

## **CHAPTER VI**

### **INFANT FEEDING PRACTICES AMONG HIV POSITIVE WOMEN**

## 6.1. Introduction

Infant feeding practices have significant effects on both mothers and children. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of children. Breast feeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides important nutrients but also protects them child from infection. The timing and type of supplementary foods introduced in an infant's diet also have significant effects on the child's nutritional status. The Government of India recommends that initiation of breast feeding should begin immediately after childbirth, preferably within one hour (Ministry of Women and Child Development, 2006). Early initiation of breast feeding is encouraged for a number of reasons. Mothers benefit from early sucking because it stimulates breast milk production and facilitates the release of oxytocin which helps the contraction of uterus and reduces postpartum blood loss. The first breast milk (colostrums) is highly nutritious and has antibodies that protect the newborn from diseases. Late initiation of breast feeding not only deprives the child of valuable colostrums, but becomes a reason for introduction of prelacteal feeds (that is, something other than breast milk) like glucose water, honey, ghutti, animal milk, or powdered milk that are potentially harmful and contribute to diarrhoea in the newborn.

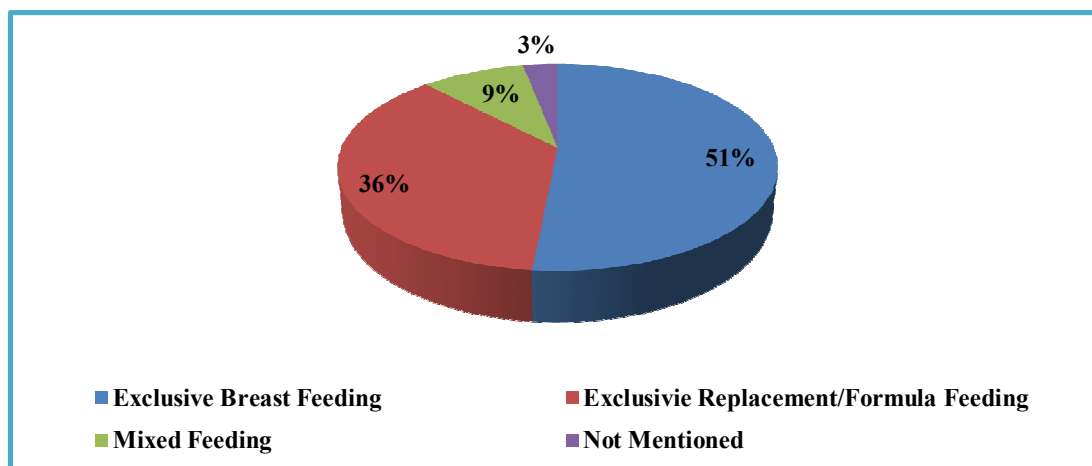
As per the national pediatric guidelines, exclusive breast feeding is recommended for all infants for first six months of their life. After that complementary foods should be introduced for infants. Only in situations where breast feeding cannot be done (like maternal death, severe maternal illness, etc.) or individual mother's choice, exclusive replacement feeding may be considered. Mixed feeding should never be done within the first six months (giving breast feeds and replacement feeds simultaneously). Exclusive replacement feeding should be done only when AFASS criteria are fulfilled (Source: *PPTCT guidelines 2011*, NACO). This chapter tries to explore the intention of feeding practices among HIV positive mothers with their background characteristics and challenges of feeding practices faced by HIV positive mothers.

## 6.2. Intention of infant feeding practices

Infant feeding practices of HIV positive mothers is the prime factor which contributes to improvement of health of children. During HIV counselling, infant feeding methods were elaborated by the counsellor, i.e., exclusive breast feeding, exclusive replacement feeding and mixed feeding. In exclusive breast feeding, infants are not provided any other food or drink, and not even water with the exception of prescribed medicines in the first six months of age. In exclusive replacement feeding, a child does not receive breast milk with a diet that provides all the nutrients the child needs until the child is fully fed on family food. Mixed feeding is the breast feeding with the addition of fluids, solid feeds and non-human milk in the first six months of age. As per the national guidelines, exclusive breast feeding is recommended for the first six months of age and exclusive replacement feeding is recommended when AFASS criteria are fulfilled. Mixed feeding is not recommended at all as a feeding practice.

During the interview, intention of feeding practices has been assessed. HIV positive women were asked their intentions for feeding practices. Of the total HIV positive women, (51 per cent) intended for breast feeding. On the contrary, (36 per cent) intended for replacement/formula feeding while another 9 per cent chose breast feeding with some solid and semi-solid foods and formula feeding along with breast feeding (mixed feeding). More awareness on the appropriate feeding practices should be created through awareness campaign, advertisement on mass media, training and sensitization programme to curb the situation.

**Figure 6.1 Intention of infant feeding practices of HIV positive women (N=152)**



Source: Computed from the primary data.

### 6.3. Reasons for exclusive breast feeding

Table 6.1 shows the percentage of HIV positive women who reported different reasons for exclusive breast feeding. During the counselling, every pregnant woman was advised about infant feeding. She was asked her intention behind infant feeding practices and reasons for choosing particular feeding practices. The reason most commonly agreed to by HIV positive women for exclusive breast feeding was “Expenses involved in formula feeding” (82 per cent), followed by “Advised by health care professional” (65 per cent). The reasons least agreed with were “To avoid transmission to child” (58 per cent) and “Fear of suspicion in the family/relatives” (56 per cent).

**Table 6.1 HIV positive women’s reasons for exclusive breast feeding (N= 78)**

<b>Particulars</b>	<b>Per cent</b>
Fear of suspicion in the family/relatives	56.3
Expenses involved in formula feeding	82.4
To avoid transmission of HIV to child	57.9
Advised by health care professional	64.6
Others	42.3

Source: Computed from the primary data.

### 6.4. Intention of breast-feeding and formula/replacement feeding

The present study analyzes infant feeding option of HIV positive women across their background characteristics. HIV Positive women attending the health care facilities chose either breast-feeding or replacement feeding as the most preferred milk for their infants. For the 152 HIV positive women, after having gone through group education and counselling as well as the more intensive post-test counselling, about 78 (51 per cent) stated their intention to breastfeed and 55 (36 per cent) formula/replacement feed and breast feed with some solid foods or formula feed along with breast feed (9 per cent), leaving (3 per cent) undecided.

In order to understand the background characteristics of HIV positive women who intended breast-feeding and formula/replacement feeding, bi-variate analysis was done (Tables 6.2 and 6.3). Table 6.2 illustrates the intention of breast feeding practices of HIV positive women with their background characteristics. It is found that increase in age and income of the family was adversely related to the intention of breast feeding. Association of feeding practices with monthly family income is statistically significant. Looking at the other background characteristics, it is found that HIV positive women who lived in a joint

family were more prone to practise breastfeeding with the association being statistically significant. The HIV positive women who did not disclose their HIV positive status to their husbands or in-laws were less likely to opt for breastfeeding.

**Table 6.2 Infant feeding intentions (willing to breast feed) of HIV positive women by background characteristics (N=152)**

Background characteristics	Willing to breast feed	
	Yes	No
<b>Age</b>		
24 years & below	54.2	45.2
25 to 35 years	36.8	63.2
<b>Place of residence</b>		
Rural	59.2	40.8
Urban	39.7	60.3
<b>Education</b>		
Illiterate	45.5	54.5
Primary and upper primary	62.4	37.6
Secondary and above	42.4	57.6
<b>Family type *</b>		
Nuclear	45.3	54.7
Joint	61.6	38.4
<b>Occupation of the respondent</b>		
Housewife	64.6	35.4
Wage labourer	53.4	46.6
Others	42.8	57.2
<b>Income of the family **</b>		
Below Rs. 2000	69.4	30.6
Rs. 2000 to 5000	54.8	45.2
Above Rs. 5000	36.3	63.7
<b>Received infant feeding counselling</b>		
Yes	61.4	39.6
No	38.2	61.8
<b>Received ARV/Sd NVP</b>		
Yes	34.5	65.5
No	66.4	33.6
<b>Test report disclosure to the husbands or in-laws *</b>		
Yes	45.6	54.4
No	70.2	29.8
<b>Total</b>	51.6	48.3

*N=78, Chi-square level of significance. \*10%, \*\* 5% and \*\*\*1%.*

Source: Computed from the primary data.

**Table 6.3 Infant feeding intention (willing to formula/replacement feeding) of HIV positive women by background characteristics (N= 152)**

Background characteristics	Willing to formula feed	
	Yes	No
<b>Age</b>		
24 years & below	24.6	75.4
25 to 35 years	38.3	61.7
<b>Place of residence**</b>		
Rural	40.1	59.9
Urban	66.4	33.6
<b>Education*</b>		
Illiterate	32.4	67.6
Primary and upper primary	45.3	54.7
Secondary and above	51.2	48.8
<b>Family type</b>		
Nuclear	40.4	59.6
Joint	33.2	66.8
<b>Occupation of the respondent</b>		
Housewife	33.2	66.8
Wage labourer	51.3	48.7
Others	31.5	68.5
<b>Income of the family***</b>		
Below Rs. 2000	18.2	81.8
Rs. 2000 to 5000	34.5	65.5
Above Rs. 5000	68.5	31.5
<b>Received Infant feeding counselling**</b>		
Yes	54.8	45.2
No	34.6	65.4
<b>Received ARV/Sd NVP**</b>		
Yes	45.4	54.6
No	34.1	65.9
<b>Test report disclosure to the husbands or in-laws***</b>		
Yes	52.1	47.9
No	29.6	70.4
<b>Total</b>	<b>40.9</b>	<b>59.0</b>

*N=55, Chi-square level of significance. \*10%, \*\* 5% and \*\*\*1%.*

Source: Computed from the primary data.

Intention of formula/replacement feeding is illustrated in Table 6.3. HIV positive women with more education, higher family income and staying in urban areas intended for formula/replacement feeding and these associations were statistically significant. The HIV

positive women who stayed with joint family were less likely to opt for formula feeding. Likewise, the HIV positive women who received infant feeding counselling, received ARV prophylaxis and disclosed their HIV positive status were more likely to opt for formula/replacement feeding.

The responses indicated that HIV positive women were confused about the best way to feed their newborns because of the possible social repercussions of formula feeding and they wanted to consult doctors, counsellors, husbands or family members before making any decision. This suggests that positive or prolonged interaction with the counsellors and satisfaction derived from the care of the hospital had an impact on minimizing women's desire of mixed feeding and made them prefer replacement feeding as when the AFASS conditions were met or exclusive breast feeding done. That may also be understood as a positive effect of counselling in the PPTCT programme.

#### **6.5. Factors associated with intention of feeding practices**

Table 6.4 illustrates the various factors associated with Exclusive Replacement Feeding (ERF). Odds ratio with 95% confidence interval was computed to assess the presence and degree of association between variables. Logistics regression model was also applied to identify the important determinants for various feeding options. In addition, standard tabulations were generated in which the outliers were identified. A p-value of below 0.05 denoted significance in differences. As shown below, educational status, family income, disclosure of HIV status to husbands and in-laws were associated with ERF ( $p < 0.05$ ). Nonetheless, in the hierarchal models, only household income and disclosure of HIV status to spouses retained their association as predictors. HIV positive women with household income of more than Rs. 2000 to Rs. 5000 were twice more likely to practise ERF than the reference group (OR=2.2, 95% CI=1.0-4.5) and those who disclosed their HIV status to their spouses were 3.8 times more likely to apply ERF than their counterparts (OR=3.8, 95% CI=1.9- 7.1).

Table 6.5 shows the various factors associated with Exclusive Breastfeeding (EBF). As displayed above, place of residence, education, knowledge of PPTCT and awareness of infant feeding options were associated with EBF ( $p < 0.05$ ). The HIV positive women aware about different feeding options were 80 per cent less likely to practise EBF than those who were not aware of it (OR=0.2, 95 per cent CI=0.1- 0.7).

**Table 6.4 Factors associated with intention of exclusive replacement feeding among HIV positive women (N= 55)**

Particulars	Exclusive replacement feeding	COR	AOR
<b>Place of residence</b>			
Rural <sup>(R)</sup>	58.7	1	1
Urban	40.6	0.6 (0.3,0.9)*	0.6 (0.3,1.1)
<b>Age of respondent</b>			
24 years & below <sup>(R)</sup>	46.7	1	1
25 to 35 years	50.0	1.18 (0.49,2.81)	1.9 (0.5,7.4)
<b>Social group</b>			
STs/SCs <sup>(R)</sup>	58.8	1	1
OBCs	40.6	0.5 (0.2,1.1)	0.3 (0.1,1.0)
General	33.3	0.79 (0.07,8.84)	0.4 (0.0, 6.9)
<b>Religion</b>			
Hindu <sup>(R)</sup>	34.8	1	1
Others	49.6	1.82 (0.75,4.44)	1.9 (0.5,7.4)
<b>Educational status of respondent</b>			
Illiterate <sup>(R)</sup>	27.7	1	1
Primary & UP	56.3	3.36 (1.74,6.49) **	0.9 (0.3,2.5)
Secondary and above	77.4	7.51 (2.84,19.82) **	1.3 (0.3,5.9)
<b>Occupation of respondent</b>			
Housewife <sup>(R)</sup>	46.8	1	1
Wage labourer	34.8	0.62 (0.25,1.51)	2.7 (0.6,11.3)
Others	45.5	0.96 (0.5,2.0)	1.31 (0.4,4.8)
<b>Family income</b>			
Below Rs. 2000 <sup>(R)</sup>	38.6	1	1
Rs.2000 to 5000	57.4	2.06 (1.26,3.37)**	2.2 (1.0,4.5)*
Above Rs. 5000	78.3	5.73 (2.05,16.04)**	1.8 (0.4,7.3)
<b>Type of family</b>			
Nuclear (R)	41.5	1	1
Joint	50.8	1.42 (0.92,2.21)	0.7 (0.3,1.3)
<b>Disclosure of HIV status to spouses and in-laws</b>			
No	31.3	1	1
Yes	59.3	3.46 (2.14,5.62)**	3.6 (1.9, 7.0)**
<b>Infant feeding option awareness</b>			
No	35.0	1	1
Yes	47.6	1.66 (0.65,4.28)	1.1 (0.3,4.1)

Note: \*P value < 0.05; \*\* P value <0.01.

Source: Computed from the primary data.



**Table 6.5 Factors associated with intention of exclusive breast feeding among HIV positive women (N=78)**

<b>Particulars</b>	<b>Exclusive breast feeding</b>	<b>COR</b>	<b>AOR</b>
<b>Place of residence</b>	35.2	1	1
Rural <sup>(R)</sup>	7.2	0.14 (0.05,0.41)**	0.2 (0.1,0.7)*
Urban			
<b>Age of respondent</b>			
24 years & below <sup>(R)</sup>	32.4	1	1
25 to 35 years	30.7	0.94 (0.54,1.65)	1.1 (0.5,2.4)
<b>Social group</b>			
STs/SCs <sup>(R)</sup>	32.9	1	1
OBCs	33.3	1.0 (0.49,2.06)	0.8 (0.3, 2.7)
General	24.2	0.6 (0.3,1.5)	0.8 (0.2,3.5)
<b>Religion</b>			
Hindu <sup>(R)</sup>	33.3	1	1
Others	50.0	2.00 (0.76,5.27)	6.1 (0.8, 45.5)
<b>Educational status of respondent</b>			
Illiterate <sup>(R)</sup>	41.5		
Primary & UP	32.9	0.45 (0.23,0.86)*	0.8 (0.3,2.4)
Secondary and above	20.3	0.15 (0.04,0.55)**	0.5 (0.1,3.2)
<b>Occupation of respondent</b>			
Housewife <sup>(R)</sup>	32.9	1	1
Wage labourer	33.3	1.0 (0.49,2.06)	0.8 (0.3, 2.7)
Others	24.2	0.6 (0.3,1.5)	0.8 (0.2,3.5)
<b>Family income</b>			
Below Rs. 2000 <sup>(R)</sup>	36.2	1	1
Rs. 2000 to 5000	23.4	0.57 (0.33,0.99)*	0.6 (0.3,1.3)
Above Rs. 5000		0.17 (0.04,0.74)*	0.7 (0.1,4.0)
<b>Type of family</b>			
Nuclear(R)	32.7	1	1
Joint	21.3	0.5 (0.3,1.1)	0.79 (0.3,1.6)
<b>Disclosure of HIV status to spouses and in-laws</b>			
No	36.7	1	1
Yes	25.4	0.64 (0.39,1.05)	0.6 (0.3,1.2)
<b>Infant feeding option awareness</b>			
No	40.0	1	1
Yes	30.0	0.14 (0.05,0.41)**	0.2 (0.1,0.7)*

Note: \*P value < 0.05; \*\* P value <0.01.

Source: Computed from the primary data.

## **6.6. Impact of socio-demographic and other characteristics of infant feeding practices of HIV positive women**

The Joint United Nations Programme on HIV/AIDS (UNAIDS) and two of its partners (UNICEF and WHO) recommends that HIV-infected mothers should avoid breast feeding only when replacement feeding is affordable, feasible, acceptable, sustainable and safe (AFASS). Non-breast-fed children born to HIV positive women are at less risk of illness and death only if they can be ensured uninterrupted access to nutritionally adequate breast milk substitutes that are safely prepared (UNAIDS/WHO, 1998). National PPTCT guidelines also suggest that exclusive replacement feeding should be done only when AFASS criteria are fulfilled (Source: *PPTCT guidelines 2011*, NACO). Concurrently, mixed feeding is not to be done during the first six months of life, i.e., (not to give it along with any other milk (tinned formula food, cow milk or diary milk), liquids, juices, or even water (NACO, 2011). Exclusive replacement feeding (ERF) can reduce HIV-transmission but is also associated with morbidity related to diarrhoea and respiratory infections. Exclusive replacement (formula) feeding is the most widely used and effective method to prevent MTCT of HIV through breast feeding in resource-rich settings and is recommended in situations in which this is AFASS (Nduati et al., 1994; Embree, et al., 2000; Anthena et al., 2007). In view of the above, those HIV positive mothers who practised exclusive breastfeeding or exclusive replacement feeding are the recommended feeding practice and they are not recommended mixed feeding practices..

The impact of socio-demographic characteristics of infant feeding practices recommended (exclusive breast feeding and exclusive replacement feeding) and non-recommended practice (breast feeding with solid other food and replacement food with breast milk) is illustrated in Table 6.6. In logistic regression, residential status, education, type of family, disclosure of HIV status with their spouses and family members were found to have association ( $p$ -value  $< 0.05$ ) for those who intended the recommended way of infant feeding practices (EBF and ERF) with  $COR = 4.98$  (95% CI = 1.77-14.01),  $COR = 3.13$  (95% CI = 1.09-8.91)  $COR = 29.36$  (95% CI = 2.91-296.4). In multivariate analysis, disclosure of HIV status to their spouses and family members, family income and type of family were found to be independently associated ( $p$ -value  $< 0.05$ ) with the recommended way of infant feeding practices (EBF and ERF)  $AOR = 7.74$  (95% CI = 1.1-53.97),  $AOR = 0.14$  (95%CI = 0.03-0.65),  $AOR = 14.63$  (95%CI = 1.36-156.40). Mothers who disclose their HIV status to spouses were 7.7 times more likely to have recommended

ways of infant feeding practices. Disclosure of HIV status influenced infant feeding options of HIV positive women when their partners were aware of their HIV status and involved in the decision (Mohammad A et. al, 2010). Having disclosed their status might have brought psychological benefits as they did not have to hide doing formula feeding. Educated women were 14.6 times more likely to have the recommended way of infant feeding practice than illiterate women.

**Table 6.6 Impact of selected socio-demographic characteristics on infant feeding practices of HIV positive women (N=152)**

Socio-demographic characteristics	Intention of infant feeding practice		OR (95% CI)	
	Recommended	Not recommended	Crude	Adjusted
<b>Age</b>				
24 years & below	82.4	17.6	1	1
25 to 35 years	93.2	6.8	.34 (.10-1.14)	.22 (0.4-1.18)
<b>Place of residence</b>				
Rural	69.6	30.4	1	1
Urban	89.9	8.1	4.98 (1.77-14.01)*	2.26 (.47-10.88)
<b>Religion</b>				
Hindu	85.0	15.0	1	1
Others	89.9	10.1	1.57 (.42-5.88)	2.50 (.43-14.49)
<b>Education</b>				
Illiterate	88.7	11.3	1	1
Primary & UP	89.0	11.0	2.45 (.53-11.3)	14.63 (1.36-156.4)*
Secondary and above	91.1	8.9	1.30 (.373-4.55)	2.80 (.483-16.23)
<b>Family income</b>				
Below Rs. 2000 <sup>(R)</sup>	82.1	7.9	1	1
Rs. 2000 to 5000	92.7	7.3	1.15 (.24-5.47)	1.60 (.23-10.95)
Above Rs. 5000	91.2	4.3	1.51 (.32-7.14)	3.73 (.52-26.32)
<b>Type of family</b>				
Joint	90.8	9.2	1	1
Nuclear	79.2	20.8	38 (.12-1.16)	.14 (.03-.65)*
<b>Disclosure of HIV status to spouses and in-laws</b>				
No	76.9	23.1	1	1
Yes	91.2	8.8	3.13 (1.09-8.91) *	7.74 (1.11-53.97) *
<b>On ART</b>				
No	90.1	9.9	1	1
Yes	89.1	10.9	.89 (.34-2.31)	93 (.28-3.07)

*Note:* Total number of HIV positive women 152; ® reference category.

*Significant at: \*p<0.01, \*\*p<0.05; \*\*\*p<0.001.*

Source: Computed from the primary data.

## **6.7. Challenges of infant feeding practices among HIV positive women**

We have observed that half of the HIV positive women (51 per cent) intended to exclusive breast feeding, 33 per cent exclusive replacement feeding and nearly one-tenth (9 per cent) breast feeding mixed with some solid and semi-solid foods.

To understand the actual feeding practices, interviews were conducted with 40 HIV positive mothers from the sample (Thirty-three positive mothers from selected hospital of Ganjam district, five from selected hospital of Khordha district and two from selected hospital of Cuttack district) to know their feeding practices. In-depth interviews were conducted with the respondents who came to the hospitals during post-natal check-up. The respondents were between 18 to 32 years of age. All the positive mothers had undergone infant feeding counselling during antenatal care and there was regular follow-up by health care providers and out-reach workers. In-depth interviews were conducted to know their infant feeding decisions and reasons for choosing the specific feeding practices, disclosure of their HIV status and barriers relating to the feeding practices.

Of all the HIV positive women, 24 HIV positive women were from rural areas and remaining 16 from urban areas. All the HIV positive mothers were married and had at least primary education. Of them, 18 positive mothers lived in joint families (with in-laws), eight with their parents and 14 in nuclear families. Out of them, 10 mothers worked as daily labourers or did other work. Of them, 16 women disclosed their HIV positive status to either their husbands or in-laws, while the remaining women did not disclose it to anyone. Among them, 22 HIV positive mothers practised exclusive breast feeding, 14 reported replacement feeding (of whom eight reported feeding their infants with cow milk) and four reported feeding breast milk with some solid and semi-solid foods.

In this connection, these following five cases emerged as ‘representative’ in the sense that they faced major challenges in making a choice of feeding method and handling it.

### **6.7.1. Exclusive breast feeding**

The HIV positive women who opted for exclusive breast feeding and reported that they had undergone infant feeding counselling after delivery received the single dose of Nevirapine for themselves and their babies. The national guidelines suggest exclusive breast feeding for the first six months (and its continuation with introduction of complementary feeding thereafter) (PPTCT guidelines, NACO). HIV positive women who

chose exclusive breast feeding did not disclose their HIV positive status to their in-laws and relatives. Fear of disclosure of HIV positive status, economic condition/income of the family and discrimination by the community were major considerations influencing the choice of feeding practices.

**Box 6.1. Case-1 Exclusive breast feeding for six months**

X' is 26 years old, married and lives with her parents-in-laws. She has two children Kattu village *which is* a few kilometres from Berhampur town. She is a housewife and her husband is working as a supervisor in a garments factory at Surat, Gujarat. She has completed fifth standard in her village and can read and write. When she tested HIV positive during her second pregnancy, she was shocked. As per counsellor's advice, she brought her husband to the ICTC centre for HIV testing in Ganjam district. After testing, her husband was also found to be HIV positive. Both have received HIV as well as infant feeding counselling. The counsellor had also briefed them about the risk of HIV transmission by different feeding practices. After counselling, they decided to go for exclusive breast feeding for six months. When asked the reasons for choosing exclusive breast feeding, she replied that if she went for replacement feeding, she would have to reveal her condition to her in-laws. She sadly said, "What reasons could I give to my in-laws and relatives for not breast feeding the baby (*Mu mo sashu, sashura and anyamananku kana kahibi*). " Hence, she was determined to keep her condition secret and opted to continue exclusive breast feeding for six months. She may also feared discrimination by their relatives and community. In her own words, "*Mu jadibaharu Amul kimba gaikhira khaibaku diye, mora sashu mo upare doubt karibe. Mu jadi mora roga bisayre kahe, mote gharu kadidei paranti. Amara relative mane Madhya amaku basanda kariparanti*".

**Box 6.1. contd..**

During the interview, she explained that her mother-in-law insisted on giving water and honey to the baby at least once a day because, she said, milk alone doesn't quench the baby's thirst. But 'X' carefully avoided giving water to the baby. She worried about how her mother in-law would react if she discovered her disobedience and she could not prevent her mother-in-law from giving the baby water in her absence. She also mentioned that she had started losing weight. She is increasingly getting anxious that people might suspect her of being HIV positive. Simultaneously, the baby started to cry more and was uneasy at night. Her husband suggested that the baby be given feed mixed with cow milk. After three months, she decided to discontinue breast feeding. She left for her mother's home, disclosed her condition to her mother and stayed with her for the next three months. When she came back, the child was six months old and went to hospital for post-natal check-up and was tested HIV negative. Now she is happy with her husband and in-laws.

**Box 6.2. Case-2 Exclusive breast feeding for six months**

'A' is a 29 years old married women living in a joint family. Her family consists of her husband, father- and mother-in-law, sisters-in-law, and brothers-in-laws. She resides in a village near 'Buguda NAC' which is 50 kilometres away from Berhampur Municipal Corporation of Ganjam district. She and her husband studied up to tenth standard. They work as daily labourers in Buguda and Berhampur. This is her first pregnancy and she was identified as HIV positive. She and her husband undergone breast feeding counselling and chose exclusive breast feeding. She did it for two months. When asked about her feeding choice, she replied that she had not disclosed their health status to her in-laws. She said, "If I don't breastfeed my baby my family members and other relatives may think that I have a lover and they will not respect me". She also added that they are daily labourers and don't have money to purchase milk outside. (*"Mu jadi mo khira na pia, mora sashu ghara loka and smparkiya mane bhabibe je mora kiye premika achibali, aau mote semane hina mane karibe"*). She also admitted that she can't afford formula feeding (*"Ame ta dhanighar nuha, ame kemiti Amul kemiti piaybu"*, *epariki ame ta khati mazuria loka, kama kale khaibu, ta pare ete paisa kuade anibu"*).

**Box 6.2. Case-2 contd...**

She stated that doctors advised her breast feeding for six months with complementary feeding thereafter. She gave a dose of nevirapine to the baby soon after her delivery. She has revealed that they do not have safe drinking water facilities at their household and they go to a school which is far from her home to collect the water. When she came to the ART centre, the baby was tested HIV negative.

**Box 6.3. Case-3 opting for abrupt cessation of breast feeding after three months**

'H' is a 32 year old housewife living in Cuttack. She left a primary school and has two children. She has no regular income. During her last pregnancy, she tested positive for HIV and was counselled on infant feeding. She became confused but finally decided to breast feed because, as she put it, "Breast feeding is the only way to feed an infant". She did not tell anybody about her HIV status and lived in constant worry that people might find it out. After the delivery, her mother came to stay with her to help her with household chores. She had planned to abruptly stop breast feeding after three months as advised by the counsellor in order to avoid 'mixed feeding' and immediately introduce infant formula. She was concerned about doing this without drawing attention. She prepared herself well for the morning when the child was three months old. She bought infant formula, but hid it carefully so that no one would find it and start asking questions. In particular, she was worried about her mother who was constantly around in the house, and who she knew would become upset to find her daughter not breast feeding her grandchild. On the critical day of transition, she got up early in the morning to prepare the bottle and to smear her nipples with garlic to discourage her child from suckling. When the baby woke up, he was hungry and sought for the breast as usual. She took the baby in her arms and put the bottle carefully into his mouth while she prayed to God. But the baby refused to suck from the bottle and started screaming. Alerted by the continued screaming of the baby, her mother and neighbours came to ask what was wrong. They enquired why 'H' did not put the child to her breast to comfort it. The child continued to scream, and angered by the situation, her mother suddenly rushed over to her daughter, pulled her clothes aside and put her mouth around the nipple. She was furious when she tasted the garlic and shouted at her daughter for refusing to feed her grand child properly.

**Box 6.3. Case 3. Contd....**

She was accused of being more concerned about her own physical shape than about the health of her baby., She was also accused of having a relationship with another person. This was more than she could take, and so she resumed breast feeding to the comfort of her child and family. But as she said, “I feel very shameful. People have started gossiping about me – they suspect that I stopped breast feeding because of extra-marital relations. Therefore, I cannot mention the use of condoms to my husband anymore. I am very worried about the health of my baby now. I would have been better off not knowing”. She had not tested her baby yet.

**6.8. Exclusive replacement feeding**

Among the 14 women who chose replacement feeding (Formula feeding and cow milk), ten disclosed their HIV positive status to their spouses and in-laws and the remaining had not disclosed it to anyone. Of them, five worked as daily labourers. Their husbands were working somewhere or the other. For these women the risk of HIV transmission to the baby through breast feeding, maintenance of their own health and access to replacement milk provided important conditions of choice. These women responded that through replacement feeding they could prevent transmission of HIV infection to their babies which they did not want. An HIV positive mother observed, “I am infected with HIV and I don’t want to transfer the virus to my baby”(Mote HIV haichi, mu chiyini, mo pila ku ehi roga hau”-). She continued, “At the same time, I am worried about my health” (*Mu mo swastya pain chinta re achi*). Of the HIV positive women who chose to feed cow milk, five owned cows and three did not have them. The latter set of women said that they chose cow milk because their neighbours sold it at cheaper prices. Another reason which they gave was that they wanted their babies to be healthy. Some of them also recalled the health care provider’s advice that virus could be transferred from mother to child through breast milk.



**Box 6.4 Case-4 opting for formula feeding (top feeding)**

‘S’ is 29 years old. She has completed primary school, is married and lives in a semi-urban area with her husband and two children in Cuttack district. Her older daughter is in IV standard. She is doing petty trading and her husband is a truck driver. During her second pregnancy, she tested positive for HIV. She immediately informed her husband and brought him for the test. He also tested HIV positive. As advised by health care providers, she brought her elder daughter for the test but found HIV negative. After infant feeding counselling, she opted to go for formula feeding. When asked for reasons for it, she responded, “I don’t want to breastfeed my son because I love him very much”. When asked about the household environment, it was revealed that they live in a slum. She also stated that they do not have safe drinking water facilities. To quote her, “*We don’t have drinking water facilities in our household compartment. I need to go far to bring water*” (*Ama ghare pieba pani ra thik se subidha nahi, mote pani aniba ku bahut bata jibaku hue*). When asked about different feeding formulae and a what she had given to the child before coming to the hospital, she said that generally her husband brought “Omfed” milk for the baby. Previous night the baby woke up and started crying because of hunger. She gave him juice and honey. Every fortnight she went to the hospital for health check-up and was in regular touch with the counsellor.

The respondent does not maintain the AFASS criteria which are important for adopting the replacement feeding. During the survey she said that the baby could have been in better health if she had been able to breastfed him.

**Box 6.5. Case-5 opting for cow milk feeding**

‘A’ is 28 years’ old. She has two children and her husband works in Surat. He does not have regular income. She has tested positive in her first pregnancy. Her husband was also tested positive. She stays with her in-laws in a village in Khordha district. She has access to health care services at the selected health facility of Khordha district. They have three cows and also supply milk to others in their community. She was counselled on infant feeding and advised to avoid breast feeding. Since she has access to cow milk, she decided to feed her baby modified cow milk. She shared her HIV status with her younger sister and planned to feed her baby cow milk in secrecy without the knowledge of her parents in-laws and others. .

**Box 6.5. Case 5 Contd..**

After milking the cows, she put some milk aside for the baby, hiding it in her room. Although she had completed seventh standard, she was uncertain about the preparation and storage of cow milk. She could not remember what the counsellor had told her and had no written information about the procedure to follow. She mixed the milk with water in equal amounts, and kept the milk in a thermos throughout the day. When she went to follow up at the health facility, counsellor told her that baby did not gain weight well. She was very much worried about the health of her baby. She felt guilty for not breast feeding him, and thought that the lack of breast milk could be the reason for his poor weight gain.

**6.9. Mixed feeding practices**

The National and International HIV and infant feeding guidelines recommend that HIV positive women should either breastfeed exclusively their babies or use replacement feeding, and strongly discouraged mixed feeding. Mixed feeding has been found to increase the HIV transmission risk substantially more than exclusive breast feeding (Coovadia et al., 2007; Iliff et al., 2005; Coutsooudis et al., 1999). Though majority of HIV positive women intended for exclusive breast feeding or replacement feeding, but their practise changes in a course of time. In this study, mixed feeding for women who primarily breast-feed is defined as giving breast-milk other non-breast-milk foods. Mixed feeding for HIV positive women who primarily replacement/formula feed is defined as giving breast-milk to supplement the replacement/formula feeds. During the qualitative interview, it has been noticed that four HIV positive mothers practising the mixed feeding practices. A case of HIV positive mother is given below.

**Box 6.6. Case-6 Mixed Feeding Practice**

'M' is 29 years old living with her in-laws living in Berhampur (Ganjam district). Her husband is a daily labourer working in cotton industry in Surat, Gujarat. She and her husband were found to be HIV positive in the first pregnancy. During the counselling session, she was informed about different feeding options and the risk of HIV transmission. She expressed her intention of replacement feeding. They have not disclosed their HIV positive status to their relations. When asked the reasons for mixed feeding, she said, "I started breast-feeding because my husband lost his job and came to Odisha. We have consulted a counsellor about other feeding practices.

**Box 6.6. Case-6 contd...**

The counsellor told me to breast-feed for four months. I give plain water, sugar water, honey and herbal preparation along with breast milk”. Giving reasons for feeding practices, she explained, “My in-laws (both mother- in-law and sister-in-law) forced me to breastfeed my baby. Under their pressure I started breast feeding my baby. Nobody at our home knows about my HIV status”. When my child cried during night, my husband suggested breast-feeding but we do replacement feeding during the day when nobody is at home.”

**6.10. The context of choice**

The findings presented above suggest that the recommended feeding options may be difficult to adhere to whether a mother chooses exclusive breast feeding or exclusive replacement feeding. This is substantiated in the five cases presented above. These findings are consistent with the findings in other studies (Becquet et al., 2005a; de Paoli et al., 2001; Thairu et al., 2005). All the HIV positive women interviewed for the present study were informed about the potential risks of HIV transmission through breast feeding and other feeding practices. Nevertheless, a majority of them decided to breastfeed their babies. This decision is not merely linked to alternative feeding options being costly and technically complicated as illustrated in the examples of replacement feeding. It is also because infant feeding is imbued with meaning beyond the purely nutritional aspects and the physical feeding of a baby. The meaning attached to the feeding methods is embedded in the concepts and norms of breast feeding, procreation and motherhood.

Our findings demonstrate the power of breast feeding as a culturally-anchored practice and as moral commitment on the part of the mother. These norms and moral commitments can carry additional or new meaning in the context of HIV/AIDS. The HIV epidemic has brought renewed attention to the cultural and social significance of breast feeding (Moland, 2004). Infant feeding in general and breast feeding in particular are intimately related to the ideas of reproduction, fertility and survival (Maher, 1992). As such, they are socially and culturally embedded practices that need to be understood in particular local contexts. Breast feeding was seen as vital for a child’s survival and as essential for the survival of social relations surrounding mother and child. The cases of ‘A’ and ‘S’, who chose replacement feeding (cow milk and formula), illustrate the tension experienced between the medical knowledge of HIV transmission through breast feeding

as conveyed through counselling, and the mother's desire to breastfeed. Although both mothers expressed confidence in their choice of feeding method in terms of the medical risk of HIV transmission, they simultaneously resented not being able to breastfeed their infants. Case A remarked, "It is so frustrating not to breast feed my baby. It is as if I'm not his real mother". This underscores the emotional strain experienced by a mother.

### **6.11. Conclusion**

Formula or replacement feeding for infants of HIV positive mothers is the recommended choice because risks of HIV transmission far outweigh morbidity and mortality resulting from replacement foods in developed countries. However, in the developing world the debate continues regarding the benefits and risks of replacement feeding versus breastfeeding. In the present study half of the HIV positive women opted for exclusive breast feeding, while one-third of them favoured exclusive replacement feeding. The expenses involved in formula feeding are the major reasons for choosing exclusive breast feeding by the participants. The study reveals the major factors associated with the intention of infant feeding practices by HIV positive women. It found that educational status, family income and disclosure of HIV status are associated with replacement feeding. It shows the thinking of HIV positive women towards infant feeding practices. Mixed feeding is considered an undesirable practice in infant feeding in the first six months of age of a child. Major determinants of infant feeding practices were found to be disclosure of HIV status to spouses and in-laws. Studies of advanced clinical trials need to be conducted in order to see the effect of different infant feeding practices for maternal viral transmission through breast milk.

The study also demonstrates the challenges of infant feeding practice of HIV positive women in the studied area. It proves that decision making on infant feeding is not only based on knowledge about medical risks, but also on social risks regarding disclosure, rejection and stigma. The gap between an HIV positive woman's intentions and the possibilities to put her intentions into practice are also highlighted. The cases identified in the study reflect that exclusive breast feeding for the first six months is the best method for infant feeding. The basic principle of 'informed choice', promoted through the international guidelines on HIV and infant feeding, requires that an HIV positive woman be provided with adequate information about the recommended feeding options to make her choice (WHO, 2003). To achieve success in exclusivity of feeding options, a mother's decision should be respected and pressuring her by the family/neighbours to introduce

other food to the infant should stop. Furthermore, the risks involved in each infant feeding option should be communicated to the parents (mother/father) during PPTCT to enable them to make informed choices. Continuing work on the options of feeding and involving spouses in every health and nutrition education session to help mothers choose safer infant feeding options is important.