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Breastfeeding Practices in Tribal and Caste Population of West Bengal: A Comparative Study

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Abstract: Breastfeeding has typically been studied as a discrete behaviour predicted by biological and social-cultural factors. The objectives of this study were to investigate into the pattern of and understand the knowledge and attitude of breastfeeding practices among the lactating mothers belonging to Bengali Hindu caste (BHC) and tribal groups. A total number of 167 lactating mothers were selected from Bengali Hindu caste population residing in the rural (100) and urban(40) areas of South and North 24 Parganas districts and from the tribal groups residing in rural areas (27) of Purulia district West Bengal. The selection of the study areas and of the participants was done on the basis of operational convenience. Data types include the time of initiation and duration of breastfeeding, the practice of exclusive breastfeeding, feeding colostrums and the knowledge and attitude of the mothers towards breastfeeding. Data on socio-economic information of the participants were taken as additional variable. Data were collected using semi-structured questionnaire. Trend in the results indicate that the practice of exclusive breastfeeding was lower in the Bengali Hindu caste population compared to the tribal population; feeding of colostrums is very common to the tribal mothers but not for their Bengali Hindu caste counterparts. Although the participants from both tribal and Bengali Hindu caste population were aware about the beneficial effect of breastfeeding, yet their attitude towards this behaviour varied widely.
Key words: Breastfeeding, tribal and caste population, West Bengal

Introduction

Breastfeeding is recognised as the best food source for growth and development of the infants (Ball and Wright, 1999; Renfrew *et al*., 2000; Ball and Bennet, 2001 and Hanson *et al.*, 2002), since it contains the entire nutrient and microbial factors that an infant needs to thrive (Park 2000). The World Health Organization (WHO) recommends exclusive breastfeeding for six months and continued up to two years and beyond (WHO 2001). It is estimated that globally only 35% of infants aged 0-6 months are exclusively breastfed (WHO, 2010). Late initiation of breastfeeding or not feeding of colostrums and/or lack of exclusive breastfeeding for the first six months contributes to over a million of avoidable child death each year (WHO 2011). Such practices not only reduces the adverse effect on health, but have social and economic implications for women, children, the community and environment that result in reduction of expenditure on health care provision (Cattaneo *et al.*, 2005). Various factors have been found to be associated with early initiation and duration of exclusive breastfeeding. These include socio-demographic factors (education, monthly house hold income, residential status, working status of the mothers)

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pregnancy history (parity, mode of delivery), cultural factors (beliefs, norms and attitudes of the mothers towards breastfeeding). For example, studies have shown that successful breastfeeding is related to mother's adequate knowledge, education and belief regarding breastfeeding practices (Ekambaram *et al.*, 2010; Bobhate and Shrivastava, 2012). Similarly, the practice of withholding colostrums from the infant is wide spread and is influenced by cultural attitudes and ignorance of physiology of lactation and value of colostrums (Morse *et al*., 1990; Lipsky *et al.*, 1994; Yusof *et al*, 1995; Litter, 1997; Bandhopadhay, 2009). This has become a reason to introduce pre-lacteal feedings (Edmond *et al.*, 2007).

Under these circumstances, the present work was carried out to investigate into the pattern of and understand the knowledge and attitude of breastfeeding practices among the lactating mothers belonging to Bengali Hindu caste (BHC) and tribal groups.

Materials and Methods

The present study has been conducted in the state of West Bengal, which is situated in the eastern part of India. This state is numerically dominated by Bengali speaking Hindu ethnic group. A total number of 167 participants, comprising of Bengali Hindu Caste (BHC) and tribal population were selected from three districts of this state. The BHC population was selected from both the rural (BHRC) (100) and urban (BHUC) (40) areas of South and North 24 Parganas districts; tribal population comprising of Shabars (10) and Birhors (17) were selected from a rural block of the district of Purulia. All the participants were reported to be in lactating stage with their child(ren) not less than six months of age. The rural participants were identified with the help of Auxiliary Nurse Midwives (ANM) and Accredited Social Health Activists (ASHA) and the urban participants were identified with the help of the Integrated Child Development Services (ICDS) workers. All the participants were interviewed in person with the help of well –tested schedules (open and close ended) to gather information on socio-demographic variables (mother's age, education, occupation of the mothers' and parity), history of last child birth (modes of delivery, gestational age, birth weight of the child, immunization, sex of the child), breastfeeding history (time of initiation of breast feeding, practice of pre-lacteal feeding, duration of exclusive breastfeeding) and mother's knowledge and attitude towards breastfeeding practice. Case studies were taken on mothers regarding their personal experiences, perceptions, problems and beliefs about breastfeeding initiation, colostrums and pre-lacteal feeding, duration of exclusive breastfeeding and health benefits of children and mothers regarding breastfeeding practice. In the result section data on knowledge and attitudes of the mothers have been represented in the three subsections *viz.* practice of pre-lacteal, colostrums and exclusive breastfeeding up to six months, types of complementary feeding and mother and child health benefit regarding breastfeeding practice.

Result

Table.1 Socioeconomic characteristics of the participants

Educational levels	Tribe	BHC	BHRC	BHUC
Non-literate	18(66.67)	5(3.57)	4(4.0)	1(2.50)
Can-sign only	4(14.81)		-	-
Up to primary	4(14.81)	18(12.85)	8(8.0)	10(25.0)
Up to middle	-	52(37.14)	42(42.0)	10(25.0)
Up to secondary	-	20(14.28)	20(20.0)	-
Up to higher secondary	1(3.71)	32(22.86)	25(25.0)	7(17.5)

Graduate and above	-	13(9.28)	1(1.0)	12(30.0)
Working status				
Working	15(55.56)	15(10.71)	5(5.0)	10(25.0)
Non-working	12(44.44)	125(89.28)	95(95.0)	30(75.0)

*The figures in the paranthesis indicate per centage

The socioeconomic profile of the study participants shows that majority of the participants from BHC attained education up to middle level (37.17%), followed by higher secondary (22.86%) and secondary (14.28%) levels. The tribal population mostly belongs to the non-literate category (66.67%), followed by the categories 'can sign' and 'primary level' with equal frequency (14.81%). In case of Bengali Hindu rural caste (BHRC), it was found that majority of the participants attained education category up to 'middle level' (42%) followed by 'higher secondary' (25%) and 'secondary' (20%) level. In contrast Bengali Hindu urban caste (BHUC) participants attained education up to graduation and above level (30%), followed by primary and middle levels (25%). Majority of the participants from both BHC and the tribal group were home maker. Similar trend has been observed regarding the occupational status of Bengali Hindu caste population from both rural and urban areas.

Table.2 Information related to parity and mode of delivery (in case of the last child)

Parity	Tribe	BHC	BHRC	BHUC
Primiparous	10(37.03)	96(68.57)	70(70.0)	26(65.0)
Multiparous	17(69.27)	44(31.42)	30(30.0)	14(35.0)
Modes of delivery				
Cesarean	-	80(57.14)	51(51.0)	29(72.5)
Vaginal	27(100.0)	60(42.85)	49(49.0)	11(27.5)

*The figures in the paranthesis indicate per centage

Table 2 shows that most of the BHC participants were primiparous, unlike their tribal counterpart. No case of cesarean section was found among the tribal group. However, half of the HRC had cesarean section compared to almost three fourth of HUC participants.

Table.3 Information related to feeding of colostrums, exclusive breast feeding for six months and pre-lacteal feeding (in case of the last child)

Colostrums feeding	Tribe	BHC	BHRC	BHUC
Yes	21(77.78)	93(66.42)	77(77.0)	16(40.0)
No	6(22.22)	47(33.57)	23(23.0)	24(60.0)
Exclusive breastfeeding for six months				
Yes	23(85.20)	69(49.28)	52(52.0)	17(42.5)
No	4(14.80)	71(50.71)	48(48.0)	23(57.0)
Practice of pre-lacteal feeding				
Yes	6(22.22)	34(24.28)	23(23.0)	24(60.0)
No	21(77.78)	106(75.71)	77(77.0)	16(40.0)

*The figures in the paranthesis indicate per centage

Table.3 shows that an appreciable number of participants from tribal (77.8%) and the BHC (66.42%) population practice colostrums feeding; but, when compared for residential status, the BHRC are more frequent (77%) than theBHUC (40%). Majority of the tribal population (85.2%) practice excusive breastfeeding (EBF) for the first six months compared to half of the BHC (49.28%) group. Again, half of the BHRC (52%) practice EBF compared to 40% of BHUC. Prelacteal feeding is practiced by close to one fourth of the participants from both the tribal (22.22%) and BHC (24.28%) groups. But, when compared for rual-urban Hindu caste population, the difference is very sharp; BHUC (60%) was found to be more frequently practicing pre-lacteal feeding compared to BHRC (23%). The types of pre-lacteal feed include sugar solution, honey, milk and ghee and some times glucose water and tinned (formula) milk.

Case Studies

Knowledge and attitude of the mothers towards breastfeeding practice

The cases presented below represent the knowledge and attitude of the mothers towards breastfeeding parctice. Socio- demographic information of the participants is presented serially before each case in the following order: social position, place of residence, occupational type, educational level, mode of delivery in case of the last child, age and sex of the last child.

Mothers knowledge and attitude regarding colostrum feeding pre-lacteal feeding and exclusive breast feeding: The study found that all the mothers were well aware about the usefulness of breast milk, but few of them possess knowledge regarding the early initiation of breast milk, duration of feeding and pre-lacteal feeding and time of weaning.On the other hand, public shame, feeling of discomfort, considering to remain engaged with the child for a long time, perceiving that breastfeeding interferes in sexual life were also cited as reasons that demoralize to carry on breastfeeding properly.Sometimes mothers get motivated or guided by the elderly members of the family and/or peers to discontinuing breastfeeding. The results also reveal that participants from BHC population hardly initiate or continue breastfeeding as per the recommendation of the World Health Organisation and feed their children water and/or supplementary food during the first six months. The reasons that were mostly cited by these participants include- the mode of delivery, own working status and lack of guidance from the health professionals. However, this is not the practice with the participants representing the tribal group; these people learn about exclusive breastfeeding and colostrums feeding from their elderly family members.

The following are the excerpts in support of this deduction

1. (BHC, rural area, postgraduate, teacher cesarean delivery, male child of one year age)- I neither fed colostrums nor breast milk to my child since I was drowsy during the postoperative period after the delivery of my last child. This state of mine continued for the first two to three days. However, I could not continue to feed breast milk for more than three months as I had to join my work place. So, I started feeding him tinned (formula) milk.
2. (BHC, rural area, up to class VII, home maker, cesarean delivery, female child of one and half year of age)- Initially I could not feed breast milk to my child because of my poor physical health. I was also not advised by the attending doctor and nurse to breastfeed my child. I could feed breast milk to my child three days after the delivery and that too from my own initiative.
3. (Tribe, rural area, non-literate, wood and leaf gatherer, vaginal delivery, male child of eight months)- I started feeding breast milk to my child from the first day and is continuing till today. It is believed that mothers' milk is the best for a child; and so, I

am feeding breast milk only. At this stage a child does not require water since milk itself contains it.

4. (BHC, rural area, home maker, postgraduate, cesarean delivery, male child of seven months of age)- I felt discomfort while feeding breast milk to my child. I also felt that I would be tied up with my child if I feed breast milk only. And I cannot do anything or move anywhere according to my wish. That is why I have stopped feeding breast milk exclusively and started complementary feeding to my child from four months of age.
5. (BHC, urban area, home maker, up to class X, cesarean delivery, male child of nine months)- When this child was six months old, I again became pregnant. During that time my child was taking breat milk. I was asked by my mother-in-law to stop feeding breast milk since this milk might cause loose motion of the child and might affect the health of the foetus.
6. (Tribal, rural area, wood and leaf gatherer, non-literate, vaginal delivery, female child of six months fifteen days)- I am feeding breast milk to my child from day one and continuing with the practice. But, I only feed the baby during the day hours since at night breastfeeding interferes my sex life. My husband also dislikes My child has become used to this arrangement.

Mothers' knowledge and attitude regarding complementary feeding: The present study reveals that food items like cow milk,rice, *daal* soup (a dilute preparation of pulses), smashed vegetables, biscuits mixed with hot water, cow milk mixed with health drink or health drink itself were used as complementary foodsfor the child. These foods were given to a child during post weaning period or as supplemenatry food items along with breast milk. But the use of such complementary food types varies.For example, mothers from the tribal group do not use other types of milk (of cow or goat) as complementary food; they prefer to feed biscuits soaked in warm water. The caste particpants of rural areas, on the other hand, prefer to feed cow milk along with the other supplimentary food types mentioned before. Apart from these types of food items, tinned milk (formula feed) is quite known to the participants, but the reasons behind using of such types of milk to their children widely varies from socioeconomic perspectives to mothers' concept about feeding their own milk and tinned milk.

The following are the excerpts in support of this deduction-

1. (BHC, rural area, up to class XI, home maker, vaginal delivery, male child of eight months age) - I started to feed my child tinned (formula) milk along with breast milk from the initial days. I perceived that my yield of breast milk is not sufficient to meet the hunger of my child. This practice continued for a period of three and half months. In due course, my child became so fond of tinned milk that he started refusing to take breast milk. At present my child has become totally dependent on tinned milk.
2. (BHC, urban area, graduate, lawyer, cesarean delivery, female child of one year and six months)- I have switched to cow milk due to scracity of my own milk. I thought cow milk would ratherbe better than any packet /tinned milk since I heard some chemicals are mixed with such type of milk and that are likely to affect the health of my child later.
3. (BHC, rural area, up to class X, home maker, vaginal delivery, male child one year of age)- I started to feed tinned (formula) milk to my child from the very beginning because I was struggling with the yeild of breast milk. I discussed the matter with my peer group and they advised me to switch over to tinned milk. Since then I am feeding tinned milk to my child. This gave me the satisfaction that my baby will no longer remain hungry.

4. .(BHC urban area, post graduate, working in BPO, cesarean delivery, female child of six months age)- I know that exclusive breast feeding for the first six months period is the best for a child , but I had to initiate feeding tinned milk (formula feed) because I had to join my work place within three months of delivery. I consulted the matter with my doctor. The doctor advised me to store breast milk in a container for the consumption of my child when I would be at my work place. However, I personally did not find the feed suitable for my child, since if it is not stored properly, the health of the child might be affected.
5. (BHC, rural area, up to class VIII, home maker, cesarean delivery, male child of eight months age)- I started feeding breast milk to my child on the very first day. But after one month I felt that my milk was not enough to satisfy the hunger of my child. He used to cry even after taking a complete feed. So, I started to feed tinned milk (formula feed) to the child. Now I am staisfied since my child has regained his health after taking this tinned milk.
6. (BHC, rural area, up to V, home maker, cesarean delivery, female child of eight months)- I started to feed cow milk to my child when she was only fifteen days old. My child started taking breast milk immediately after birth. But few days later my milk secretion got stopped and I had to initiate feeding cow milk to my child. Cow milk is easily available in our area and affordable to me . I have heard about tinned milk (formula feed) but my family income was not enough to avail this type of milk.
7. (Tribe, rural area, non –literate, leaf gatherer, vaginal delivery, female child of six months)- I am feeding packet milk to my baby since my body is not producing any milk. It is giving me pain but I was compelled to initiate packet milk otherwise my baby would starve.
8. (Tribe, rural area, can-sign, home maker, vaginal delivery, male child of six and half months)- In my community cow milk is not given to any lactating child. The reason is not known to me. So, I used to give vegetable soup to my child. I do not have any idea of packet milk
9. (BHC,rural area, up to X, hoemmaker, vaginal deliver, female child of one year)- I statrted feeding cow milk to my child as complementary food since she was about four months of age .After six months, I stopped giving her breast milk totally and she was fed only cow milk along with other home made foods (samshed vegetable and rice).
10. (Tribe, rural area, non-literate, wood gatherer, vaginal delivery, male child of eight months)- I am giving breast milk to my child till now as his main food. But, other than breast milk, I prefer to feed my child biscuits soaked in hot water. I never use cow milk as complementary food.

Knowledge and attitude of mothers about breastfeeding and its health benefits to mother and child: All the mothers were well aware about the beneficial effect of breastfeeding on child health however, most of the mothers has no idea about the health benefit of breastfeeding on mothers. Yet these women practice breastfeeding because they were socialised in this traditional health behaviour. The following are the excerpts in support of this deduction.

1. (BHC, rural area, home maker, up to class x, vaginal delivery, female child of six months)- .. .yes, I am aware about the health benefit of the child regarding breastfeeding practice. For example, it protects a child from from diseases, helps in nutrition. But I don’t have any idea about the benefits of breast feeding on mothers.

2. (BHC, rural area, home maker, up to class v, cesarean delivery, male child of nine months) - My child is healthy and physically fit because I fed breast milk, and this should be done by all the mothers for the good health of their children. But I do not have any knowledge regarding mothers' health benefit. What are these benefits? I have no idea!
3. (BHC, rural area, maid servant, up to class viii, cesarean delivery delivery, female child of six months)- Breastfeeding and mothers' health benefit is something new that I am hearing!. I have not received such information either from any doctor or from my family members or peer. It is well known that breastfeeding is good for child's health, so, I am continuing breastfeeding practice.
4. (BHC, urban area, teacher, postgraduate, cesarean delivery delivery, female child with one year of age)- I was told by the doctor that both mothers and children are benefited by the practice of breastfeeding. Later on I browsed internet and learnt a lot about the types of health benefits of breast feeding to children; such as breast milk protects the baby from cough and cold and other infectious diseases. Breastfeeding also protects mothers from diseases like breast and ovarian cancer.
5. (BHC, urban area, lawyer, graduate, cesarean delivery , male child with eleven months of age)- Druing my preganancy period I used to go through some magazine columns that provide information on child rearing. After going through these articles I learnt about the beneficial effect of breastfeeding to mothers. I further enriched myself with such knowledge when I again went through some websites to get more details about mother and child health benefits regarding breastfeeding practice
6. (Tribe, rural area, homemaker, can-sign, vaginal delivery, female child of seven months)- I was informed by the 'dai ma' (midwife) about the health benefits of breast milk for a child, like providing disease free health. However, I do not know anything about mother's health benefit regarding breastfeeding practice.

Discussion

Breast feeding, like female sexuality and childbirth, is the subject of considerable cultural elaboration in most societies. Stated differently, the 'nutritional uses' of breast feeding are culturally determined. It is not only conditioned by cultural patterns, but exerts a definite influence on them. The key to successful breastfeeding is information, education and communication (IEC), which should be the strategic aim to change the behaviour of the mothers towards breastfeeding practice. But, in a country like India, very few women have access to counseling services on breastfeeding and other infant feeding practices (Dadhich and Gupta, 2005).

Early breastfeeding within one hour and exclusive breastfeeding for the first six months are the key interventions to achieve Millennium Development Goal (MDG) 1 and MDG 4, which deal with reduction in child malnutrition and mortality, respectively (Bryce *et al*., 2006). In the contemporary period, the practice of breastfeeding is universal, but not widespread (WHO, 2009). Recognizing the extensive benefits of breastfeeding, the World Health Organization (WHO) recommended exclusive breastfeeding (EBF) of infants.

We carried out this research to investigate into the pattern of and understand the knowledge and attitude of breastfeeding practices among the lactating mothers belonging to Bengali Hindu caste (BHC) and tribal groups of West Bengal. The study finds differences in the practice of colostrums, pre-lacteal feeding and exclusive breastfeeding (EBF) for first six months between BHC and tribal group as well as between BHRC and BHUC. The participants from tribal community seem to be more particular with respect to the practices of colostrums feeding and

exclusive breastfeeding than their BHC counterparts. The case studies show that beside breastfeeding, the tribals have no information regarding feeding of new born; They consider breast milk as the best feed for an infant and reported to have learned this traditional health behaviourfrom their community members.. However, report of District level Health Survey-Reproductive and Child Health (DLHS-RCH) ,West Bengal revealed that the practice of coloustrums feeding is more frequently practised by the scheduled caste (SC) (61.1%) than the scheduled tribe (ST) (55.4%) population in West Bengal (IIPS, 2006). Similar caste-tribe difference has been observed with respect to exclusive breastfeeding (EBF) among the Santhals (55.13%) of Mayurvanj district, Odisha and Hindu caste population (66%) (Chakrabarty, *et al.,* 2006; Dash and Chowdhury, 2005). In contrast, a study on a group of tribal mothers of Khardi district, Maharashtra revealed that the practice of feeding colostrums (67.4%) and exclusive breast milk(84.8%) was similar to that of the our tribal study population (Bobhate and Srivastava, 2012). We found that the practice of providing pre-lacteal feeds is low among our tribal participants, compared to that of the caste population. The result is unlike the study conducted among the Hakkipikis tribe of Mysore, Karnataka (Dakshayani and Gangadhar, 2008). The present study observed that participants from BHC group prefer to feed their children cow milk as complementary food during the first six months or beyond simultaneously with the breast milk. But, the tribal participants do not feed cow milk to their infants during the first six month in spite of possessing livestock at home for which they could not cite any concrete reasons. Generally the tribal participants prefer to provide homemade food such as boiled vegetable, cooked rice and *daal* and sometime biscuits as complementary food, but not tinned (formula) milk unless prescribed by the doctors. In contrast to this findings, a study conducted among the Datogas, an African pastoralist tribe of Tanzania showed that their children simultaneously take tinned (formula) milk before completion of their six months along with breast milk (Sellen, 1998).

We did observe rural urban difference among the BHC population with respect to the practice of feeding colostrums, pre-lacteal and exclusive breast milk. Majority of the BHRC participants frequently practised colostrums and exclusive breastfeeding compared to BHUC. Similar type of difference has been observed from a study conducted in Tanzania (Mosha *et al.,* 1998). Present study also corroborates with the report of DLHS-RCH and National Family and Health Survey-3 (NFHS-3) (West Bengal) as well as a study from Darjeeling district, where rural mothers of Hindu caste were found to be practicing colostrums feeding more frequently than their urban counter part (IIPS 2006; IIPS and MACRO, 2007; Ram *et al.,* 2000). Contradictory to these findings, studies in rural Punjab (Garg, *et al.,* 2010) and Bangladesh (Holman and Grimes, 2001) reveal low frequency of colostrums feeding. Factors like caesarean delivery and working status of mothers were cited as primary reasons for the inability to practice EBF by the BHUC study participants. In case of caesarean delivery, generally the mothers remain indisposed for the first few days and hence the new born is given tinned (formula) milk. Such is the reason cited by another study from Nepal (Pandey *et al.,* 2006)).Insufficiency of breast milk is another reason cited by some of our BHC participants; this finding corroborates with the finding from a study on industrial labour of Nepal (Moffat, 2002) as well as on the homemakers of Hyderabad city (Reddy,1995). Our study also found BHRC and tribal participants did not discuss about the feeding of complementary and/or supplementary food items with any health professional, unlike BHUC participants.

Knowledge, attitude and practices towards breastfeeding play an important role in the promotion of this behaviour. A study from Puduchery shows that knowledge, attitude and practice of the mothers towards breastfeeding are far from the satisfactory level (Ekambaram *et al.,* 2010). Our study revealed that mothers were well aware about the usefulness of breastfeeding practice and most of them claimed to have the knowledge about the recommendation made by the health pro-

fessionals (doctor, nurse) and other government health workers (ASHA, ANM and ICDS) towards breastfeeding practices. However, such information seems to have not been translated into practice. Lack of proper support from family members and/ or guidance from the health professionals could be the probable reason. Information from case studies revealed that some of the educated BHUC participants possess knowledge regarding the relationship between breastfeeding practice and mother's health benefit.

We conclude from this preliminary study that the practice of exclusive breastfeeding was lower in the Bengali Hindu caste population compared to the tribal population; feeding of colostrums is very common to the tribal mothers but not for their Bengali Hindu caste counterparts. Although the participants from both tribal and Bengali Hindu caste population were aware about the beneficial effect of breastfeeding, yet their attitude towards this behaviour varied widely. Future studies needs to be conducted on a larger number of participants representing tribal and Hindu caste population who are residing in the same ecological region to investigate into the practice of breastfeeding practices from the perspective of tribe-caste continuum. Few other areas that need to be explored could be the attitude of the spouses of women towards breastfeeding and the interaction between the new mothers and the health professionals related to infant feeding practices using participant observation technique.

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