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Donated breast milk: from donation to premature new-born

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Breast milk is the gold standard of newborn nutrition due to its optimal composition in terms of the nutritional elements necessary for its growth and development in the first years of life [1,2]. In the case of premature infants, breastfeeding is associated with a lower incidence of different diseases and complications, such as necrotizing enterocolitis [3,4]. Mothers of premature babies are sometimes unable to provide enough breast milk

to their babies and donated breast milk (DML), provided by milk banks, is the preferred alternative to formula for premature infants [5,6]. That is why donor mothers play a fundamental role, since they contribute to the development of many premature newborns. But what is the journey of the LMD from the time of donation until the premature baby receives it?

There are many mothers aware of the existence of the Milk Bank of the Valencian Community that has been in operation since 2010, either through health personnel, such as the midwife, the pediatrician, nurses, the neonatal service or the breastfeeding support group, or through external sources, such as the media, a family member or a friend. At the Milk Bank, potential donors are evaluated for their medical-social history and are subjected to a serological study to rule out potentially communicable infectious diseases, such as HIV or syphilis. In addition, donation has a place as long as your baby's needs are met and extra milk production takes place. The Milk Bank facilitates the participation of donor mothers through instruction on the handling and sterilization of extraction equipment and the hygienic rules to be taken into account, providing all the necessary material for collection. Donors can express milk at the Milk Bank or at home. In the latter case, they must freeze it and bring it to the Milk Bank in a period not exceeding three weeks ensuring the cold chain during transport. If necessary, the Milk Bank offers a home collection service.

In general terms, about 100 mL of milk are usually donated per mother per day. Once between 1 and 3 liters of milk have been collected from the same donor, it is processed into what is known as a batch. To ensure their microbiological safety and thus avoid potential transmission of pathogens, batches of LMD are pasteurized using the Holder pasteurization (HoP) method, thus inactivating bacteria and viruses [7,8]. Each batch undergoes microbiological analysis before and after pasteurization. Even in these circumstances, a small percentage of LMD batches should be discarded because they show levels of bacterial contamination that discourage their use. Once the batches are pasteurized, their fat, protein and energy value content is analyzed to administer it under medical prescription to premature babies depending on their individual needs. In this way, more premature babies will be given milk with higher fat and protein content. In addition, as far as possible, we try to administer milk from the same donor to the same baby.

Occasionally, LMD requires fortification according to the needs of the prematurity. This fortification is carried out by adding fortifying sachets and/or protein capsules. LMD is administered through a bottle or syringe, except in premature infants who have not yet developed biological sucking ability. In this case, the LMD is administered through a nasal or orogastric tube.

In 2020, a total of 250 mothers donated 1683 liters of milk, which were administered to a total of 443 premature babies. Thanks to the generosity, willingness and work of donor

mothers and Breast Milk Banks, it is achieved, altruistically, that many babies can improve their health.

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