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Breast Milk Banks

guidance for successful breastfeeding

Breast milk banks are specialized centers responsible for the management, promotion, and support of breastfeeding. They receive, process, analyze, store, and then distribute donated human milk from selected mothers to hospitals. This ensures nutrition with do-

nated breast milk for premature or sick newborns (NBs) who, for any reason, do not have access to their own mother's milk. At the same time, it provides great support for breastfeeding promotion strategies, thus contributing to improved maternal and child health in the general population¹.

Currently, there are 22 active centers in Spain, operating with different models: integrated into Blood and Tissue Banks, Neonatology Services, Personalized Nutrition Units, and mixed centers that combine two of the abovementioned models.



SOURCE: Prepared by the authors. Regional governments with breast milk banks.

The WHO, in its global strategy for infant feeding, states that breast milk is undoubtedly the best food for newborns and infants. Furthermore, it informs us that “when a mother’s own milk is not available, pasteurized milk from selected donor mothers is the best option for feeding children, especially if they are sick or high-risk.” (2),

BREAST MILK BANKS: A VITAL RESOURCE FOR BABIES OF MOTHERS WITH DIABETES

Currently, type 1 diabetes mellitus, gestational diabetes, and type 2 diabetes mellitus in mothers represent a growing challenge in maternal and child health. These conditions can affect the baby’s health, increasing the risk of complications such as premature birth, neonatal hypoglycemia, obesity, and the development of diabetes later in life. However, an effective and natural strategy to mitigate these risks is the use of donated breast milk through breast milk banks, as it provides multifactorial benefits for the newborn and their mother in the short and long term.

Benefits of Donated Breast Milk (compared to the use of infant formula)

1.- Prevents necrotizing enterocolitis: Necrotizing enterocolitis is a serious disease for **premature newborns**, characterized by the death of intestinal tissue,

which leads to many complications, including the death of some NBs.

Feeding very premature NBs with artificial formula has been linked to an increased risk of necrotizing enterocolitis, especially in premature babies weighing less than 1,500 g. This disease is 6 to 10 times more frequent in premature NBs fed artificial formula than in those exclusively fed breast milk.

2.- Protects vs hospital-acquired infections: Diseases acquired in the hospital during admission.

3.- NBs digest it more easily, allowing for earlier withdrawal of IV nutrition.

4.- In the long term, babies show better neurodevelopment and a lower risk of **cardiovascular diseases**.

From an economic point of view, the use of donated milk represents significant savings in health care expenditure.

The economic cost of a milk bank is very low when compared to the savings achieved by avoiding cases of enterocolitis. For example, considering only the costs of admission, for every euro invested in donated human milk, **between 6 and 19 euros are saved**.³

Therefore, in many countries, national health policy considers donated breast milk a reasonable and effective tool for promoting child health.

In principle, the ideal **candidates** for receiving donated milk are:

- Babies weighing < 1,800 g (**premature babies**), as long as their own mother’s milk is not available or until they reach approximately 1,800 g in weight. NBs with serious illnesses or significant digestive problems receive donated milk for a longer period as long as the risk situation persists.
- NBs with **malformations of the digestive tract** that require surgery in the neonatal period.
- NBs with certain types of **heart disease** that may compromise the intestine.
- NBs in extremely **critical condition**.



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» Hospital 12 de Octubre (Madrid, Spain) a national reference center for breast milk bank promotion, suggests that: “depending on the volume of milk available in the bank, criteria for administration are more or less strict. When there is a lot of donated milk, the administration time is extended for babies who are receiving it. However, at other times when the volume of donated milk decreases, it is necessary to be much more selective with the criteria for administering donated milk to these babies.”³

DONATED BREAST MILK IS AIMED AT THE MOST VULNERABLE BABIES

Breast milk is always the first option **for feeding sick or premature NBs**. Donated milk is the best substitute when the mother cannot express milk or when she does not express enough to meet her baby's nutritional demands. Many

mothers have undergone C-sections or have health problems after childbirth, which delays milk production and expression. In those first few days or later, if the mother cannot express enough milk, **the most vulnerable NBs** can receive donated breast milk for the necessary time, as indicated by a doctor. For this, after being informed, candidates must authorize the administration of donated milk.

“Every last drop of donated milk is utilized: for the children who need it, it's a great gift.”³

This article focuses more on the importance of donated breast milk **for babies of mothers with diabetes who are more vulnerable** due to being premature, suffering from neonatal hypoglycemia, having a malformation, and, in addition to this, a delay in the mother's milk supply or a problem of hypogalactia. We must

show great consideration for these babies, as the correct establishment of lactation during the first few days is of vital importance for their quick recovery and future health.

Therefore, it is important for nursing staff to be aware of **updated protocols and the importance of health care professional training**. Similarly, it is considered of great importance to advise **both donor mothers and pregnant mothers** with diabetes on the importance of breast milk and the planning and preparation for breastfeeding during pregnancy. This implies granting the **necessary permits to attend** “childbirth preparation” training at health care centers well in **advance** of the estimated due date.

Breast milk provides a variety of components that promote the growth of **beneficial bacteria in the baby's intestine**, »

» laying the foundation for a lifetime of health and well-being by providing antibodies and essential nutrients that **strengthen** the baby's immune system, helping to **prevent** infections and diseases in the future.

How does breast milk benefit babies of mothers with diabetes?

In these babies, having a balanced and healthy gut microbiome can help reduce inflammation and improve blood glucose **regulation**, thereby decreasing the baby's risk of developing type 2 **diabetes mellitus** or other **metabolic diseases** in the future (**obesity** in childhood and adolescence).

In summary, nurturing and promoting a healthy microbiome is key to strengthening the baby's immune system, protecting them from infections and other long-term health conditions. For now, formula milks cannot offer this benefit, which is why every drop of breast milk for these babies is gold.

KEY ASPECTS TO HIGHLIGHT IN COUNSELING WOMEN DURING PREGNANCY REGARDING BREASTFEEDING

In training mothers, in addition to informing them about the benefits of breastfeeding, it is important to educate them about breast anatomy so that **during pregnancy** they can identify when their body is ready for lactation, if there have been changes in their breasts or body sensations, and can ask for help in time.

If we talk about mammary hypoplasia or tubular breast, we can already be alert because it is likely that, even if the baby is born at term, there may not be enough milk at birth. At the corresponding gestational week, we can consider trying to create a colostrum

bank at home, always under the supervision of expert breastfeeding personnel.

It is vitally important to involve mothers hands-on in how to perform manual expression and how to subsequently use a breast pump within the first few days after birth. Therefore, by planning breastfeeding, we can ensure not only a good start to breastfeeding but also have frozen food for these babies (if gestational age allows) for the proper initiation and establishment of lactation.

Furthermore, we must continue with diabetological training focused on the lactation period, especially on how to manage hypoglycemia during and after feedings, so that this does not create a reluctance to initiate breastfeeding due to fear of experiencing it.

TO CONCLUDE, HISTORICAL DATA:

The Breast Milk Bank at Hospital 12 de Octubre was the first bank in Spain to open in a Neonatology Service. Previously, the Palma de Mallorca Bank was operating, but it was not dependent on any neonatal unit. The Breast Milk Bank opened in December 2007 and has maintained its activity thanks to the commitment of the Neonatology Service staff and the Management of Hospital 12 de Octubre, which has always supported this project. From the outset, the response from donor women was excellent, and donated milk could be provided to premature and sick infants admitted to the Neonatology Service of Hospital 12 de Octubre. Once experience in milk processing was gained and the needs of newborns admitted to Hospital 12 de Octubre were covered, the next step was taken: to expand the Milk Bank to increase the volume of processed milk and send it to other hospitals. To achieve this goal, it was necessary to expand the Milk Bank's space and increase the number of professionals working at the Milk Bank.³ **D**

CONCLUSIONS

Breast milk banks represent a fundamental tool in promoting child health, especially for babies of mothers with diabetes who are more susceptible to being premature or suffering from certain diseases. Promoting their use and expanding their reach can make a significant difference in the present and future well-being of these children, building healthier and more resilient communities. Training mothers and self-knowledge of their own bodies gives them confidence and security regarding their abilities. This allows these women to better express their doubts or difficulties to health care personnel, receiving the most appropriate advice for the life stage they are in.

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