

## Mother's Own Milk - Best Food For Infants

Editorial

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Mother's milk is the first and most ideal food for both normal as well as preterm infants, owing to its nutrition attributes, immune factors, growth factors, digestive enzymes, hormones, bioactive factors and antibacterial proteins/peptides. Advantages extended due to breast feeding of infants are reduction in the risk of gastrointestinal tract infections, respiratory tract infections, atopic dermatitis, childhood asthma, childhood leukaemia, type I diabetes, obesity, necrotising enterocolitis and sudden infant death syndrome.

WHO and UNICEF recommend early initiation of breastfeeding within an hour of birth [15] and American Academy of Pediatrics recommended exclusive breast feeding for the first 6 months of life and to be continued for the second 6 months [1] or two or more years [15] along with the gradual introduction of solid foods.

Many infants are deprived of getting their own mother's milk due to insufficient breast milk secretion from mothers [16] due to illness, severe medical conditions or those undergoing tremendous stress [7] or death of mothers. Under these conditions, breast milk from several well-established human milk banks (HMB) is the practical alternate for supplying breast milk [5, 12].

Breast milk from willing donor mothers are accepted by HMB after careful screening and donor human milk (DHM) are stored, processed to render it microbiologically safe [9]. Techniques employed for preservation of DHM are pasteurization, boiling or refrigerated storage. DHM may be pasteurised either by low-temperature, long-time (LTLT) or High Temperature Short Time (HTST) methods. Pasteurization of donor milk adopting HTST technique instead of LTLT technique would be a better compromise between microbiological safety and nutritional and biological quality of donor milk [2, 4]. Expressed breast milk can be safely stored up to 96 h at 6.8°C [10] or 6 weeks at -20°C [8] but frozen storage results degradation of immunological component [10]. Recent research suggest that high-pressure processing may be a promising alternative to pasteurization in human milk banking for preserving the immunological protective capacity of breast milk.

Nutritional composition of human milk may not completely meet the high nutrient demands for the growth of very low birth-weight preterm infant [11], therefore DHM may not be nutritionally adequate and required to be fortified with commercially available fortifiers [6]. Supplementation of breast milk with protein, energy, calcium, phosphates and vitamin D through parenteral or/and enteral nutrition for bone growth and mineralization is suggested.

Fortification of breast milk can be done by Standard Fortification (SF), where the amount of added fortifier is the same for all infants, Adjustable Fortification (AF), where the amount of fortifier is adjusted based on a surrogate marker of protein nutriture and Targeted Fortification (TF), where the amount of fortifier is adjusted after poor infant growth and/or results from analysis of the milk show the inadequacy of nutrients. Recently, AF and TF methods have been reported to be more practical for adoption in neonatal intensive care units [3, 13] due to improve body weight, length and head circumference percentiles of preterm infants, whereas SF method was found unsatisfactory [13]. In case availability of sufficient quantum of maternal breast milk, feeding of preterm infant with fortified preterm infant formula or pasteurized donor human milk is recommended [14].

Breast milk from donor mothers can be a practical substitute for feeding infants in absence of mother's own milk. Safety and nutritional aspect of donor milk from human milk banks must be ensured prior to infant feeding.

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