



HUMAN MILK BANK

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ABSTRACT

Dr. Armida Fernandez, the founder of milk banking in India, founded Asia's first human milk bank at SION hospital in Mumbai on November 27, 1989. Every year, this milk bank helps between 3000 and 5000 infants. Every year, the Neonatal Intensive Care Unit receives approximately 800 to 1200 litres of human milk to feed to sick and vulnerable babies. New mothers are given help at the Comprehensive Lactation Management Center (Human Milk Bank) to breastfeed their infants, pump milk, and donate surplus milk to other sick babies in the hospital. In India, there are currently 10 working milk banks.

A human milk bank is a programme that collects, stores, and distributes human breast milk after it has been screened. Breast milk is provided to vulnerable pre-term and sick infants, as well as special situations where mothers are unable to provide enough milk for their babies. This milk was donated by breastfeeding mothers who are not linked to the babies who will receive it. Mothers who want to donate their surplus breast milk must go through a screening process. This contains a questionnaire as well as a health check. All donated breast milk is tested, pasteurised, and frozen before being distributed to needy babies.

KEYWORDS : Breast milk, Human donor breast milk, Human milk banking, Preterm infant.

INTRODUCTION

A human milk bank is a service offered by hospitals or nursing homes that collects, screens, and stores breast milk. This milk is generously donated by lactating mothers who are in good health. This milk is critical in fulfilling the nutritional needs of babies born to other mothers biologically. Some people refer to this milk as "liquid gold," because it contains all of the necessary nutrients for a newborn's growth and development.

Definition

A human milk bank is an organisation that collects, screens, processes, stores, and distributes donated human milk.

What are the benefits of donating breast milk?

Mother's milk nourishes infants, aids their growth, and protects them from disease and infection.

Breast milk is even more important for sick babies and premature babies. They have a higher chance of surviving as a result of this.

Owing to inevitable factors such as mother's illness, death, and milk processing delays, a significant number of helpless babies are unable to access their mothers' own milk for short or long periods of time. Donor human milk from a milk bank will save a person's life in these situations.

Who is qualified to donate?

Any lactating woman who is willing to donate her excess expressed breast milk will participate in the initiative/project.

Breast milk may be donated by any breastfeeding woman who is in good health.

The mother must be in good health in order to donate.

Other requirements include:

- Not a smoker
- Not a drug or alcohol user
- Maintains a balanced lifestyle
- Unwillingness to undergo HIV testing, syphilis testing, hepatitis B testing, and tuberculosis testing.

Beneficial to:

1. Premature infants or newborn babies who need gastrointestinal surgery because their mothers have died.
2. Babies with a low birth weight.
3. If mothers have undergone LSCS under general anesthesia, the child can benefit for a few hours while the mother recovers consciousness.
4. Those whose mothers have been split due to a serious medical problem, such as PPH.
5. Children who have been adopted from an orphanage
6. Every other orphaned child.
7. Mothers who do not produce breast milk.
8. Mothers who have inverted or flat nipples, or
9. Mothers who have multiple pregnancies such as twins, triplets, or more.

The Human Milk Process:

- Donor mother registration and screening
- Milk expression of the donor mother.
- Pasteurization is the process of heating milk to a precise temperature in order to kill any possible germs while preserving the milk's infection-fighting and nutritional properties.
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- After the milk has been heated and quickly cooled, measures are put in place to preserve the milk until it is given to the infant.
- Throughout the pasteurization process, sterile methods are used.
- The donor number, date of selection, and pasteurisation batch number and date are all written on donor breast milk samples.
- Pasteurized milk can be stored for 6 months at -18°C.
- Milk can only be frozen for 3 months for preterm babies; once thawed, it can be stored in the refrigerator for 24 hours before use.
- Storing in the freezer
- Prescription for babies.
- Milk is given to babies who are in need.

Infrastructure:

A partitioned room of 250 square feet is needed to accommodate at least the milk banking equipment, a technician's work area, and some store room for documents, management, and counseling donors etc. For the field of breast milk expression, privacy is of utmost importance.

Equipments:

- **Pasteurizer/Shaker-water bath:** Prior to use, donor milk must be heat treated at temperature of 62.5°C for 30 minutes (Pretoria Holder pasteurization method).
- **Deep freezer:** A deep freezer is needed in the milk bank to store milk at -20 degrees Celsius.
- **Refrigerators:** These are needed to keep the milk cool until the entire day's collection is finished and the milk is ready to be combined and pooled for further processing.
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- **Hot air oven/autoclave:** For sterilising the articles needed in the milk bank or centralised sterile service department, a hot air oven/autoclave is required.
- **Breast milk pumps:** Hospital-grade electric pumps are favoured for milk banking because they produce higher amounts of expressed milk and are relatively painless and easy to use.
- **Containers:** Single-use hard plastic containers made of polycarbonates, pyrex, or propylene are used all over the world for collecting and storing milk.
- **Generator/Uninterrupted power supply:** Every milk bank should have a centralised, dedicated source of uninterrupted power.

Administrative staff:

It should have a

1. Director (for planning, implementing and evaluating the services),
2. milk bank officer (usually a doctor),
3. Lactation management nurses (for counseling mothers and assisting expression of breast milk),
4. milk bank technician (for pasteurization of breast milk and microbiological surveillance),
5. Milk bank attendant (for collecting, sterilization of the containers and maintaining hygiene),
6. receptionist (for record keeping and public relations) and
7. microbiologist (for microbiology testing and infection control policies).

Guidelines for staff: Standard operating procedures (SOP) of the bank

1. Hygienic practices like proper hand wash, donning gowns, mask, gloves, trimming nails, locking long hairs should be maintained.
2. Gloves should be worn and changed between handling raw and heat-treated milk.
3. Staff should undertake regular health checks and be immunized against Hepatitis B.
4. There should be a program for constant training of the staff.

Donor Population:

- The donor population is made up of healthy lactating mothers with healthy babies who voluntarily give their extra breast milk to other babies without compromising their own baby's nutritional needs.

Breast milk collection:

1. Breast milk is collected after appropriate counselling.
2. Determining donation suitability.
3. Obtaining informed consent in the form of a written letter.
4. The donor is sent to a specified breast milk storage area in the milk bank or the milk collection centre after a history is

taken, a physical examination is performed, and a sample for laboratory tests is taken.

Storage:

- Pasteurized milk that is awaiting a culture report should be stored in a separate freezer/freezer region and not distributed until the culture is negative. Pasteurization and storage can both be performed in the same container.

CONCLUSION:

Educating antenatal mothers on the benefits of human milk banking is an investment in potential needs. The nurse's main duty is to increase awareness and foster a positive attitude toward the value and use of human milk banking. Mother's milk nourishes infants, aids their growth, and protects them from infection and disease.

Human Milk Banks are a secure way to provide healthy breast milk to babies in need. The World Health Organization (WHO) recently requested that countries encourage the healthy use of donor milk for vulnerable babies through human milk banks.

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Ethical Consideration: We have ensured the quality and integrity of research by follow the principle of non-maleficence (no harm). Confidentiality and anonymity have assured.

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