

Commentary: The Feasibility of a Human Milk Bank in Kerala State, India

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Abstract

Donated Human Milk Banking is a trending topic in healthcare management and has potential for business development opportunities at hospitals and independent organisations in developing countries. A preliminary definition of a Human Milk Bank “is a service established to recruit breast milk donors, collect donated milk, and then process, screen, store, and distribute the milk to meet infants’ specific needs for optimal health. Although there are indications about the beginning of such practices date back to the 2001’s, private sector human milk banking has gained momentum in terms of popularity and acceptability. There is evidence of the presence of human milk banks in the USA during the 1990’s, which potential was affected by the development of specialty formulas, safety issues linked with viral transmission, and lack of credible clinical research in this area. However, recent developments in clinical studies, government cooperation with medical research centres and health authorities have shown considerable improvement in the public view of Human Milk Bank’s creating a positive climate for private sector provision.

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India in particular faces its own unique challenges, having the highest number of low birth weight babies, and significant mortality and morbidity in very low birth weight (VLBW) populations. The burden of low birth weight babies in Indian hospitals is 20% with significant mortality and morbidities. Feeding these babies with breastmilk can significantly reduce the risk of infections increase longevity (Waldemar, Shivaprasad, et al, 2010) The problem is particular serious in Kerala State in India where more than 42 per cent of infants suffer from a lack of nutrition (Chellan, Lopamudra, Kulkarni, 2007)

As human milk bank facilities and practices are already established in western cultures, and their cost related factors have been well researched, it is time for analysing and discussing the feasibility of such options across developing markets or nations, such as India. In India, infant mortality rate is exactly the half as it was two decades ago, but the developments in this area are far behind those of other developing countries such as by Brazil and China. Only 41% of Indian women breastfeed their child, compared to nearly 82% of American mothers. While other countries like China and Brazil have many breast milk banks, the numbers in India are low (Siddiqui, 2014) However there is a slowly building change and human milk banks are gaining acceptance in middle class urban centres (Patel, 2014). In many ways, this can be linked with increasing malnutrition and infant mortality rates in India. Even though people are educated and well informed, lack of breast-feeding may affect children's growth and immunity power.

Human Milk Banks as a Commercial Enterprise

Dutton (2011) remarked that human milk bank, in contrast to human blood bank services, can be considered liquid gold. According to a rough analysis conducted by Dutton (2011), an average mother donating 30 ounces a day could possibly make about \$20,000 per year, which shows that it is a win-win scenario for both businesses and clients. Despite increasing popularity in the western counterparts, human milk banks have gained acceptance in India only in recent times. There are examples of such facilities in various parts of India, such as Chennai, Rajasthan and so on, which are backed by government interests and authorities (Dhar, 2015, John, 2013). However, the results and present scenarios indicate that initially donors have a poor response to donating milk despite the financial rewards (John, 2013). This is particularly true in regions such as South India, Kerala where people still follow traditional routes and not willing to embrace change.

Further definitions of Human Milk Banks (HMB) include it as "a service established for the purpose of collecting, screening, processing, storing and distributing donated human milk to meet the specific needs of individuals for whom human milk is prescribed by healthcare providers who are licensed to prescribe" (Ona, 2012). While this is the simplest form of definition, there are other definitions as well. The Australian guidelines define HMB as "an organisation that collects, stores, processes (to exclude the risk of viral and bacterial transmission) and dispenses donated human milk. This donor milk is excess human milk provided by a mother for use by a recipient that is not the mother's own baby. This recipient is hospitalised preterm or ill infant" (Commonwealth of Australia, 201

While both definitions have common ground of terms and purpose, they both differ from each other, in emphasis. For the purpose of this paper, and future research by the authors the Australian definition will suffice given the intention to research Human Milk Banks for commercial purposes.

Need and Importance of Human Milk Banks

It can be argued that Human Milk Banks (HMB hereafter) have become a necessity for modern society, mainly because more mothers have become independent and taking up professional careers as the workforce liberalises and expands beyond traditional views on gender roles. Breastfeeding is the best method of infant feeding because human milk is the only food that is tailor made for a human baby. Given lifestyle and social shifts in modern times in urban areas and cultural barriers in less developed regions, many mothers are unable to feed their children, or are not able to feed due to medical or health reasons. As a result, more infants are potentially faced with malnutrition (Bharadva et al., 2014).

Biasini et al. (2013) points out that human milk is an invaluable product but that quality standards and accreditations are essential in making Human Milk Bank facilities operational and accessible to the public. Their study showed positive results where the percentage of low birth weight infants discharged home were reduced by nearly 30%. Although, Biasini et al. (2013) suggest that human milk banks should be welcomed by potential beneficiaries, Hoodbhoy (2013) points out that this is not always the case, because support and acceptance are often influenced and affected by socio-cultural barriers and traditions. Furthermore there are ethical, medical, and quality related concerns related with human milk banks and provision of donor milk by commercial providers.

Hoodbhoy (2013) found that provision of pasteurised donor milk has many advantages over its natural form, but its logistical concerns and cost related factors may affect such decisions. Hoodbhoy (2013) also argues that finding donors and volunteers for donating milk may also have significant concerns. Similarly, there is difference in terms of characteristics of milk provided through HMBs, and it has been randomly found associated with slower growth rate, invasive infections, and such, although in very fewer trials (Hoodbhoy, 2013).

Conclusion

When it comes to HMBs in India, one of the key concerns maybe attracting volunteers and sourcing adequate human milk for provision. Although the cost of setting up a normal small size HMB in India should be relatively lower than those of the western counterparts, most hospitals are not capitalising on their potential because India currently has ten HMBs serving a potentially huge market. Apart from a few retrospective studies conducted in this area, Indian HMBs lack any depth of adequate research to make solid conclusions about the viability, feasibility, and scientific, as well as socio-cultural concerns related to setting up a HMB in India (Katke, 2015). It is however evident from this brief commentary that the clinical benefits of HMB's may be significant and also meet societal and generally improve the health of new-born babies, if such the services are expanded and made accessible and affordable (Vazquez-Roman et al., 2014).

If viable Human Milk Banks are to be introduced in areas of need it is will important to identify, analyse, and research viable business model, benefits, issues, and concerns within an appropriate ethical framework which will demand further research and study.

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