



COLOSTRUM FEEDING PRACTICES WORLDWIDE: A REVIEW

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ABSTRACT

There are millions of children in the world die every year before reaching the age of five due to malnutrition and infectious diseases and they are mostly from the developing countries like Somalia, Uganda, Bangladesh, Nepal, Tanzania, Ghana, India, Sudan, Pakistan, Nigeria etc. There is no doubt that infants are prone to infection due to their not fully developed immune system. Apposite food and nutrition during infancy are very essential for immediate and future health, physical growth, mental development and a healthy immune system. According to World Health Organization, breast milk is the ideal food for normal infant and they strongly recommend exclusive breast feeding for first six months of the normal infants instead of any prelacteals. Colostrum is the earliest and most immunologically protective secretion of the mammary glands, which is highly nutritious, easily digestible substance and acts also as natural vaccine against various health related threats in humans. Lots of evidence reported from all over the globe revealed that neonatal and post neonatal deaths were become lower among those infants who fed colostrums than those who were not. But there are much higher number of reported cases of colostrum avoidance due to various cultural beliefs and practices from communities and States of different countries. This paper is an attempt to review the scenario of colostrums avoidance in present day context based on available literatures.

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INTRODUCTION

Feeding of human breast milk especially colostrum is the normative standards for the infants and regarded as complete form of nutrition (Johnston, 2012). The breast feeding of newborn infants has important implications for immediate and future health, especially in developing countries like India where high rates of malnutrition among children, infectious diseases and infant mortality has been reported in various literatures (Khokhar *et al.*, 2003; Gopujka *et al.*, 1984; Laxmaiah *et al.*, 2002). Human milk contains many hundreds to thousands of distinct bioactive molecules that safe guard infant growth and development (Ballard, 2013). Colostrum is very important component of the breast milk and it has role to play in immune system of every mammal (Godhia and Patel, 2013; Bhale and Jain, 1999; Roger *et al.*, 2011). It is the yellowish, sticky breast milk produced that only in the first few days, is recommended by WHO as the perfect food for the newborn and feeding should be initiated at the earliest after birth. Though colostrum is highly nutritious, easily digested and contains maternal cells and substances that act as natural

vaccine for the newborn infants (Hanson, 2004; Labbok *et al.*, 2004), many studies have reported colostrums avoidance among mothers of newborn globally (Jethi and Shriwastava, 1987; Agarwal *et al.*, 1985; Manderson, 1985; Williamson, 1990). Contemporary studies have focussed on the fact that breast feeding mothers and other family members do not have adequate awareness about colostrums feeding, thus preventing their infants from colostrums feeding (Kumar *et al.*, 2008; Joshi *et al.*, 2012; Pandey *et al.*, 2015). Colostrum avoidance includes: delayed initiation of breast-feeding; pumping and discarding colostrums; and/or wet nursing (Morse *et al.*, 1990).

In many developing countries, mothers discard colostrums for their traditional beliefs such as viewing it as "dirty milk", having no nutritional value, "to dilute to be useful" or seeing it as "bad luck" for the family (Williamson, 1990; Hanks, 1963; Morse *et al.*, 1990; Bhale and Jain, 1999; Goyle *et al.*, 2004; Duong *et al.*, 2004). Delayed breast feeding initiation, colostrums deprivation, supplementary feeding of breast milk substitute and incorrect weaning from breast milk are commonly found practices in almost all communities around the world (Waiswa *et al.*, 2010; Cruz *et al.*, 2010; Dibley *et al.*, 2010; Kimani *et al.*, 2011). The beliefs concerning colostrums along with various prelacteals feeding varies among different

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cultural setting along with different traditional preferences. In the world survey of the timing of post partum breast feeding, Morse and his colleagues (1990) found that the reasons for discarding colostrums are varied in different cultures and most common are the belief that colostrums is dirty, poisonous and contaminated. Some societies hold that colostrums make the newborn ill and causes vomiting and diarrhoea.

Between 15% - 65% of mothers studied in different regions of the world had not given colostrums to their babies (Omotola and Akinyele, 1985; Osrin *et al.*, 2002; Friesen *et al.*, 1998). The Ibadan mothers claimed to discard the colostrums produced in the first 24 hours postpartum and infants were fed on glucose water or herbal preparations (Omotola and Akinyele, 1985). Similarly, Balanta mothers of Republic of Guinea-Bissau in Africa believe that colostrums is insufficient and capable of causing any disease, in some cases even the death of the infant (Gunnlaugsson and Einarsdottir, 1993).

In an another study of beliefs and practices regarding colostrums feeding in Mithila, all women were found to believe that colostrums should not be given to the newborn baby under any circumstances, viewed colostrums as analogous to the birth blood and considered as a foul substance (Reissland and Burghart, 1988). A work conducted in 2001 in the slums of Turkey also stated that colostrum is usually perceived negatively as religiously forbidden milk (Ozelci *et al.*, 2006). Interestingly, Kannan *et al.* (2004) compared the colostrums and prelacteal feeding practices between Anglo American mothers and Asian Indian mothers living in United States and stated that all Anglo American mothers initiated breast feeding immediately after the infants birth with full avoidance of prelacteals whereas Asian Indian mothers living in the United States initiated breast feeding postpartum at means of 12-30 hours and few of them fed prelacteals also. Therefore, the most important determinant of delayed breastfeeding start was negative cultural ideas about colostrums (Gunnlaugsson *et al.*, 1992).

Despite mother's lack of knowledge regarding the benefits of colostrums feeding and distrust colostrums due to its yellow colour (Gunnlaugsson and Einarsdottir, 1993; Baumslag and Michel, 1995; Riordan, 2005) and prolonged labour, surgical deliveries and neonatal illness are also the hindrance to colostrums feeding (Joshi *et al.*, 2012). A study carried out by Motee *et al.* in 2003 stated that very less number of mothers in Mauritius started to breast feeding immediately or within few minutes after delivery whereas 39.4% mothers showed late initiation of breast feeding due to painful conditions associated with caesarean section or absence of their infants who were kept in nursery.

Therefore, caesarean delivery is significantly associated with the avoidance of colostrum in many countries like Bangladesh, India, Nepal, Pakistan, Brazil, Peru, South Africa, Tanzania (Patil *et al.*, 2015). However, some studies show that women in some parts of the world except United States, such as Thailand (Family Health Division, 1994), Pakistan (Fikree *et al.*, 2005), Nepal (Ulak *et al.*, 2012), Southern Zambia (Fjeld *et al.*, 2008) view colostrums as beneficial to their infants and in this countries colostrums feeding rate is moderately high. Similarly,

Uzbek women (Semenova, 2001), Fula and Mandinga women of Guinea-Bissau (Tsianakas and Liamputtong, 2007), women in Melbourne (Liamputtong and Naksook, 2001 a,b) believe colostrums is much more nutritious than breast milk. In Indian context, Bhale and Jain in the year 1999 reported that the practice of discarding colostrums is uncommon in various communities but existing literatures exhibited many cases of colostrums avoidance by Indian mothers reported from various regions of the country. Kumari *et al.* (1988) in their study among the urban mothers in Delhi reported that only 16.9% of infants had given colostrums and similarly, in Haryana, results were more dismal where 0.66% mothers had feed their infants colostrums as they were ignorant of its advantages (Punia *et al.*, 1997).

It has also been reported that insufficient breastfeeding is sometimes associated with the educational status of Indian mother where higher the educational status the lower the incidence of successful breastfeeding (Ghosh *et al.*, 1976; Walia *et al.*, 1974; Chowdhary *et al.*, 1978). A work done in lower economic group families in Maharashtra and Gujrat demonstrated that overall 78.8% of mothers discarded colostrums (Subbulakshmi *et al.*, 1990). After a decade also, similar result was found in the research work by Goyle *et al.* in 2004 in Jaipur city where 85.7% of mothers discarded colostrums.

In addition to that, in the year 2012, an another study was conducted among lactating women of Jammu and Kashmir demonstrated that 76% of lactating mothers threw off colostrums and surprisingly the percentage of male children receiving colostrums is higher than female children (Raina *et al.*, 2012). Further central Karnataka have shown moderately lower prevalence of colostrum feeding (29%) (Banapurmath *et al.*, 1996). These findings indicate poor interaction between health personnel and pregnant women for promoting and supporting colostrums feeding as well as prevailing practice of gender bias through preferring male child to get colostrum after birth, came into fore.

Therefore, it is clear from above discussion that the practice of discarding colostrums may be differed among women's social circumstances such as education, region of residence, contacts with western health care etc. The world wide prevalence of discarding colostrums were associated with fail to attained ANC during pregnancy, delivery at home, lack of family support, discouragement of giving colostrums by traditional birth attendance, inadequate nutritional knowledge, adherence of cultural practice etc.

These potentially harmful practices should be addressed and minimised through providing health education on importance of colostrums feeding at health care facilities at community levels along with focussing at mothers who are not attending ANC during pregnancy and do not follow up and institutional delivery services. Furthermore, the health service providers and researchers should pay attention to the caesarian babies who eventually get deprivation of colostrum after birth. Community intervention programmes should explore, address and incorporate without neglecting traditional beliefs and preferences of the community. It is recommended to health

professionals to establish linkages between traditional and modern health promotional messages for effective acceptance of new horizons towards attitudes and behaviours at community level.

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