Major innovations in neonatology during the past few decades, such as mechanical ventilation, surfactant and antenatal steroids have resulted in improved survival rates of very preterm infants. Despite improved survival, growth failure continues to be a major problem in these babies. Human milk (HM) alone cannot meet the nutritional requirements of very-low-birthweight (VLBW) infants [1]. Exclusive feeding of unfortified HM has been associated with poor growth and nutritional deficits during and beyond the period of hospitalization. HM fortification in preterm babies improves weight gain, linear growth, head size [2] and has now become the standard of care in developed countries. The current recommendation in India still does not favor routine fortification of HM and reserves this option for preterm infants <32 weeks’ gestation or <1,500 g birthweight, who fail to gain weight despite full volumes of HM feeding [3].

There are limited data from India which address the issue of safety and short-term benefits of HM fortification. Concerns about possibility of contamination and sepsis, added osmolality, feed intolerance, necrotizing enterocolitis (NEC) and nutritional inadequacy of presently available Indian fortifiers still make clinicians skeptical about its routine use. HM feeding for VLBW infants is advantageous in reducing infections when compared to preterm formula. HM has anti-infective properties due to the high content of IgA, lysozyme, lactoferrin, and interleukins. Fortification has been reported to be associated with alteration in quality of HM such as reduction in lysozyme and IgA levels. In high-burden neonatal units, bacterial contamination and associated risk of sepsis remain a theoretical possibility during fortification. In clinical trials including one conducted in India, risk of sepsis was not higher in babies who received fortified HM (FHM). Higher osmolality of FHM might lead to increased risk of feed intolerance and NEC; however, studies including those conducted in India did not show such results.

Nutritional adequacy of present HM fortifier (HMF) available in our country is another issue that needs to be addressed. In a prospective
observational study, routine fortification of HM with presently used fortifier showed a significant growth lag in VLBW infants during infancy [4]. Until now, the only available HMF in India was Lactodex HMF (table 1). On fortification of HM with Lactodex HMF (assuming a feed intake of 180 ml/kg per day), the recommended intakes of protein, vitamin A, vitamin D and iron are not met (table 2). Another HMF named HIJAM (Endocura Pharma Pvt. Ltd.) has been recently introduced on the Indian market (table 1). Its nutrient composition in FHM at an intake of 180 ml/kg per day approximates the requirement recommended by ESPGHAN (table 2) [5]. However, there is no published literature on its use, and the experience is limited.

Fortification of expressed breast milk with HMF increases the nutrient content of the milk without compromising its nonnutritional beneficial effects. At present, the WHO and Indian guidelines on feeding preterm babies do not recommend routine use of fortification; however,
FHM improves short-term weight gain, linear and head growth without any adverse effect. There is paucity of data from India on long-term benefits of fortification on growth and development. There is a need for more research to identify ideal candidate and fortifier to achieve optimal short-term and long-term outcomes.

References