

## Complimentary Feeding: Knowledge and Practices among Female Tea Garden Workers

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### Abstract

**Background:** Complementary feeding is needed when breast milk alone is no longer sufficient to meet the nutritional requirements of infants. Female tea garden workers lead a life with very poor income, lack of knowledge and do not have proper time to nourish their children.

**Objective:** To assess the knowledge and practice of complementary feeding among female tea garden workers.

**Methods:** This cross-sectional study was carried out among three hundred one female tea garden workers who had 6-24 months of children and were selected conveniently. Data were collected by face-to-face interviews through a pretested, semi-structured questionnaire.

**Result:** The mean age of respondents was 25.34±5.15 years. About one-fourth (23.9%) of the respondents were illiterate and their average monthly family income was Tk.2840.53. Female tea garden workers who read beyond Class-V had better knowledge ( $p<0.05$ ) of starting complementary feeding at the age of 6 months and had better practice in complementary feeding ( $p<0.05$ ). Among the respondents 44.5% had good and 48.8% had satisfactory knowledge whereas only 7.6% had good and 76.1% had satisfactory practice. Female tea factory workers had knowledge of starting complementary feeding at the age of 6 months ( $p<0.05$ ) than other workers. An educated group who read beyond Class-V had better knowledge about the number of feeding more than 12 months' children ( $p<0.001$ ), malnutrition ( $p<0.05$ ) as risk of delaying complementary feeding and knowledge from health professionals ( $p<0.05$ ). The practice of scheduled feeding was also better who read beyond Class V. Those family incomes were more than Tk.10000 per month, family had better practice of giving breast feeding on demand of child ( $p<0.05$ ).

**Conclusion:** Knowledge needs to be practiced in complementary feeding. School education should be mandatory for tea garden worker's children. For the improvement of the situation, nutrition awareness programs through healthcare providers and the media should be strengthened.

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## Introduction

Among south-east Asian region countries; Bangladesh is one of the largest tea contributors in world's tea market. A total of 359,085 people live in tea garden areas, including 89,812 registered workers and 19,592 casual workers working in the tea garden.<sup>1</sup>

The tea garden workers of Bangladesh have a poor literacy rate and low income which is much lower than other countries of the world. As a result, the workers are lead a poor life and not able to consume sufficient food and nutrition. The tea worker especially women's have lack of health and hygiene related education and awareness. They are not only deprived from minimum level of facilities needed to maintain a healthy life, adequate nutritional support and but also citizenship rights as well.<sup>2</sup> Among tea workers more than three fifth are women and their principal duty is plucking leaves. Women workers of tea garden do not get actual evaluation in terms of financial and social aspect for their hard work all day long (International Labor Organization).<sup>1</sup>

In terms of health and hygienic condition in tea garden, women, children and adolescent girls are the most vulnerable groups.<sup>3</sup> some tea workers have to use their own built latrine but these are not hygienically adequate. So they are habituated in using open place or waterside for defecation and causing various excreta related diseases.<sup>4</sup>

Women tea workers do not get proper health services during the time of pregnancy. Most of the partners of female tea garden workers are also not very aware of their wife's health. These attitudes directly create a negative impact on their children's health. It is well established that first two years of age is a "critical window" for the promotion of optimal growth, health and behavioral development.<sup>5</sup>

Poor breastfeeding and complementary feeding practices, coupled with high rates of infectious diseases, are the principal proximate causes of malnutrition during the first two years of life. For this reason, it is essential to ensure that caregivers are provided with appropriate guidance regarding optimal feeding of infants and young children.<sup>6</sup>

WHO recommends that breastfeeding should continue through the second year of life. Use of bottles with nipples is not recommended for feeding at any age.<sup>15</sup> However, sub-optimal infant and young child feeding (IYCF) practices are prevalent worldwide and are a key determinant of childhood undernutrition, especially between the ages of 3 and 24 months. Only 64% of children of 6-8 months receive complementary foods in Nigeria.<sup>7</sup>

Improving maternal knowledge and attitudes through nutrition counseling and education can lead to improved IYCF practices, and consequently, improved child growth and development, especially in settings with low maternal literacy.<sup>8</sup>

Complementary feeding with adequate nutrition is an important factor for child development. Physical, cognitive and social development requires optimal nutrition. So the study was conducted to assess the knowledge and practice of complementary feeding among female tea garden workers.

## Objective

To assess the knowledge and practice of complementary feeding among female tea garden workers of Sreemangal Upazilla, Moulvibazar, Bangladesh.

## Methods

### *Study design and setting*

This was a cross-sectional study conducted from 1<sup>st</sup> January to 31<sup>st</sup> December 2019. Data were collected in female tea garden workers of

different tea estates of Sreemangal Upazila, Moulvibazar District of Bangladesh.

#### *Sample selection*

Female tea garden workers and who had a child of 6-24 months' age, working in tea estates, irrespective of age and different occupation position. For calculation of sample size in this study, proportion of complementary feeding practices among mother is 74%; value of  $p = 0.74$ .<sup>9</sup>

#### *Data collection analysis*

A total of three hundred one female tea garden workers were conveniently selected for the study. Data were collected by face-to-face interview through a pretested, semi- structured questionnaire. The questionnaire consists of four parts: socio-demographic status, knowledge related question, practice related question and question related to hygiene practices during food preparation and complementary feeding. Data were analyzed by SPSS version 23 software. Both descriptive and inferential statistics were carried out and presented in tables and charts.

#### *Ethical approval*

Informed written consent was obtained from each participant. Ethical approval was obtained

from the Institutional Review Board (IRB) of the National Institute of Preventive and Social Medicine (NIPSOM), Dhaka 1212, Bangladesh. (NIPSOM/IRB/2019/111), Date: 29.08.2019.

#### **Results**

Table I describes the socio-demographic status of the respondents. The mean age of the respondents was  $25.34 \pm 5.15$  years. The lowest age of the respondents was 12 years and the highest age of the respondents was 38 years. Among the respondent less than half (43.52%) read up to Class-V and less than one-third (23.92%) were illiterate. Three-fourth (76.1%) of female tea garden workers were plucking tea leaves, one-fifth (20.3%) working in the factory. Among respondent's spouses, more than one-third (37%) were tea garden laborers, and more than one-fifth (23.6%) were office staff. Most of the respondents (82.1%) had monthly income less than 10000 BDT. Here, lowest personal income was 500 BDT and highest was 5000 BDT. About female tea garden workers majority of the respondents (91.69%) had income of about 2000-3999 BDT per month. More than half of the respondents (54.8%) live in a joint family and 45.2% belong from a nuclear family. About half (48.8%) of the respondents' last child age was within 12-22 months.

Table I: Distribution of respondents by status (n=301)

Criteria	n (%)
Age (in years)	
12-25 years	179(59.5)
26-38 years	122(40.5)
Educational qualification of the respondents	
Illiterate	72(23.92)
Up to class V	131(43.52)
Class VI to Class X	96(31.9)
Above class X	2(0.66)
Occupation of the respondents	
Plucking tea leaves	229(76.0)
Tea plantation and cultivation	11(3.7)
In tea factory	61(20.3)
Occupation of the respondent's spouse	
Tea garden labor	113(37.5)
Office staff	71(23.6)
Day Labor	53(17.6)
Others	64(21.3)
Family income of respondents	
≤ 10000 BDT	247(82.1)
More than 10000 BDT	54(17.9)
Personal income of respondents	
500-1999 taka	10(3.3)
2000-3999 taka	270(91.69)
4000-5999 taka	21(6.97)
Family type of respondents	
Nuclear Family	136(45.2)
Joint Family	165(54.8)
Source of water	
Tube well	210(69.8)
Tap water	91(30.2)
Age of the last child of respondents	
Children aged about 23 months	50(16.6)
Children aged in between 12-22 months	147(48.8)
Children aged less than 12 months	104(34.6)

Table: II Distribution of respondents Knowledge related to complementary feeding (n=301)

Criteria	N (%)
Age of start complementary feeding at 6 months	
Not known	102(33.9)
Known	199(66.1)
Knowledge about types of complementary feeding	
Yes	234(77.7)
No	67(22.7)
Consistency of food	
Soft	237(78.7)
Semi-solid	47(15.6)
Solid	13(4.3)
Frequency of feeding at age of 6-8 months' child	
Yes	150(49.8)
No	151(50.2)
Frequency of feeding at age of 9-11 months' child	
Yes	185(61.5)
No	116(38.5)
Frequency of feeding of at age 12 or more months' child	
Yes	41(13.6)
No	260(86.4)
Knowledge about food variety giving in complementary feeding (multiple responses)	
Seeds, legumes and pulse	294(97.7)
Grain tuber roots	282(93.7)
Egg	289(96)
Fish and meat	288(95.5)
Milk and dairy product	284(94.4)
Vitamin A contains food	274(91)
Oil and fatty food	108(35.9)
Fruits and vegetables	293(97.3)
Frequency of breast-feeding after start complementary feeding	
Known	141(46.8)
Not known	160(53.2)
Risk of malnutrition in delaying complementary feeding	
Known	167(55.5)
Not known	134(44.5)
Knowledge about food category good for child's health	
Known	276(91.7)
Not known	25(8.3)

Table II describes distributions of respondents' knowledge related to complementary feeding. Two-thirds (66.1%) of the respondents had knowledge about starting time of complementary feeding at the age of 6 months. More than two-thirds (77.7%) knew about complementary feeding and again about two third (78.7%) had knowledge about soft food

should be given in complementary feeding. Half of the respondents had knowledge regarding frequency of complementary feeding and half didn't have at the age of 6-8 months' child. Most of the respondent (86.4%) did not know about frequency of feeding at age of 12 or more. More than one third (35.9%)knew about giving oil and fatty food in complementary

feeding. Majority of the respondents (91%) knew about Vitamin A containing food, 93.7% knew about grain tuber roots, 94.4% know about milk and dairy product, 95.7% know about fish and meat, 96% know about egg and 97.7% know about giving seeds, legumes and pulse. Less than half (46.8%) of the respondents gave breast feeding according to demand of her child. Among them more than half (53.2%) did not know how many times needed to breast feed a child. Delaying complementary feeding

cause's malnutrition knew more than half (55.5%) of the respondents.

Figure 1 illuminates that most of the respondents (84.7%) knew from family and friends, more than half (65.8%) respondent knew from neighbors, less than half (48.5%) knew from health professionals and less than one tenth (12.3%) respondents knew about complementary feeding from media.

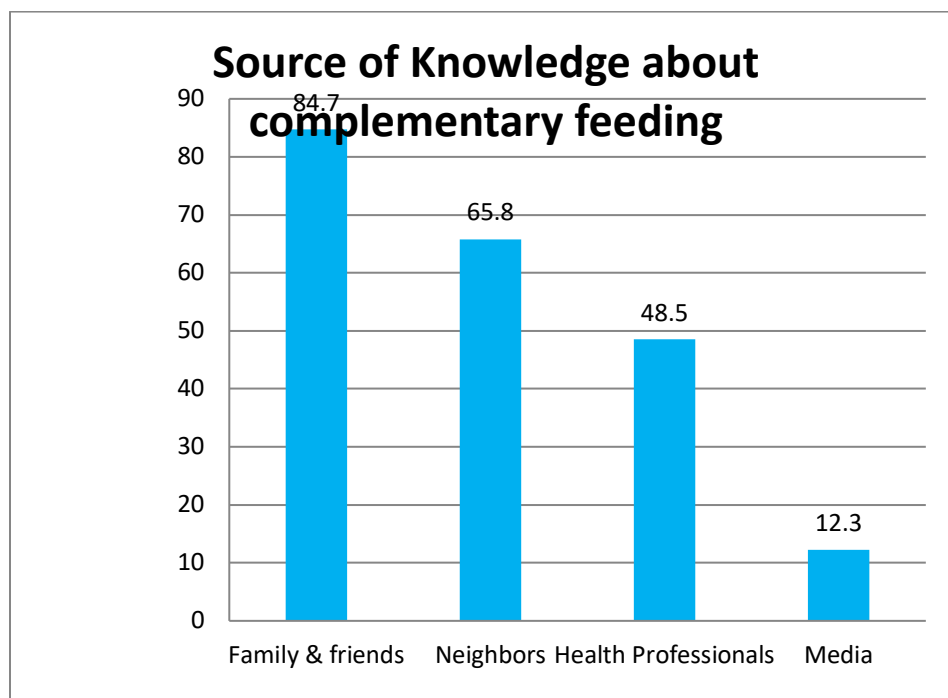


Figure 1. Bar diagram shows source of knowledge about complementary feeding (n=301)

Table III describes the distribution of complementary feeding practices of respondent's according to demand of children where 54.2% of the respondents practicing of giving breast feeding and 45.8% did not breast feed according to demand of their child, 33.9% respondent practiced to give at least twice of giving new food in a child in a week. Half (50.2%) of the respondents were giving complementary feeding 2-3 times in a day to

their children. One hundred and ninety-six respondents gave proper quantity of food during complementary feeding. In case of food consistency, 71.1% respondents practiced giving well meshed food and food like thick enough food to stay on a spoon. Most (96%) of the respondent wash hand and serve bowl before feeding. Again, 98.3% respondent washed hand and serve bowl after feeding a few numbers of respondent.

Table III: Distribution of respondents practice related to complementary feeding (n=301)

Criteria	n (%)
Frequency of practicing breastfeeding in a day	
Yes	163(54.2)
No	138(45.8)
Frequency of giving twice new food to children	
Yes	102(33.9)
No	199(66.1)
Frequency of complementary feeding practice	
Less than 2 times	113(37.5)
2-3 times	151(50.2)
4-5 times	34(11.3)
On-demand	3(1.0)
Quantity of feeding given by respondents to children	
Yes	196(65.1)
No	105(34.9)
Consistency of food practiced in complementary feeding	
Yes	214(71.1)
No	87(28.9)
Practice of washing hand and serving bowl before feeding	
Yes	289(96)
No	12(4.0)
Practice of washing hand and serving bowl after feeding	
Yes	296(98.3)
No	5(1.7)

Figure 2 describes among the respondents, scheduled time feeding was given by 43.5% and 56.5% respondent did not gave feeding to the child any time of the day.

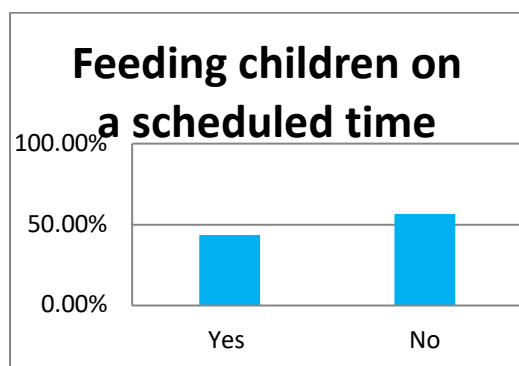


Figure 2. Bar diagram shows time of feeding children on a scheduled time (n=301)

Table IV: Association of socio-demographic variables related to knowledge about complementary feeding

Socio-demographic variables	Knowledge about age of start complementary feeding at 6 months			p value
	Not known f (%)	Known f (%)	Total f (%)	
Occupation				
Plucking tea leaves	78 (34.1)	151 (65.9)	229 (100)	
Tea plantation and cultivation	8 (72.7)	3 (27.3)	11 (100)	p<0.05
In tea factory	16(26.2)	45(73.8)	61(100)	
Educational status				
Illiterate	26 (36.1)	46 (63.9)	72 (100)	
Class I to V	53 (40.5)	78 (58.5)	131(100)	p<0.05
Class VI to X	23 (24)	72 (76)	96 (100)	
Above Class X	0(0)	2(100)	2(100)	
Association of educational status and knowledge about frequency of feeding at age 12 or more months' child				
Variables	Knowledge about the frequency of feeding at age 12 or more months of child			p-value
	Not known f(%)	Known f (%)	Total f(%)	
Educational status				
Illiterate	64 (88.9)	8 (11.1)	72 (100)	
Class I to V	122(93.1)	9 (6.9)	131(100)	p<0.001
Class VI to X	74 (77.1)	22 (22.9)	96 (100)	
Above Class X	0(0)	2(100)	2(100)	
Association of educational status and knowledge about the risk of malnutrition in delaying complementary feeding				
Variables	Knowledge about the risk of malnutrition in delaying complementary feeding			p-value
	Not known f(%)	Known f (%)	Total f(%)	
Educational status				
Illiterate	42 (58.3)	30 (41.7)	72 (100)	
Class I to V	59 (45.0)	72 (55.0)	131 (100)	
Class VI to X	33 (34.4)	63 (65.6)	96 (100)	p<0.05
Above Class X	0(0)	2(100)	2(100)	
Association of educational status with source of knowledge about complementary feeding through media				
Variables	Knowledge about the age of starting complementary feeding at 6 months			p-value
	Not known f(%)	Known f (%)	Total f(%)	
Educational status				
Illiterate	68 (94.4)	4 (5.6)	72 (100)	
Class I to V	19(90.8)	12(9.2)	131(100)	
Class VI to X	76(79.2)	20(20.8)	96 (100)	p<0.05
Above Class X	0(0)	2(100)	2(100)	

Table IV demonstrates association of socio-demographic variables related to knowledge about complementary feeding. Here statistical significance was found among the occupation and knowledge about the age of start complementary feeding at 6 months (p<0.05). The statistical significance was found between educational level and knowledge about the age

of starting complementary feeding at 6 months (p<0.05). Here statistical significance was found between educational status and knowledge about the frequency of feeding of at age 12 or more months' child (p<0.001). Here statistical significance was found between educational status and knowledge about the risk of malnutrition in delaying complementary

feeding, ( $p < 0.05$ ). High statistical significance was found between educational status and

source of knowledge through media ( $p < 0.05$ ).

Table V: Association of socio-demographic variables related to the practice about complementary feeding

Association of educational status and practice about the age of starting complementary feeding at 6 months				p-value
Variables	Practice about the age of starting complementary feeding at 6 months			
	No f (%)	Yes f (%)	Total f (%)	
Educational status				
Illiterate	31 (43.1)	41 (56.9)	72 (100)	p<0.05
Class I to V	36 (27.5)	95(72.5)	131(100)	
Class VI to X	14 (14.6)	82 (85.4)	96 (100)	
Above Class X	0(0)	2(100)	2(100)	
Association of family income and practicing of breastfeeding in the day-on-demand				
Variables	Practicing starting breastfeeding in a day-on-demand			p-value
	No f(%)	Yes f(%)	Total f(%)	
Family income				
≤ 10000 BDT	122 (49.4)	125 (50.6)	247 (100)	p<0.05
> 10000 BDT	16 (29.6)	38 (70.4)	54(100)	
Association of educational status and practice of complementary feeding on scheduled time				
Variables	Practice complementary feeding at a scheduled time			p-value
	No f(%)	Yes f(%)	Total f(%)	
Educational status				
Illiterate	49 (68.1)	23 (31.9)	72 (100)	p<0.05
Class I to V	74 (56.5)	57(43.5)	131 (100)	
Class VI to X	47 (49.0)	49 (51.0)	96 (100)	
Above Class X	0(0)	2(100)	2(100)	

Table V demonstrates association of socio-demographic variables related to practice about complementary feeding. Here statistical significant was found between educational level and practice of start complementary feeding at 6 months of age ( $p < 0.05$ ). statistical significance was found that when family income is more female tea garden workers can stay within house and provide breast feeding on demand while working lady cannot do so ( $p < 0.05$ ). Therefore, statistical significant was found that educational status has relationship with complementary feeding ( $p < 0.05$ ).

### Discussion

In the present study among the respondents, majority (59.5%) were within the age group of 12-25, where mean age of female tea garden workers was just above 25 years. Educational status of female tea garden worker is still poor. One fourth of the respondent didn't go to school. Just more than forty percent (43.52%)

read up to class V. Around one third respondent reach up to class X (31.9%) and less than 1 percent (0.66%) respondent only read beyond class X. one fifth of them were illiterate (23.92%). Only one fifth of them (20.3%) work in factory. Among other two third proportions (76.1%) works in plucking tea leaves and rest do the other works like tea plantation and cultivation. About 85% female tea garden workers took care of family expenses with their spouse. It is very astonishing that some of the female worker only gets 500 Taka in a month. Around 86% percent female tea garden workers had income about 3000 BDT per month. Spouse of the garden workers are mostly tea garden labor and office staff. The mean family income of the respondents was below 8500 BDT. In another study, most of the respondents (34.4%) were of 31-40 years of age and illiteracy among the women tea garden workers was high (68.8%). female tea garden workers earn below or equal 2000 taka were 87.5% and

39.6% had monthly family income in between 3001-4000 taka. All most all the women (95.8%) involved in job for providing financial supports to their families. But, 71% respondents claimed that they have limited control over their income and it is expended by their husbands.<sup>10</sup> In another study in Sylhet division, 90% of female tea garden mothers were illiterate and only 10% were below SSC level. Family income below was 70%. Drinking of tube well water was high (98.6%).<sup>11</sup>

In this study (39.78%) respondents had two children. About Eighty-five percent respondents had seven members in a family. Rest of the respondents had more than seven members in a family and more than half respondent lives in joint family and rest belong from nuclear family 39.78%.<sup>12</sup> In the present study, more than two third (69.4%) of the female tea garden workers had 1-2 children. About one third (29.3%) had 3-4 children. A few very (0.3%) had 5 or more than five children. Mean age of the last child was around 15 months. In present study, among the respondents about two third (66.1%) start complementary feeding at 6-8 months and 33.9% start complementary feeding either before 6 months or after 8 months. But in practice about 74% start at the age of 6-8 months.

In this study yearly initiation of complementary feeding is a great problem in Bangladesh like many other countries. About 30% and 22% mothers started complementary feeding before five months in rural area and in an urban slum (Dhaka city) of Bangladesh respectively. About 26% started complementary feeding before 6 months or after 8 months' which was not good for children's physical and mental growth.<sup>13</sup>

In present study, occupation of respondents plays an important role here. Female tea worker who worked in tea factory had association with stating of complementary feeding at 6-8 month ( $p<0.05$ ). During starting of complementary

feeding among them more than two third (77%) used semi solid food with breast milk. Rest of them did not use semi solid food with breast milk. Among the respondents, 49.8% fed 2-3 times in a day to 6-8 months' child, 61.5% fed 3-4 times to a 9-11 months' child and 13.6% fed 3-4 times with snacks to a 12 months' child. About 46.8% respondents gave breast feeding according to demand of her child. On regular basis 3-4 times and 5-6 times giving breast feeding were 23.3% and 20.9% respectively. Surprisingly, 46.8% provide breast feeding on demand in a day. About two third (78.7%) and more than one tenth (15.6%) of the respondents use soft food and semi-solid in complementary feeding respectively. This study also found that age is 12-25 years, have knowledge about food consistency of complementary feeding ( $p<0.05$ ) and when to stop breast feeding ( $p<0.05$ ).

Another study conducted in Pakistan, regarding amount of complementary feeding 53% has correct amount knowledge. About 46.5% of mothers in a study of India had correct knowledge regarding quantity of weaning food and practically quantity was adequate in (25%) infants.<sup>14</sup>

In this study, 77% respondents knew to stop breast feeding after 24 months and 22.3% didn't know when to stop breast feeding. Female workers who studied above class X (100%) and Class VI to X (65.6%) had knowledge about malnutrition than respondents who read from Class I to V (55.0). Illiterate female workers had poor knowledge regarding malnutrition ( $p<0.05$ ).

In another study, it is revealed that many mothers of USA fed commercial baby juice to their babies even before 6 months of age, which was peak at nine months. Low-income mothers fed excessive juices and sugary drinks to their children.<sup>13</sup>

In present study, among respondents, tea cultivation and plantations workers were highest proportion (36.4%) to give 3-4 times feed with snacks. 52.8% workers who plucking tea leaves gave 3-4 times feeding in a 12 months' child. ( $p < 0.001$ ).

In this study, about 54% respondents practicing of giving breast feeding according to demand of her child. On regular basis 3-4 times and 5-6 times giving breast feeding were 16.9% and 12.9% respectively. Only 10.6% provided breast feeding just for once in a day. Matter of fact is among them 5.6% did not breast feed their child. Family income had association of practicing breast feeding. Family with higher income had better practice of breast feeding on demand than lesser income family ( $p < 0.05$ ).

In Bangladesh, minimum dietary diversity was 42% and minimal meal frequency 82% and minimum acceptable diet for breastfeed was 40%. In Pakistan, 11% received solid, semi-solid or soft food of 3-5 months of aged child. In Nepal, minimal acceptable diet for breast feed was 30% in infants 6-23 months.<sup>15</sup>

In present study, about half of the (50%) respondents were giving complementary feeding 2-3 times in a day and 11.3% gave 4-5 times in a day. A significant proportion of female tea garden worker feed their children less than 2 times in a day (37.5%) and only 1% gave feeding on demand.

In another study, it is revealed that that many mothers of USA fed commercial baby juice to their babies even before 6 months of age, which was peak at nine months. Low income mothers fed excessive juices and sugary drinks to their children.<sup>13</sup>

In our country study khichuri was the main complimentary food. These are non-nutritious foods. In the present study, less than one-third (26.6%) mothers gave Vitamin A containing food, 31.6% gave egg, 36.2% gave fish and

meat, 38.5% gave milk and dairy product, 46.5% gave oil and fatty food, and 48.5% gave fruits and vegetables. Like other countries and studies grain tuber roots (88%) and seeds, legumes and pulses (66.1%) became choice of complementary food for mothers. This study found that, those who read class VI to X add oil and fatty food in complementary feeding ( $p < 0.05$ ).

In another study, it is revealed that 11% exclusively breastfeeding and 26% non-exclusively breastfeeding mothers did not properly clean their hands and utensils before feeding. About 33% exclusively breastfeeding mothers and 54% non-exclusively breastfeeding mothers also did not wash their children's hands.<sup>9</sup>

In present study, Female workers feed forcefully and did not show patience during feeding of sick child were 63%. Regarding washing hand and serving bowl, about 96% respondents wash before feeding and 98.3% respondents wash hand and serve bowl after feeding.

In a study in Pakistan, advice regarding complementary feeding was given by family members to 78% of mothers while 23% of mothers by doctors.<sup>14</sup> In present study, among respondent advice regarding complementary feeding was given 84% by family and friends, 65% by neighbors, 48% by professionals and 12% by media.

### *Conclusion*

Complementary feeding is essential for the growth of child in initial phases of life. It influences the physical and mental growth of an individual. This cross-sectional study provides information related to complementary feeding knowledge and practice among female tea garden workers. Among female tea factory workers, one-fourth of them had no education. Only a few knew properly about complementary feeding. Educated female tea

garden worker had better knowledge regarding types of food that should be given to children as a complementary feed and the frequency of giving food. Educated individual has better exposure to health professionals and media than others. Breast-feeding practice is associated with higher family income. There educational and financial support should be provided by tea garden management and government to improve their present condition. This socio-economic improvement will improve their knowledge and will ensure the appropriate practice of knowledge.

### References

1. International Labour Organization. A Study Report on Working Conditions of Tea Plantation Workers in Bangladesh. 2016. [https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms\\_563692.pdf](https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms_563692.pdf)
2. Chowdhury, N., Ahad, M.A., Chowdhury, M., Kundu, I. and Islam, T. Health and Hygiene Condition of Female Tea Workers: A Study in Three Tea Gardens of Sylhet District. *Asian Journal of Agricultural Extension, Economics and Sociology*. 2018; 26(1):1-9.
3. Sahoo D, Konwar K, Sahoo BK. Health Condition and Health Awareness Among the Tea Garden Laborers: A Case Study of a Tea Garden in Tinsukia District of Assam. *IUP Journal of Agricultural Economics*. 2010 Oct 1; 7(4):51-74.
4. Ahmed, M., Hoque, M.A., Sarkar, M.S.K.A., Chowdhury, M.A.I. and Begum, A. Socio-cultural evaluation of sanitation hygiene in Sylhet city of Bangladesh. *ARPN Journal of Engineering and Applied Sciences* .2006; 1(3):68-78.
5. Dewey, K. Guiding principles for complementary feeding of the breastfed child.2002.Who.int.(2002).[online]Available at: <https://iris.paho.org/handle/10665.2/752?locale-attribute=en>[Accessed 15 Nov. 2019].
6. Saizuddin, M. and Hasan, M.S. Infant and young child feeding (IYCF) practices by rural mothers of Bangladesh. *Journal of National Institute of Neurosciences Bangladesh*.2016; 2(1): 19-25.
7. Sanusi, R.A., Leshi, O.O. and Agada, U.N. Mother's knowledge and practice of breastfeeding and complementary feeding in Enugu State, Nigeria. *J Res Nurs Midwifery*.2016; 5(1):21-9.
8. Owais A, Suchdev PS, Schwartz B, Kleinbaum DG, Faruque AS, Das SK, Stein AD. Maternal knowledge and attitudes towards complementary feeding in relation to timing of its initiation in rural Bangladesh. *BMC nutrition*. 2019 Dec; 5(1):1-8.
9. Saleh, F., Ferdous Ara, M., Hoque, A. and Alam, M.S. Complementary feeding practices among mothers in selected slums of Dhaka city: a descriptive study. *Journal of health, population, and nutrition*.2014;32(1):89.
10. Hossain, M.D.M., Azad, F., Rifat, M.A., Siddique, M.A.B. and Hasan, M.D.G. Socio-Economic Status, Dietary Pattern and Nutritional Status of the Female Workers of Fulchara Tea Garden in Moulvibazar District. Bangladesh. *J Nutr Food Sci*.2017; 7(644):2.
11. Muaz, S.S.A., Hasan, M.R., Shamim, S.A., Dev, A. and Kamar, S. Nutritional status of 1-5 years' children of the Tea Workers in Sylhet division. *Bangladesh Journal of Child Health*.2010; 34(1):11-16.
12. Mahmud, S., Haq, A.Z.M., Nahar, N., Rana, M. and Nahar, K. Social and health profile of a tea garden workers in Bangladesh. *American Journal of Social Sciences*.2017; 5(5):37.
13. Paul, S.K., Roy, S., Islam, Q.R., Islam, M.Z., Akteruzzaman, M., Rouf, M.A., Kabir, A.L. and Afroza, S. Barriers of Appropriate Complementary Feeding

- Practices in Under 2 Children. *Journal of Bangladesh College of Physicians and Surgeons* 2015; 33(4):195-201.
14. Hasnain, S., Majrooh, M.A. and Anujm, R. Knowledge and practices of mothers for complementary feeding in babies visiting pediatrics outpatient department of Jinnah Hospital, Lahore. *Biomedica* .2013; 29(4):221-30
  15. Senarath, U. and Dibley, M.J. Complementary feeding practices in South Asia: analyses of recent national survey data by the South Asia Infant Feeding Research Network. *Maternal and child nutrition*.2012; 8:5-10.
  16. World Health Organization. (2003). Complementary feeding: report of the global consultation, and summary of guiding principles for complementary feeding of the breastfed child. World Health Organization. 1-24. <https://apps.who.int/iris/handle/10665/42739>