

Human Milk Banking: A Boon

Bhajisha Uppottingal

Assistant Professor, Govt. College of Nursing, Calicut, Medical College P.O.,

Calicut - 673008

E-mail: ubhajisha@gmail.com

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Abstract

'Breast milk is an elixir for newborns'. World Health organisation (WHO) and United Nations (UNICEF) recommend that breast feeding must be initiated within the first hour of birth and exclusive breastfeeding for the first six months of life. Some mothers are unable to breastfeed their babies in the initial few weeks due to various reasons, in such situations, human milk bank will prove to be a boon.

Introduction

Breastfeeding is one of the most effective ways to ensure health of a baby. However, nearly two out of three infants are not exclusively breastfed for the recommended six months. Breast milk is the ideal food for infants. It is safe, clean and contains antibodies which helps to protect against many common childhood illnesses. The benefits of human breast milk are for short and long term, with improved health and development of the child as well as the health of the mother. Breast milk provides all the energy and nutrients that the infant needs for the first months of life, and it continues to provide child's nutritional needs during the second half of the first year, and up to one third during the second year of life. Preterm babies, low birth weight babies, babies admitted in Neonatal care unit may

deprived of their own mothers breast milk, in such situations human milk banking is beneficial.^{1,2}

WHO recommends pasteurised donor milk as a best option. India's first Human Milk Bank was established in 1989 at Sion Hospital. In Kerala first human milk bank was inaugurated at the Ernakulam General Hospital.³ The Institute for Maternal and Child Health (IMCH) attached to the Government Medical College Hospital, Kozhikode, also started a milk bank.⁴ The facility could also be utilised if children are not able to suck milk properly or if mothers' breast milk production stops after delivery. Women who are not able to feed because of other health reasons can also make use of milk bank.⁵

The most critical demand for human donor breast milk is for the most vulnerable neonates who are either preterm or require gastrointestinal surgery as a newborn. Human milk donors are typically healthy breastfeeding postpartum women with adequate production of milk and are willing to donate milk. The milk, which will be collected from donor lactating mothers at the hospital, can be stored for up to six months at the bank.⁵

Requirements

-) Counselling of mothers from post natal ward has to be done for obtaining donor milk. After getting consent and passing through screening of health records, donor will be selected.
-) All donors must undergo a rigorous screening process similar to that used for donating blood, which includes an interview, serological screening and physician consent. Serology includes testing for hepatitis B and C as well as HIV
-) With electrical breast pump, milk is expressed from a separate room meant for that
-) Proper labelling with date and time of collection is needed
-) Milk is pasteurised within 24 hours by holder method at 62.5 degree Celsius for 30 minutes.
-) Milk which cannot be processed within 24 hours is deep freezed at -20 degree Celsius.
-) Sample of milk is send to microbiology for culture. Until culture results available milk is stored in deep freezer. Once culture negative, milk is stored in second deep freezer from where milk can be dispensed to recipients.If the milk is culture positive, it is discarded.
-) Thawing of frozen milk has to be done just before dispensing.
-) Recipients consent has to be obtained before dispensing.
-) Quality control measures has to be done like hand washing, improved maternal

hygiene, sterilization of bottles and containers.⁶

Donors

A lactating woman who:

-) is in good health, good health-related behaviour, and not regularly on medications or herbal supplements (with the exception of prenatal vitamins, human insulin, thyroid replacement hormones, nasal sprays, asthma inhalers, topical treatments, eye drops, progestin-only or low dose oestrogen birth control products).
-) is willing to undergo blood testing for screening of infections.
-) has enough milk after feeding her baby satisfactorily and baby is thriving nicely.⁷

Contraindications

A donor is disqualified who:

-) uses illegal drugs, tobacco products or nicotine replacement therapy
-) has a positive blood test result for HIV, Hepatitis B or C or syphilis
-) has received organ or tissue transplant, any blood transfusion/blood product within the prior 12 months.
-) is taking radioactive or other drugs or has chemical environmental exposure or over the counter prescriptions or mega doses of vitamins, which are known to be toxic to the neonate and excreted in breastmilk.
-) has mastitis or fungal infection of the nipple or areola, active herpes simplex or varicella zoster infections in the mammary or thoracic region.⁷

Conclusion

Artificial formula will never provide the benefits of human milk. In India rate of preterm birth is high. In order to manage such babies and also for

neonates with complications, there is an urgent need to establish milk banks across the country, especially in neonatal units of all hospitals.

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