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## RESEARCH ARTICLE

### AN ASSESSMENT ON THE KNOWLEDGE OF BREASTFEEDING AND WEANING AMONG WOMEN OF REPRODUCTIVE AGE IN SEMI-URBAN COMMUNITY OF ASSAM, INDIA

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#### ABSTRACT

The practices of breastfeeding and weaning prevailing in the community plays an important role in determining the health of a child. The present study was conducted to assess the knowledge on weaning practices amongst the women in reproductive age working in Assam down town University, Assam, India, irrespective of their qualifications, income levels and the marital status. The total 75 respondents comprised of teachers (39), support staff (14) and cleaners (22). They were randomly selected and interviewed using pre-structured questionnaire. Results indicated that maximum number of women (60%) had the opinion that weaning should be started only at the completion of 6 months of age and (44%) of them stated that breastfeeding should be continued till the infant reaches two years of age along with complementary feedings. It was learned that 59% of the respondents were in favour of incorporating infant formulas like cereals, lactogen, along with cereal-pulse mix and milk based recipes. Knowledge of women on expressed breast milk and human milk banks were found to be limited, with 69% and 81% respectively. The positive point noted from the study was that a low percentage (23%) of the respondents had some food taboos but not to the extent that would result in adopting unhealthy food habits and may cause total abstinence from certain foods. It was revealed that the women would limit inclusion of certain foods (citrus, spicy, bitter) till the baby gets accustomed to it.

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## INTRODUCTION

The term "to wean" means "to accustom" and it describes the process by which the baby is gradually introduced to foods other than breast milk (Vyas *et al.*, 2014). It is transitional to change from liquid to a solid diet, the feeding behaviour changes from sucking to chewing and biting and the obligatory introduction with the mother or other caretaker changes to independent feeding (Choudhry *et al.*, 2007). The appropriate age at which solids should be introduced to infants is around six months owing to the immaturity of the gastrointestinal and renal system as well as on the neuro-physiological status of the infant (Motee *et al.*, 2013). The World Health Organisation (WHO) recommends that infants be exclusively breastfeed for the first six months, followed by breastfeeding along with complementary foods for up to two years of age or beyond

(Motee *et al.*, 2013). Complementary feeding is the term used for giving other foods and drinks in addition to breastfeeding after the completion of the six months of exclusive breastfeeding period. The best way to help a baby's digestive system to get used to solid foods is by introducing the foods gradually and one new food at a time so that if the infant has had any allergy, it can be spotted easily (Foote, 2003). According to World Health Organization, this process covers the period from 6-24 months of age and is a critical period of growth during which infants are at high risk of nutrient deficiencies and illnesses (<http://www.who.int/elena/titles/complementary-feeding/en/>). Some studies have shown that giving solid foods too early may lead to increased risk of chronic diseases such as islet autoimmunity, obesity, adult-onset celiac diseases, and eczema. A study by Kuo *et al.* has shown that late weaning may cause deficiencies of zinc, protein, iron and vitamin B and D that leads to suppression of growth and cause feeding problems. Iron deficiency anaemia and rickets are also found to be more prevalent among infants who are weaned after six months (Kuo, 2011). The prevalence of breastfeeding and weaning practices differs from one

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country to another and from one society to another; this is of course due to existing cultural and religious beliefs, societal barriers like employment, length of maternity leave, inadequate breastfeeding knowledge, lack of familial and societal support and lack of guidance and support from health care professionals (WISH, 2006). Common weaning types practiced by the people at large includes ; Child-led or natural weaning, this occurs when the children wean themselves from the breast by becoming less interested in breast milk; Mother-led or planned weaning whereby the mother starts to give complementary foods without receiving cues from the infant that he is ready to stop breastfeeding; Sudden or abrupt weaning which occurs when there is prolonged unplanned separation of the mother and infant or severe maternal illness; Gradual weaning, this means that mothers can gradually substitute other kinds of nutrition, affection and attention to compensate for the loss of nursing; and Partial weaning which occurs when the baby still receives breast milk 1-2 times per day depending on the convenience of the mother while receiving complementary foods ([www.caringforkids.cps.ca/.../weaning](http://www.caringforkids.cps.ca/.../weaning) and <http://pregnancy.about.com/od/breastfeedinginfo/a/weaning.htm>).

## MATERIALS AND METHODS

The present study was carried out among the teachers, support staff and cleaners of Assam down town University, Assam, India. The study was an endeavour to assess the knowledge about breastfeeding and weaning practices among the women of reproductive age. A total of 75 women were selected randomly irrespective of their designation and possession of a feeding child.

### Data Collection

Data was collected personally by interviewing the subjects and filled accordingly in the interview schedule. Detailed information on background and socio-economic information, age of initiating weaning food, type of weaning recipe, knowledge on expressed breast milk and breast milk banks, frequency of preparation and feeding of weaning food was collected. Information on food taboos was also elicited.

## RESULTS

Results from the present study showed that the majority of the women (60%) were of the opinion that 6 month was the most appropriate age to introduce weaning food and 44% of the women were in favour of giving breast milk till 2 years. It was found that the percentage of women having knowledge about expressed breast milk and breast milk bank was very less 69.3% and 81.3% respectively. The study also revealed that cereal- pluses mix and milk based recipes were the common choice of women for their infants during weaning periods in their respective communities. From the study, it was noted that majority of the women (65%) were of the opinion that weaning food should be fed 1-3 times in a day which coordinates with their frequency of preparation in a day (1-3 times). This indicated that women had the concept of giving freshly prepared food. It was also noted that approximately 83% of the women thought that giving breast milk 1-5 times in a day

would be sufficient for their babies. It was good to know that only a minuscule number of women (23%) believed in food taboos that too were not to the extent of abstinence from the foods that were believed to cause health problems.

**Table 1. Showing the data collected**

Characteristics	Frequency	Percentage (%)
<b>Age of initiation of weaning foods(n=75)</b>		
4 months	10	13.33
After 6 months	45	60
1 year	10	13.33
9 months	10	13.33
<b>Age of stopping breast milk(n=75)</b>		
6 months	9	12
Till weaning is introduced	13	17.33
2 years	33	44
As long as he/ she wants	19	25.34
No idea	1	1.33
<b>Force feeding the baby(n= 75)</b>		
Yes	36	48
No	39	52
<b>Number of weaning meals per day(n=75)</b>		
1-3 times	49	65.34
4-6 times	19	25.33
7 times and above	4	5.33
No idea	3	4
<b>Inclusion of infant formula during weaning(n=75)</b>		
Yes	44	58.67
No	19	25.33
Rarely	12	16
<b>Number of breastfeeding per day among women (n=75)</b>		
1-3 times	31	41.33
4-5 times	31	41.33
6-9 times	3	4
No idea	10	13.34
<b>Types of weaning foods</b>		
Cereals with milk	30	20.84
Cereals with fish	1	0.69
Cereals + pluses + vegetables	43	29.87
Commercial foods	22	15.28
Fruits	21	14.59
Vegetables	20	13.89
Egg	2	1.38
Adults foods	1	0.69
Miscellaneous	4	2.77
<b>Knowledge about expressed milk among women(n=75)</b>		
Yes	23	30.67
No	52	69.33
<b>Number of preparation of weaning food in a day(n=75)</b>		
1-3 times	42	56
4-6 times	14	18.67
Each time during feed	17	22.67
No idea	2	2.66
<b>Knowledge about breast milk bank among women(n=75)</b>		
Yes	14	18.67
No	61	81.33
<b>Food beliefs/taboos during weaning period(n= 75)</b>		
Yes	17	22.67
No	53	70.67
No idea	5	6.66

## DISCUSSION

Breast milk alone is not sufficient to satisfy the nutritional needs to sustain optimal growth beyond six months. (Vaahtera *et al.*, 2001) The above table reveals that 60% of the women had proper knowledge on initiation of weaning food at the right

age. The World Health Organisation recommends that infants should start receiving complementary foods at 6 months of age in addition to breast milk (World Health Organisation, 2016). From the above table it can be interpreted that majority of the women (44%) were of the opinion that they should stop feeding breast milk when the baby reaches 2 years of age. Breast feeding should be continued for a minimum of 2 years and beyond depending on the choice of mother and the baby. Even during the second year of life, the frequency of breastfeeding should be 4-6 times in 24 hours, including night feeds ([www.indianpediatrics.net/dec-995-1004.htm](http://www.indianpediatrics.net/dec-995-1004.htm)). It can be interpreted from the table above that 48% of the women out of the 75 respondents believed that infants and toddlers should be forced to eat if they refuse while feeding. However, the majority of the women (52%) were not in favour of forceful feeding to their kids, as they believed that if kids were pressured to eat, they would dislike the food more. In general, people come to like food less if they are forced to eat it. Kids who were more pressured to eat actually consume fewer fruits and vegetables and more unhealthful foods and snacks (Brown, 2008). It is the recommendation of the World Health Organisation that infants of 6 months of age should start receiving complementary food in addition to breast milk, initially 2-3 times a day between 6-8 months, 3-4 times between 9-11 months and 12-24 months with additional nutritious snacks offered 1-2 times per day, as desired ([www.who.int/nutrition/topics/complementary\\_feeding/en/](http://www.who.int/nutrition/topics/complementary_feeding/en/)). The data depicted from the above table revealed that 49% of the women believed that giving weaning meals 1-3 times per day would be good for their baby while 4% had no idea.

From the above table, it can be concluded that 58.66% of the women were in favour of including infant formulas during weaning period. However, researches show that compared to formula fed babies, children who are breastfed are more protected from diseases including allergies and infection and are less likely to become obese or diabetic (<http://pediatrics.aapublications.org/content/129/3/e827.full#content-block>). The American Academy of Paediatrics and World Health Organization as recommended exclusive breastfeeding for the first 6 months after birth and followed by breast feeding along with complementary foods for up to 2 years of age or beyond. During the initial phase of weaning between 4-6 months, baby need to be breast fed quite often around 4-5 times in 24 hours as they are in the transitional phase from liquids to solids but can be gradually decreased to 1-2 feeds a day once the infants are fully accustomed to complementary foods or completely weaned (Bonyata *et al.*, 2016). It can be depicted from the above table that 41% of the women would breast fed their child 1-3 times in 24 hours, and 14% of the subjects were lacking the knowledge on the number of feed to be given in 24 hours. The above table revealed that the most common weaning food choices by the women for the infants were cereal- pulse- vegetable based like khichdi or porridge (29.8%) followed by cereal- milk based like rice pudding (20.8%). Also commercial foods like infant formula (15.7%), fruits based like fruits puree (14.58%) and vegetable based like soups (13.88%) were the other choices responded by the women. In addition, it was good to learn that very low percentage of women would prefer cereal- fish based, egg and adult foods as weaning food. It is acceptable to add small

volume of cow's milk to complementary food but it should not be used as the main drink before 12 months (Gunnarsson *et al.*, 2004). Low intake of vegetables, fruits could also contribute to anaemia and constipation. Introducing new tastes with addition of vegetables and fruits will expose the baby to healthy eating practices (ESPGHAN, 2008).

Mothers need to know how to express their milk so that they can continue to feed their babies and keep up their milk supply if they are separated from their baby (WHO, 2009). However, in the present study it was seen that the knowledge about the benefits and technique of expressed breast milk was very low, only 30% of the respondents were found to be equipped with the concept of expressed milk, whereas the majority of the women (70%) were lacking the knowledge on expressed breast milk. Taking into account the increasing proportion of working mothers, this is a very essential element which needs to be taught to the expectant and post natal mothers by health care workers (WHO, 2009). The World Health Organization recommends that complementary foods should be served to the babies immediately after preparation and if to be stored, proper safe handling and good hygiene must be maintained (Kathryn Dewey, 2001). It was observed from the study that 56% of the women practice immediate serving of prepared weaning food. It can be depicted from the above table that the maximum number of women (81%) were found unaware about the knowledge on human milk banks and only 19% of them were found having a vague concept on the breast milk banks. Keeping in mind that the majority of the respondents were working, it is of utmost importance to educate them on the availability and the uses of milk banks. In order to ensure that all the newborns are breastfed, the World Health Organization recommends babies who cannot receive breast milk from their own mothers should receive breast milk from another mother (donor milk) as another option (Coutsoudis, 2011). India has a lot of myths and food beliefs existed among mothers related to complementary feeding. (PCI, 2010) However, it was good to learn that high percentage of women (70.66%) didn't have any taboos/ beliefs related to weaning.

## Conclusion

The result from the study showed that women had adequate knowledge on the introduction of weaning food, weaning practices and exclusive breastfeeding. Most women had little knowledge about expressed milk and breast milk banks. A variety of weaning foods were preferred by many women and very less women had taboos and beliefs related to weaning.

## Recommendations

There is a need to educate adolescent girls and women employees within the reproductive age on issues like exclusive breastfeeding, weaning foods and their relationship to health of a child. Public Health Department also need to strengthen mass education programmes on importance of expressed breast milk and human milk banks and their relationship in promoting exclusive breastfeeding. This will in turn help to initiate weaning at appropriate age as recommended by World Health Organization. Government and the policy makers also need to extend the duration of current maternity leave which will aid in

introducing complementary foods to the infants at the most appropriate age i.e. 6 months. Health professionals like dieticians and nutritionists also need to educate mothers on correct combinations of food in preparing balanced weaning meals and need to emphasize on the appropriate frequencies of breastfeeding and weaning an infant.

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