major serenity which is a prerequisite of the

donation.

It is reassuring that about 62% defined as “ zero” the commitment necessary for the collection, the storage and the shipment of the milk to be donated. This is a key-message to spread so as to unravel one of the most common perplexities inherent to the donation that is to say the fear of not honoring the commitment with the milk bank.

This is perfectly linked to another message retrievable from our questionnaire, related to the answers about the favouring effect of the donation on the newborn. 76% of answers is affirmative and motivated with subsequent breast stimulation and major production of milk. The donation is considered a method to improve and extend the breastfeeding. This is one of the most important data and deserves the largest diffusion.

The suggestion given by mothers concerns the information: the will to breast-feed and donate can do everything, can overcome also the most demanding difficulties.

Conclusions

The answers to the questionnaire were particularly rich of useful suggestions which could improve breastfeeding and donation promotion activities.

In conclusion we report the inputs, the data sharing and the key messages received and the operational proposals that have arisen from them. Table 2.

Table 2
Operational proposals

Input	<ul style="list-style-type: none"> • Direct contact with women after birth as an effective recruitment method • In our department, the disclosure to other systems is minimal • Excellent results with the standardization of protocols for mothers of premature babies 	Operational proposals	<ul style="list-style-type: none"> • Our recruitment method can be exported in other centers • The disclosure of the donation practice beyond our NICU • Spread and share protocols to favor milk production in mothers of pre-term babies
Data sharing	<ul style="list-style-type: none"> • Newborns breastfed during the donation grow well • The donation increases the quantity of milk and the length of the breastfeeding with consequent benefits for the child • Breast complications can be avoided 	Operational proposals	<ul style="list-style-type: none"> • Dispel false myth: The fear of removing milk from your child, affecting growth
The experience of the donation			
Key messages	<ol style="list-style-type: none"> 1. Pride and satisfaction 2. Altruism for newborns and solidarity for their mothers 3. Minimal commitment 4. The will is fundamental 	Operational proposals	<ol style="list-style-type: none"> 1. Systematically award mothers with initiatives 2. Cultivate these feelings spreading NICU realities 3. Spread the idea of a non burden some commitment against a grandiose goal 4. Inform to improve the will

Inputs

1. direct contact with women after birth as an effective recruitment method, 2. our milk bank is unknown to women who give birth elsewhere, 3. excellent results with the standardization of protocols for mothers of premature babies.

Operational proposals

1. our recruitment method can be exported in other centers, 2. the disclosure of the donation practice beyond our hospital, 3. spread and share protocols to favor milk production in mothers of pre-term babies.

Data sharing

1. newborns who are breastfed grow well during the period of the donation, 2. the donation increases the quantity of milk and the length of the breastfeeding with consequent benefits for the child, 3. breast complications can be avoided.

Operational proposals: 1. dispel false myths: the fear of removing milk from the own child, damaging the growth.

About 'The experience of the donation:

Key messages

1. pride and satisfaction, 2. altruism for newborns and solidarity for their mothers, 3. minimal commitment, 4. the will is fundamental.

Operational proposals

1. systematically award mothers with initiatives, 2. cultivate these feelings spreading NICU realities, 3. spread the concept of a non burdensome commitment in the face of a grandiose goal 4. inform in order to improve the will.

The understanding and activation of those mechanisms which are necessary to improve donation promotion strategies can start from the motivation of a spontaneous gesture.

Exploring human experiences is always exciting because it takes you on intense and interesting emotional paths considered important; we believe that these feelings highlight a cultural model made of respect, sharing and solidarity that needs to be spread and safeguarded.

Declarations

Ethical considerations

All donors signed a written informed consent to donate their milk to clinical or research use therefore the ethics committee of Author's Institution ruled that no formal ethics approval was required in this particular case.

Consent for publications

Not applicable

Availability of data and material

The dataset used during the current study is available from the corresponding author on reasonable request.

Competing interest

The authors declare that they have no competing interests

Funding

None

Authors' contribution - Giuseppina Palumbo and Liliana Cianti helped recruit donors, sent and received questionnaires to donors - Leonilde Sorrentino gave his help for data processing and ordering of the bibliography- Pasqua Anna Quitadamo conceived the questionnaire, read and evaluated the bibliography, elaborated the results and wrote the manuscript, - Paola Lurdo has revised the English language of the text, but not with a professional assignment,- Maria Assunta Gentile and Pierpaolo Cristalli have approved the text and its publication on International Journal of Breastfeeding.

Acknowledgements

References

1. Boquien CY. Human Milk: An Ideal Food for Nutrition of Preterm Newborn. *Front Pediatr*. 2018;6:295.
2. Miller J, Tonkin E, Damarell RA, McPhee AJ, Sukanuma M, Sukanuma H, Middleton PF, Makrides M, Collins CT. (2018). A Systematic Review and Meta-Analysis of Human Milk Feeding and Morbidity in Very Low Birth Weight Infants. 2018;10(6).
3. Herrmann K, Carroll K. An exclusively human milk diet reduces necrotizing enterocolitis. *Breastfeed Med*. 2014 May;9(4):184-90. doi: 10.1089/bfm.2013
4. Maffei D1, Schanler RJ2. [Human milk is the feeding strategy to prevent necrotizing enterocolitis!](#) *Semin Perinatol*. 2017 Feb;41(1):36-40 doi:10.1053/j.semperi.2016.09.016. Epub 2016 Nov 8.
5. [Cortez J, Makker K, Kraemer DF, Neu J, Sharma R, Hudak ML](#) Maternal milk feedings reduce sepsis, necrotizing enterocolitis and improve outcomes of premature infants. *J Perinatol*. 2016 Nov;36(11):913-920.
6. [Bharwani SK, Green BF, Pezzullo JC, Bharwani SS, Bharwani SS, Dhanireddy R](#). Systematic review and meta-analysis of human milk intake and retinopathy of prematurity: a significant update. *J Perinatol*. 2016 Nov;36(11):913-920. doi: 10.1038/jp.2016.98. Epub 2016 Jul 14
7. [ESPGHAN Committee on Nutrition, Arslanoglu S, Corpeleijn W, Moro G, Braegger C, Campoy C, Colomb V, Decsi T, Domellöf M, Fewtrell M, Hojsak I, Mihatsch W, Mølgaard C, Shamir R, Turck D, van Goudoever J](#). Donor human milk for preterm infants: current evidence and research directions. *J Pediatr Gastroenterol Nutr*. 2013 Oct;57(4):535-42. doi: 10.1097/MPG.0b013e3182a3af0a.
8. [Gartner LM, Morton J, Lawrence RA, Naylor AJ, O'Hare D, Schanler RJ, Eidelman AI; American Academy of Pediatrics Section on Breastfeeding](#). Breastfeeding and the use of human milk. *Pediatrics*. 2005 Feb;115(2):496-506.
9. UNICEF. Adopting optimal feeding practices for Child Survival. <http://data.unicef.org/nutrition/iycf.html#>. Accessed June 28, 2016.
10. Global Breastfeeding Collective (UNICEF, WHO, PATH). Ensuring equitable access to human milk for all infants. A comprehensive approach to essential newborn care. Policy brief. 2017.
11. Quitadamo PA, Palumbo G, Villani A, Savastano M, Ravidà D, Bisceglia M, Gentile A, Cristalli PP. Does the Opening of a Milk Bank in NICU Cancel the Incidence of NEC? *Journal of pediatric disorders and neonatal care*. 2018;1:1.
12. Arslanoglu S, Moro GE, Bellù R, Turolì D, De Nisi G, Tonetto P, Bertino E. Presence of human milk bank is associated with elevated rate of exclusive breastfeeding in VLBW infants. *J Perinat Med*. 2013;41(2):129-31.
13. Vázquez-Román S, Bustos-Lozano G, López-Maestro M, Rodríguez-López J, Orbea-Gallardo C, Samaniego-Fernández M, Pallás-Alonso CR. Clinical impact of opening a human milk bank in a neonatal unit. *An Pediatr (Barc)*. 2014;81(3):155-60.

14. Parker MG, Burnham L, Mao W, Philipp BL, Merewood A. Clin Perinatol. Implementation of a Donor Milk Program Is Associated with Greater Consumption of Mothers' Own Milk among VLBW Infants in a US, Level 3 NICU. *J Hum Lact.* 2016;32(2):221-8.
15. Haiden N, Ziegler EE. Human Milk Banking. *Ann Nutr Metab.* 2016;69(2):8-15.
16. Meier PP, Johnson TJ, Patel AL, Rossman B. Evidence-Based Methods That Promote Human Milk Feeding of Preterm Infants: An Expert Review. *Clin Perinatol.* 2017;44(1):1-22.
17. De Halleux V, Pieltain C, Senterre, Rigo J. Use of donor milk in the neonatal intensive care unit. *Semin Fetal Neonatal Med.* 2017;22(1):23-29.
18. Quitadamo P.A., Palumbo G., Cianti L., Napolitano M.L., Coviello C., Lurdo P., Copetti M., Gentile M.A., Cristalli P.P. Might the Mothers of Premature Babies Feed Them and Devote Some Milk to the Milk Bank? *International Journal of Pediatrics.* Volume 2018, Article ID 3628952, 7 pages. <https://doi.org/10.1155/2018/3628952>
19. Alencar LC, Seidl EM. Breast milk donation: women's donor experience. *Rev Saúde Publica.* 2009;43(1):70-7.
20. Candelaria LM, Spatz DL, Giordano N. Experiences of Women Who Donated Human Milk. *J Obstet Gynecol Neonatal Nurs.* 2018;47(4):556-563.
21. Pimenteira Thomaz AC, Maia Loureiro LV, da Silva Oliveira T, Furtado Montenegro NC, Dantas Almeida Júnior E, Fernando Rodrigues Soriano C, Calado Cavalcante J. The Human Milk Donation Experience: Motives, Influencing Factors, and Regular Donation. *J Hum Lact.* 2008;24(1):69-76.
22. Ekşioğlu A, Yeşil Y, Turfan EC. (2015) Mothers' views of milk banking: sample of İzmir. *Turk Pediatri Ars.* 2015;50(2):83–89.
23. Mackenzie C, Javanparast S, Newman L. Mothers' Knowledge of and Attitudes toward Human Milk Banking in South Australia: A Qualitative Study. *J Hum Lact.* 2013;29(2):222-229.
24. De Miranda WD, Passos MC, de Fátima Freitas MI, de Fátima Bonolo P. Representations of women milk donors on donations for the human milk bank. *Cad. Saúde Colet.* 2016;24(2):139-144.
25. Ibarra Peso J, Meza Vásquez S, Aguayo Gajardo K. Experiences, beliefs and attitude on donation of human milk in women of Arauco province. *Rev Chil Pediatr.* 2018;89(5):592-599.
26. De Alencar LC, Seidl EM. (2010) Breast milk donation and social support: reports of women donors. *Rev Lat Am Enfermagem.* 2010;18(3):381-9.
27. Brandstetter S, Mansen K, DeMarchis A, Quayh NN, Engmann C, Israel-Ballard K. A Decision Tree for Donor Human Milk: An Example Tool to Protect, Promote, and Support Breastfeeding. *Front Pediatr.* 2018;6:324.
28. Leung JCY, Yau SY. Perceptions of Breastfeeding Mothers on Breast Milk Donation and Establishment of Human. Breast Milk Bank in Hong Kong: A Qualitative Study. *International Journal of Nursing.* 2015;2(2):72-80.
29. Quitadamo P.A., Palumbo G., Cianti L., Napolitano M.L., Coviello C., Lurdo P., Copetti M., Gentile M.A., Cristalli P.P. Might the Mothers of Premature Babies Feed Them and Devote Some Milk to the Milk Bank? *International Journal of Pediatrics.* Volume 2018, Article ID 3628952, 7 pages. <https://doi.org/10.1155/2018/3628952>