

Providing Expressed Breast Milk to Preterm Neonates Admitted in an Extramural Neonatal Intensive Care Unit: Where do we stand?

Provision of expressed breast milk (EBM) to premature neonates poses a great challenge in extramural Neonatal Intensive Care Units (NICUs). We conducted a questionnaire-based survey to identify the various challenges faced by the parents to provide EBM to their hospitalized premature infant. 40 preterm neonates (<34 wk gestation and <1500 g weight) planned to be started on EBM were included in the study. The median (range) duration after which EBM was received in NICU after the time it was asked for was 34.5 (13 to 40) hours, and it was received in a clean, sterile and covered container in only 8 (20%) cases. There were multiple hurdles in ensuring early availability of EBM in optimal condition. Sensitization and motivation of families regarding the importance of ensuring early administration of EBM to their prematurely delivered neonate may lead to substantial improvement in outcome of these neonates.

Keywords: *Exclusive breastfeeding, Feeding, Nutrition.*

The benefits of breast milk for preterm neonates are well known. Human milk provides protection to this highly vulnerable population against late-onset sepsis [1], necrotizing enterocolitis [2], retinopathy of prematurity [3] and re-hospitalizations in the first year of life [4]. Preterm infants who received breast milk early in life have improved neurodevelopmental outcomes [5,6]. In addition, premature infants who receive human milk have lower rates of metabolic syndrome, lower blood pressure and low-density lipoprotein levels, and less insulin and leptin resistance when they reach adolescence, as compared to premature infants receiving formula [7,8]. Various studies have shown the benefits of early (within 48 h) administration of expressed breast milk (colostrum) to preterm neonates. To accomplish this, expression of breast milk should be initiated within 1 hour of delivery and continued 8-12 times per day until the milk supply is well established [9]. This poses a challenge, especially in extramural neonatal units where mothers are often away from neonates.

This study was conducted in an extramural level III Neonatal Intensive Care Unit (NICU) of a tertiary care hospital, which receives out-born preterm neonates from far off areas of Delhi and neighbouring states. In most cases of preterm delivery, mothers are admitted for post-

partum care or are at home for initial few days after delivery, and then the responsibility of bringing the Expressed Breast Milk (EBM) from her to the admitted neonate falls on the father or other caretakers. We conducted this questionnaire-based survey to determine the duration after admission at which an admitted very low birth weight preterm neonate receives EBM, the various reasons for delay in receiving EBM, and the condition of EBM at receipt. The approval for the study was obtained from Institute's Scientific and Ethical Committee. Forty preterm neonates (<34 wk gestation and <1500 g weight) planned to be started on EBM were included in the study. The fathers or caretakers of the neonates were sensitized about the importance of ensuring early availability of EBM for their neonates and the appropriate conditions of storage and transportation of EBM, by the staff nurse and resident doctor on duty. The questionnaire was administered to the fathers or caretakers at the time they were asked to bring EBM from the mother and once again when EBM was received in NICU.

The mean (SD) gestation of neonates was 32 (1.8) weeks and the mean (SD) weight was 1840 (250) g. The mean (SD) age at starting EBM in these neonates was 22 (7.5) hours. Twenty (50%) of the fathers were educated beyond 10th standard, 12 (30%) were educated till 8th standard and rest 8 (20%) were illiterate. 16 (40%) of fathers were skilled labourers, 15 (37.5%) were daily wagers and 9 (22.5%) were self-employed. 28 (70%) of the fathers used public mode of transport while only 12 (30%) used their own conveyance. The median (range) distance from the hospital to their homes was 30.5 (7.5 to 60) km. Thirty (75%) mothers were still admitted in another hospital (20 mothers were post-caesarean section and 10 mothers had developed post-partum complications after vaginal delivery). The remaining 10 (25%) were at home. The median (range) duration after which EBM was received in NICU after the time it was asked for, was 34.5 (13 to 40) hours. The various reasons for delay as mentioned by the fathers were (some of the fathers/caretakers cited more than one reason): unclear instructions (20%), importance of EBM and method of expression not properly explained (40%), long distance of hospital from home/center where mother was admitted (62.5%), lack of self-conveyance (80%), cost of transportation (50%), mother not motivated or unable to express breast milk (45%), mothers suffering from lactational problems like engorged breast, inverted nipple

(30%), and religious taboos (27.5%). The EBM was received in a clean, sterile and covered container in only 8 (20%) of the cases.

The limitations of our study were that though the fathers and caretakers were sensitized regarding the importance of early administration of EBM to their neonate and method of safe transportation of EBM, their understanding was not assessed. Also, we could not ensure whether the mothers admitted at some other hospital were counselled and offered assistance in expression of breast milk.

This study highlights that ensuring the availability of EBM in optimal condition to the neonates admitted in extramural centres remains a challenge in our country. Certain interventions like education and motivation of families regarding the importance of EBM in preterm survival soon after delivery, assisting mothers in early expression of breast milk and sensitization of fathers and caretakers regarding appropriate transport conditions of EBM may result in better and early availability of EBM for preterm infants admitted in extramural NICUs.

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Clinical and Molecular Investigations of Hand, Foot and Mouth Disease Outbreak in Navi Mumbai, India

An outbreak of Hand, Foot and Mouth Disease (HFMD) was reported in Navi Mumbai in July-October 2018. Of 15 HFMD cases, two had recurrences within a month while three had lesions extending to trunk. Coxsackie virus A6 and A16 were detected from 13 cases (CV-A6 from 10 cases and CV-A16 from 3 cases) indicating co-circulation of these viruses.. The present study highlights an urgent need of HFMD surveillance.

Keywords: *Coxsackie virus, Epidemiology, Epidemic.*

Navi Mumbai city witnessed an unprecedented rise in cases of Hand, Foot and Mouth Disease (HFMD) in July-October 2018 with two children reporting recurrences in the same

year and lesions extending beyond the characteristic distribution over the body. Clinical characteristics were studied and the virological and molecular laboratory diagnosis was carried out to identify the etiological agents.

All children with clinical suspicion of HFMD upto age 18 years during the study period September- October 2018 were included. Stool specimens along with swabs from the throat and vesicles were collected from these children. The specimens (stool, vesicle fluid and throat swabs) were transported in cold chain to the ICMR-National Institute of Virology, Mumbai Unit, Mumbai for molecular diagnosis and virus isolation. Written consent for specimen collection was obtained from the parents of the children by the hospital authorities. Enterovirus (EV) isolation was performed as per the WHO Laboratory Manual protocol (2004) by inoculating human rhabdomyosarcoma (RD) cells. The cultures briefly were incubated at 36°C and cytopathic effect (CPE) was