

A Concept of Dhatri & Human Milk Banking

Dr. Shilpi Sharma *, Dr. Rakesh Sharma **

* P.G. Scholar, Deptt. Of Kaumarbhritya Rajeev Gandhi Govt. P.G. Ayurvedic Medical College Paprola, Distt. Kangra, Himachal Pradesh, India.
Pin.176115.

** HOD, Deptt Of Kaumarbhritya Rajeev Gandhi Govt. P.G. Ayurvedic Medical College Paprola, Distt. Kangra, Himachal Pradesh, India.
Pin.176115.

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Abstract- Ancient science and its basic fundamentals are as useful as in modern time. In ancient time Acharya knows very well and aware about newborn baby nutrition is well explained in our classics text. When mother is unable to feed her child due to any reason, the concept of dhatri (wet nurse) is described by Acharya. In present contest, science and technology developed but they do not develop artificial milk as useful as mother milk, so they solve problem by collecting human milk in the milk bank. Dhatri (wet nurse) can store her milk in milk bank so later they provide milk to baby. During ancient time preservation of the milk was not available but today with the help of science and technology human milk can store and preserve and supply needy baby.

Index Terms- Dhatri , Nutrition, Artificial milk, Human milk

I. INTRODUCTION

Milk is the optimal food for almost all infants in the first year of life. The breast milk provides numerous health benefits to both mother and baby.²Milk is the primary source of nutrition for newborns; older infants and toddlers may continue to be breastfed, either exclusively or in combination with other foods from around six months of age when solid foods may be introduced. ³In our country, the burden of high risk newborns in various hospitals is about 20% with significant mortality and morbidities due to nonavailability of milk.

II. HISTORY

⁴ In Mahabharata, there is description of Dhatri in the absence of mother milk, also lord Krishna feed by Dhatri Yashodaz while Devaki was in prison. ⁵The first milk bank in Asia under the name of Sneha, Founded by Dr. Armeda Fernandez, was started in Dharavi, Mumbai on November 27, 1989. Around 1970 there was loss of interest towards milk bank. ⁶The reason for this loss of interest was the heavy promotion of infant formula, including formulas specially designed for preterm infants. Later, a fear of transmission of viruses, including HIV, in body fluids led to an anxiety about donation of body fluids, including breast milk. ⁷ WHO and UNICEF, made a joint statement in 1980, "Where it is not possible for the biological mother to breastfeed, the first alternative, if available, should be the use of human milk from other sources".

III. CONCEPT OF DHATR

⁸Acharya Vagbhata advised for arrangement of two wet nurses in condition of inability for feeding the baby by the mother. Examination of wet-nurses (including physical, psychophysiological qualities) have been described in Ayurvedic literature, so that breast feeding result in proper growth and development in child.

IV. SCREENING OF DHATRI/ MOTHER FOR MILK BANK:

⁹Charaka says that wet-nurse should be

- Modest
- No-addiction
- Similar in desha and jati (sub caste)¹⁰
- Affectionate to the child
- Free from diseases
- Jivitvatsa (having alive child)
- Samman-varna (similar in the caste)¹¹
- Young
- Having adequate amount of breast milk etc.¹²
- Similarly description were given by other Acharyas.

¹³One of the major issues, milk banking faces is the possibility of transmission of an infectious disease via the milk. Parents may fear accepting donated milk for this reason, while doctors may feel that the benefits of donated milk are outweighed by the possible legal implications. Consequently, screening is extremely important for milk banking like for HIV, VDRL, HbsAg etc.

V. EQUIPMENTS

¹⁴Pasteurizer/Shaker-water bath: It is essential to have a device to carry out heat treatment of donor milk at the recommended temperature of 62.5°C for a period of 30 minutes (Pretoria Holder pasteurization method) prior to its use.

Deep freezer: A deep freezer to store the milk at **-20 degree Celcius** is essential in the milk bank.

Refrigerators: ¹⁵These are required to store the milk till the whole day's collection is over and the milk is ready to be mixed and pooled for further processing.

Hot air oven/Autoclave: A hot air oven/autoclave in the milk bank or centralized sterile service department is essential for sterilizing the articles needed in the bank.

Breast milk pumps: 16 For milk banking, hospital grade electric pumps are preferred as they result in better volumes of expressed milks and are relatively painless and comfortable to use.

Containers: For collection and storing the milk, single use hard plastic containers of polycarbonates, pyrex or propylene are used across the world.

Generator/Uninterrupted power supply: 17 Every milk bank should have a dedicated centralized source of uninterrupted power.

Milk analyzer: It is desirable to have macronutrient analysis of breast milk to estimate the calorie, protein and fat of a milk sample.

VI. ADMINISTRATIVE STAFF

18 It should consist of a Director (for planning, implementing and evaluating the services), Milk bank officer (usually a doctor, for day-to-day running of the bank and training), Lactation management nurses (for counselling mothers and assisting expression of breastmilk), Milk bank technician (for pasteurization of breastmilk and microbiological surveillance), Milk bank attendant (for collecting, sterilization of the containers and maintaining hygiene), Receptionist (for record keeping and public relations), Microbiologist (for microbiology testing and infection control policies).

VII. COLLECTION OF BREAST MILK

19 After proper counselling, checking suitability for donation, getting written informed consent, history taking, physical examination and sampling for laboratory tests, the donor is sent to designated breast milk collection area in the milk bank or in the milk collection centre.

VIII. PROCESSING:

1. Refregation
2. Pasturization
3. Microbiological Screening

IX. BENEFICIARIES:

- ✓ All critically infants specially preterm
- ✓ Adopted child
- ✓ Mother who cannot feed due to any emergency like PPH etc.
- ✓ If mother had undergone for LSCS under general anaesthesia,

X. BENEFITS OF BREAST MILK

20 Antibodies that are in breast milk are not in cow's milk/formula and cannot be artificially produced. The amount of protein in cow's milk/formula is double the amount in breast milk and is also a different and less digestible type. Cow's milk/formula has smaller amounts of carbohydrates than breast milk. The fat in cow's milk/formula is very different than the fat in breast milk and digestibility is poor. Tetany, late onset metabolic acidosis, milk allergy, iron deficiency anaemia, dental caries, Zn and Copper deficiency are diseases related commonly to the cow's milk feeding.

XI. DISTRIBUTION: 21

- ✓ Milk is transported in ice packs.
- ✓ Oldest milk being used first.
- ✓ Once milk has been warmed at room temperature, it should be used within 4-6hrs.

XII. FUTURE PERSPECTIVE:

- ✓ Developing lyophilizing (dry powder form) human milk.
- ✓ Ultrasonic homogenization human milk.

XIII. CONCLUSION

22 Through Breastfeeding, newborn babies get the immunity, nutrition required for growth and development. If the mother does not have enough breast milk or if she is sick or her milk is grossly vitiated, in that case wet nurse or Dhatri would be required. In some cultures wet nurses were slaves or as today, many are employed allowing mothers freedom to work or pursue a lifestyle choice. In this situation human milk replace with human milk. It is better to employ a wet nurse as no other milk can be compared with mother's milk for proper growth and development of the child. 23 Likely Dhatri, newly developed human milk bank both aims to nutrition newborn babies. So, human milk bank correlated with dhatri, the fundamental of ancient science. Milk banks store breast milk for newborns whose mums can't breastfeed them. Usually, the banks collect expressed breast milk from pre-screened mums, who have a plentiful milk supply and help the needy child. 24 It is clear that artificial formula will never provide the broad range of benefits of human milk. 25 Given the high rate of preterm birth in the country and level of malnutrition that ensues in the postnatal growth in such babies after birth, there is an urgent need for establishing milk banks across the country, especially in the large NICUs of all hospitals.

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AUTHORS

First Author – Dr. Shilpi Sharma, P.G. Scholar, Deptt. Of Kaumarbharitya Rajeev Gandhi Govt. P.G. Ayurvedic Medical College Paprola, Distt. Kangra, Himachal Pradesh, India. Pin.176115

Second Author – Dr. Rakesh Sharma, HOD, Deptt Of Kaumarbharitya Rajeev Gandhi Govt. P.G. Ayurvedic Medical College Paprola, Distt. Kangra, Himachal Pradesh, India. Pin.176115, Email- drupmanyu97@gmail.com