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Donation of breastmilk to human milk bank: knowing the donor

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Abstract

Objective: To analyze the profile of human milk donor to the Human Milk Bank of a university hospital in the city of Cuiabá-MT, Brazil. *Methods*: observational, cross-sectional study conducted with all nursing mothers enrolled in the human milk bank as external donors using semi-structured questionnaire administered during the home collection of milk and, to the former donors, administered via telephone calls. We collected information concerning social demographic variables, prenatal care and donation process. *Results and discussion*: 70 donors participated, and the average age was 28.5 years old; 77.14% were married or in stable union, 36.76% had completed higher education and 66.67% were active in work. There was no relation between the age of donor and donation. Altruism was the main reason for women seeking the human milk bank. Donation can be justified by the maternal instinct and by a sense of solidarity. The women started donating one month after delivery, which is the time they usually seek the human milk bank and a good opportunity to encourage breastfeeding; 88.24% reported having no difficulties to start donating and the median donation period was 90 days. *Conclusion*: data indicated the importance of health education in prenatal care, because the mothers are more sensitive to learning in this period. We highlight the need of the human milk banks to know the profile of donors in order to use the proper advertising approach and get new donations.

Key words: Milk Banks. Human Milk. Breast Feeding.

Introduction

Breastmilk (BM) is the best food for infants given its nutritional importance, the presence of immunological factors and its contribution to strengthening mother and child bond. Current recommendation of the World Health Organization is that BM should be offered exclusively until age of six months, and complemented at least until two years of age.[1]

From 1985 on, there was an expansion of Human Milk Banking (HMB) in Brazil and the creation of the Brazilian Network of Human Milk. HMB has played a key role in promoting, protecting and supporting breastfeeding (BF), as well as in offering pasteurized pumped human milk, primarily to premature and/or low-weight newborns incapable of sucking, or infected, among other conditions.[2] Therefore, HMB is a safe and important alternative to continue breastfeeding when the child cannot be fed directly from the mother's breasts.

It should be noted that the human milk comes from voluntary donations from nursing mothers who have excess milk and are breastfeeding their children.

Despite large dissemination by the mass communication media and healthcare services about the importance of breastmilk donation, data of the Ministry of Health showed that in 2013 and 2014 there was a reduction of 11% and 8%, respectively, of the number of donors in the country compared to 2012.[3,4] In this regard, investigations aiming to knowing the profile of nursing donors of human milk are crucial, considering its potential to support the development of effective strategies to attract new donors.

Literature points out that most of the donors are young adult women, married or in a cohabiting relationship, with high education level. In general, they are mothers of the first child born by cesarean section. Regarding the reasons that lead women to donate their milk, the major one is altruism, but other reasons such as prevention of breast engorgement were also cited by some mothers.[5-10] Thus, this study aimed to describe the profile of BM donors to the Human Milk Bank in a university hospital in the city of Cuiabá-MT.

Methodology

This is an observational, cross-sectional study developed at a Human Milk Bank in a hospital located in Cuiabá-MT, as one of the products of the Educational Program for Healthcare Providers (PRO/PET-Health) of the Federal University of Mato Grosso. All nursing women enrolled at the HMB as external donors, from January 2013 to November 2014, were included in the study.

Women who pumped milk at the HMB for their own babies were not eligible (internal donors) as well as those who were in the HMB's records but having not donated milk after January 2013.

Data was collected via a semi-structured questionnaire prepared by the researchers. The questionnaires were delivered to the nursing mothers by the HMB staff when they collected the donated milk. To ex-donors, the questionnaires were administered by phone. All donors were contacted by phone by monitors of the PET-Health and received explanations about the survey, instructions to complete the questionnaire and sign the Free Informed Consent Form, which was prepared based on the Resolution no. 466/2012 of the National Health Council. Data related to socio-demographics, prenatal care and milk donation process were collected.

For data tabulation and analysis, we used the Epi Info software, version 7. Quantitative information were analyzed descriptively, by means of measures of frequency (relative and absolute) and central tendency. The qualitative analysis was performed according to the procedures of categorical content analysis. The responses recorded by the donors themselves were analyzed and categorized based on the content, by two researchers, in order to ensure agreement equal to or over 70% in relation to the categories identification and naming.[11]

The Research Ethics Committee of the "Júlio Müller" University Hospital approved the study under no. 735.627 on July 31, 2014.

Results and discussion

A total of 70 BM donors, mean age of 28.5 years, participated in the survey. The majority of the mothers (n=54; 77.14%) were married or in cohabiting relationship; 36.76% (n=25) had a higher education degree, and 66.67% had a paid work (n=46). Mean household income was R$2,000, ranging from R$700 to R$20,000 (p25=R$1,000; p75=R$4,000).

In the study by Dias et al,[6] conducted in a HMB of a university hospital, most donors were young adults, as in this study, which presented a mean age of 28.5 years. However, according to Fonseca-Machado et al.,[12] there seems to be no relation between the mothers' age and the milk donation practice.

Regarding the marital status, similar results were found by Galvão et al.[7] and Fonseca-Machado et al.,[12] who found that most of the donors were married. It is believed that the presence and support of the spouse or partner encourage women to breastfeed and donate their milk.[13] With respect to the educational level, studies show that women with more education are more likely

to breastfeed longer, possibly because the educational level interferes with the assimilation of the instructions given on the practice of breastfeeding as well as on their decision to donate BM. [9,14,15]

With respect to occupation, studies show that a large number of donors have a job, corroborating the result of this study. The rising number of women in the labor market can explain it, at least in part. On the other hand, this factor is also associated with the early introduction of supplementary foods, which contributes to the reduction of BM production and, hence, the possibility of donation.[6,8,15]

Between the 1940s and 1970s, most of the donors were poor and often sold their milk to increase the household income. When the sale of BM was prohibited, donation becomes strictly voluntary.[16] In this study, monthly average donors' earnings corresponded to 2.5 minimum wages at the time of the study. Study by Prado[14] indicated that most of the donors had a monthly household income corresponding to three minimum wages. It is worth noting that, differently from the records of the first HMBs, where there were no nursing women from higher social classes,[17] in this research it was found that 25% of the donors had a household income varying from $4.000 to $20,000 reais/month.

With regard to the characteristics, the most common type of birth was cesarean delivery (n=44; 62.86%) and prenatal care was primarily provided by the private healthcare system (n=40; 57.14%). As to the number of children, of 57 responses obtained, the majority of the donors (n=41; 71.93%) were first-time mothers, which corroborates other studies. In general, when a woman begins feeding her first child, she feels more insecure and seeks for the assistance provided by the HMB more frequently.[9,14,18]

It was found in this study that women had ten prenatal appointments on average during pregnancy, as found in other studies, [8,11] which is above the minimum number of six prenatal checkups prescribed by the Ministry of Health.[19] The number of mothers that reported not having received any guidance on breastfeeding during prenatal care is considered high (n=32; 46.38%), but the majority (n=37; 53.62%) of the women said that they received some sort of education during the visits. In fact, prenatal care strengthens the bond between the mother and the healthcare provider, and for this reason it is considered a good time to deliver information on breastfeeding and milk donation. [20,21] According to Dias,[6] mothers usually receive guidance on breastfeeding just a few days before giving birth, making subsequent lactation more difficult. Education during prenatal care is important to ensure mothers' awareness and sensitivity and contributes to both breastfeeding and donation of surplus milk.

In the present study, with respect to the source of information on how to donate BM and the services provided by the HMB, in the first place was family and friends (n=27; 38.57%), followed by healthcare services (n=22; 31.43%). This shows the influence of the community, represented by people who are close to the mothers, on the attitude of pregnant or nursing women, as well as the education provided by the healthcare providers from the first prenatal visit until birth.[9] Media appeared in the last position (n=15; 21.43%), which shows the little use of this communication means as a social advertising tool to promote BM donation. Conversely, in Pinto' study,[10] donors reported being conscious of the need to donate, mainly because of television. Considering the capacity of the mass communication means to reach a large audience in short time, we believe that media could be more used for this purpose by the HMB studied in this work.

As to the reasons that made mothers seek the HMB, the most reported one was that the bank needed donations (n=27; 39.71%), i.e., there was demand by mothers and children who by any reason could not breastfeed. This finding was similar to those found in other studies, which suggest altruism – an action that benefits other individual; solidarity; voluntary, unpaid action – as one of the prime reasons reported for BM donation.[9,11] According to Silva,[22] milk donation sometimes is justified by the identification with the feelings of the mother receiving the milk. The second most reported reason was surplus milk production (n=23; 33.82%), which can cause breast engorgement. In some studies, it surpassed altruism among the reasons that led to donation.[9]

Donation began around one month after delivery (mean = 30 days; p25=11; p75=60). It is believed that the first month is when the nursing mothers seek for the healthcare service, and so this is an opportunity for the HMB to encourage breastfeeding and milk donation.[13] The majority (n=60; 88.24%) reported not having any difficulty in starting donation. Those who mentioned any obstacle, this was associated with the difficulty in expressing milk, engorged breasts, and the belief of some nursing women who assumed not having milk enough to donate. In the study conducted by Neves et al.,[23] most of the women reported not having problems to start donating, but for those who cited having any difficulty, this included lack of milk, laziness, fear, lack of time, serious diseases, among others.

In this study, average milk donation interval was 90 days (p25=30.5; p75=135). Considering that in this same study donation started one month after childbirth, we believe that the interruption of donation in this period is associated with early weaning, characterized by the introduction of complementary foods, which coincides with the return of the nursing woman to work. It is known that weaning causes a reduction of milk production and, hence, of BM donation.[6,11]

This study also sought to investigate the perception of donors regarding the practice of BM donation. Their reports were analyzed and grouped into categories of "altruism", "citizen role", "waste prevention", "somebody else's influence", "awareness of the HMB needs", "surplus milk production", " breasts pain relief", "previous inability to breastfeed", "not having been breastfed", "awareness of the importance of human milk" and "awareness that the donated BM is not marketed".

It can be seen that, in fact, as identified in the quantitative study, the category "altruism" was the most cited (19 donors), as exemplified in the following reports:

Donating milk made me feel good about myself; I think that as other babies need the milk, my daughter could be in the same situation [...]. (D14)

I am very happy to know that I am helping to save lives of premature babies in an NICU, and achieve the motherhood dream [...] It is a unique feeling of loving your neighbor [...]. (D22)

[...] and being able to help other children besides mine with human milk is something priceless [...]. There is more happiness in giving than in receiving. (D11)

I feel I am contributing to the healthy life of some babies who need it. Donating milk is donating love, health drops. (D2)

Another reason mentioned in the donor's reports was the "citizen role", cited by 15 nursing women:

[...] I'm proud to see that my milk can feed other children, not only my daughter. I feel happy, I feel good, healthy [...]. (D15)

I feel as if I am accomplishing a citizen duty. I do my part. (D8)

Breastmilk waste concern was cited by three respondents, included in the category "waste prevention":

[...] Before donating the milk, I used to throw it away, but now I have someone to give it. For me, it is a privilege to donate and while I have enough milk, I will donate it. For me, milk is life, and life is everything. (D14)

[...] Because sometimes my breasts hurt so much because they were full, and now that I decided donating I don't feel pain anymore. I also think of the children who need it. Instead of wasting it, better help them. (D10)

[...] It is so simple. It does not take 15 minutes for me to fill a bottle. Many other mothers could donate, because it is the milk that leaks from the breast [...]. (D21).

Other categories, such as "somebody else's influence", "awareness of the HMB needs", "surplus milk production", " breasts pain relief", "previous inability to breastfeed", "not having been breastfed", "awareness of the importance of human milk" and "awareness that the donated BM is not marketed" were reported, each one, by only one donor.

To know the reasons why donation was interrupted, only ex-donors were interviewed. The reports were grouped into the categories "reduction in milk production", "return to daily routines", "illness/medication", "moving from the city" , "loss of contact with the HMB", "death of spouse", "lack of family support", " plan to stop breastfeeding", "weight loss of the child" and "stopping the habit of expressing milk". The categories "reduction in milk production" (n=20) and "return to work/study" (n=13) were the most cited:

He started eating other foods and because of that suction decreased as well as milk production. (E41)

Production of milk decreased, and the baby drank it all. (E52)

Production was decreasing. The baby nursed little and there was no stimulus for production. (E69)

I went back to school and pumped only to leave for my baby. (E39)

After the maternity leave, I was back to work and could not adjust the routine to be able to collect for donation. (E58)

I was back to work and did not have the time to pump milk and production decreased. (E59)

The category "illness/medication" appeared in the third position, being mentioned by four respondents.

[...] I had a surgery and had to take medicines such as antibiotics and for this reason milk dried up. (E37)

[...] By medical reasons; I had kidney stone, intestinal infection and took strong medication. Because of the strong medication, milk started decreasing. (E47)

Other reasons, included in the categories “moving from the city” , “loss of contact with the HMB”, “death of spouse”, “lack of family support”, “ plan to stop breastfeeding”, “child’s weight loss” and “stopping the habit of expressing milk ” were also cited.

These data corroborate those found by Alencar and Seidl[11] and Fonseca-Machado et al.[12] It is clear the importance of implementing public policies to ensure the promotion, protection and support to BF, such as an extension of the maternity leave duration, which in Brazil is today of 120 days,[24] since this may have been one of the factors associated with the interruption of donations.

Conclusion

In this study, human milk donors, most of them young adults, married or in a cohabiting relationship, having good educational level and paid jobs, became acquainted with the human milk banking through relatives and friends.

The main factors that led to donation were the HMB demand, based on the need of mothers and babies who depend on it, and excess milk production. As to interruption of donation, the main reasons included the return to work and school, besides a reduction in milk production. The media appeared in the last position when donors were asked about how they became aware of the services provided by the HMB. Thus, it can be seen that there is a need for the HMB to develop appropriate programs to attract a suitable number of donors, once it is one of its responsibilities, along with the BM Collection Service, to promote this kind of action.

Milk donation was perceived by donors as a key solidarity action that helps save lives of children who cannot be breastfed. It is also important to consider that the social context where women are included greatly influences their attitudes regarding donation. Therefore, the support from relatives, such as the husband, as well as institutional support have a positive effect on the decision to donate breast milk.

Data point to the importance of health education on breastfeeding and BM donation during the prenatal care, because it is when mothers began to prepare themselves for lactation and are sensitive to learning. Such guidance should also be extended to new mothers once they often have difficulties in breastfeeding and end up interrupting it, thus reducing the chances of donation.

This information emphasizes the need for human milk banks to be acquainted with the profile of donors so that they can devise an adequate advertising plan and attract new donations. They should also investigate the difficulties related to the interruption of BM donation, which is key to support the development of more targeted interventions.

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References

1. Brasil. Ministério da Saúde. Saúde da criança: nutrição infantil aleitamento materno e alimentação complementar. Brasília: Ministério da Saúde; 2009.
2. Brasil. Agência Nacional de Vigilância Sanitária. Banco de leite humano: funcionamento, prevenção e controle de riscos. Brasília: Agência Nacional de Vigilância Sanitária; 2008.
3. Rede Brasileira de Bancos de Leite Humano [Internet]. Disponível em: http://producao.redeblh.icict.fiocruz.br/portal_blh/blh_brasil.php
4. Portal Brasil. Lançada campanha para incentivar doação de leite materno [Internet]. Brasília: 2014. Disponível em: URL: http://www.brasil.gov.br/saude/2014/05/lancada-campanha-para-incentivar-doacao-de-leite-materno
5. Daroz SM. Análise do perfil das doadoras de leite materno do hospital fornecedores de cana, em Piracicaba. Anais 7ª Mostra Acadêmica UNIMEP; 2009; Santa Bárbara d'Oeste e Lins, Piracicaba. p. 1-5
6. Dias RC, Baptista IC, Gazola S, rona MSS, Matioli G. Perfil das doadoras do banco de leite humano do Hospital Universitário de Maringá, Estado do Paraná, Brasil. Acta Sci. Health Sciences 2006; 28(2):153-158.
7. Galvão MTG, Vasconcelos SG, Paiva SS. Mulheres doadoras de leite humano. Acta Paulista de Enfermagem 2006; 9(2):157-61.
8. Lourenço D, Bardini G, Cunha L. Perfil das doadoras do banco de leite humano do Hospital Nossa Senhora da Conceição, Tubarão/SC. Arquivos Catarinenses de Medicina 2012; 41(1):22-27.

9. Santos DT, Oliveira Vannuchi MT, Benevenuto Oliveira MM, Dalmas JC. Perfil das doadoras de leite do banco de leite humano de um hospital universitário. Acta Scientiarum. Health Sciences 2009; 31(1):15-21.

10. Pinto MCLM, Campelo TC, Ramos VC, Lima MER. Alegações maternas para doação de leite humano ao banco de leite em Teresina-Piauí. Revista Interdisciplinar NOVAFAPI 2012; 5(2):5-2.

11. Alencar LCE, Seidl EMF. Doação de leite humano: experiência de mulheres doadoras. Revista Saúde Pública 2009; 43(1):70-77.

12. Fonseca-Machado MOF; Parreira BDM; Dias FA; Costa NS; Monteiro JCS; Gomes-Sponholz FG. Caracterização de nutrizes doadoras de um banco de leite humano. Ciência Cuidado e Saúde 2013; 12(3):529-538.

13. Silva PLN, Jorge JCT, Fonseca JR, Pereira ACA, Oliveira VGR. Perfil das mães doadoras de um banco de leite humano. Revista enfermagem UFPE [Internet] 2013; 7(7):4635-4640.

14. Prado MM. Banco de leite humano do município de Varginha-MG: Perfil das doadoras e causas de descarte do leite. [dissertação]. Lavras, MG: Universidade Federal de Lavras, Curso de Mestrado de Ciência dos Alimentos; 2009.

15. Genovez CB, Uchimura TT, Santana R, Nishida FS. Banco de leite humano: uma análise das diferenças entre doadoras adultas e adolescentes. Acta Scientiarum. Health Sciences 2011; 33(2): 211-218.

16. Almeida JAG, Novak FR. Amamentação: um híbrido natureza-cultura. Jornal Pediatria 2004; 80(5):S119-S125.

17. Almeida JAG. Amamentação: um híbrido natureza cultura. 20 ed. Rio de Janeiro: FIOCRUZ; 1999.

18. Braga ASC, Andrade PC, Ferreira RAM, Davis JRP, Santos LC, Pereira SCL. Caracterização das mães doadoras e do leite doado ao banco de leite humano referência em Minas Gerais: subsídio para estratégias públicas de otimização do serviço. Anais XV Seminário Sobre a Economia Mineira; 2012; Diamantina, Belo Horizonte. p. 1-14.

19. Brasil. Ministério da Saúde. Manual técnico: pré-natal e puerpério. Atenção qualificada e humanizada. Brasília: Ministério da Saúde; 2005.

20. Landerdahl MC, Cabral FB, Ressel LB, Gonçalves MO, Martins FB. Percepção de mulheres sobre atenção pré-natal. Esc Anna Nery R. Enferm. 2007; 11(1):105-111.

21. Souza VB, Roecker S, Marcon SS. Ações educativas durante a assistência pré-natal: percepção de gestantes atendidas na rede básica de Maringá-PR. Revista Eletrônica de Enfermagem 2011; 13(2):199-210.

22. Silva SL. Alegações materna para doação de leite humano [dissertação]. Recife: Universidade Federal de Pernambuco, Pós Graduação em Saúde da Criança e do Adolescente; 2010.

23. Neves LS; As MVS; Matar, MJG; Galisa, MS. Doação de leite humano: dificuldades e fatores limitantes. O Mundo da Saúde 2011; 35(2):156-161.

24. Brasil. Decreto-Lei nº 5.452, de 1 maio de 1943. Consolidação das Leis do Trabalho. Dário Oficial da União 9 ago. 1943; Seção 1:11937.

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