

## KNOWLEDGE AND PRACTICE OF WEANING AMONG BANGLADESHI LACTATING MOTHER

Kamrun Naher <sup>1\*</sup>, Happy Bandana Biswas <sup>2</sup>, Sazzad Hossain <sup>2</sup>, Hee Soon Kim <sup>3</sup>

<sup>1</sup> MSN. Child Health Nursing, NIANER, Dhaka, Bangladesh

<sup>2</sup> Department of Child Health Nursing, NIANER, Dhaka, Bangladesh

<sup>3</sup> Professors, Yonsei University College of Nursing, Seoul, South Korea

**\*Correspondence:**

Kamrun Naher

Email: tamannahoque03@gmail.com

### ABSTRACT

**Background:** Weaning is the introduction of food and fluids than breast milk and the transition to a solid diet along with breast milk. It's gradually starting around the age of 6 months. Weaning is a best process involving nutrition; immunological, biochemical and psychological adjustments.

**Purpose:** The aim of the study was to explore the level knowledge and practice of lactating mothers' regarding weaning in Bangladesh.

**Methods:** A descriptive study was conducted at three EPI centers in Noakhali Municipality, Noakhali. A purposive sampling technique was used to recruit the sample that has 6 - 12 months of aged baby. The estimated sample size was 120 lactating mothers. Researcher was use developed questionnaires these are socio-demographic characteristic of mothers, mothers' knowledge related information regarding weaning, mothers' practice related information regarding weaning. Data was analyzed by using descriptive statistics, *t*- test and Pearson co-relation. Significance level 0.05 was considered in this study.

**Results:** The mean age of the mothers was 25.18, (SD ± 4.32). Most of the subjects were Muslim. The results revealed that the lactating mothers reported moderate level of total knowledge, with the mean score was 16.13 ± 4.32 and the low level of total practice, mean score was 2.83 ± 2.7. There were significant factors related to knowledge level were: non-Muslim mothers' (*p* = .05), higher educated (*p* = .03), get information from relative/others (*p* = .05), and start weaning (*p* = .01). Significant factors related to practice were older mothers' age (*p* = .002), having baby more than one (*p* = .05) and having older child age (*p* = .001), higher educated (*p* = .008), and period of weaning (*p* = .01). There was no relationship between total knowledge and total practices of weaning among lactating mothers' (*r* = .02, *p* = .82).

**Discussion:** The findings of this study indicated that the mothers who had higher education, more than two babies, and non-Muslim mothers especially were high knowledge and practice regarding weaning. Therefore, the nurses and other health care provider should consider the following characteristics like low educated mothers, prime mothers, starting of weaning, and Muslim mothers especially. Thus, we can prevent of our infant mortality and morbidity regarding weaning practices in Bangladesh as well as abroad.

**Key words:** Knowledge, practices, lactating mother, infant, weaning.

### INTRODUCTION

“Weaning” is used to explain the beginning of foods and fluids other than breast milk and the change to a solid diet along with breast milk (Afroz, Khana &

Hasan, 2017). Weaning is the word generally used to describe the process of termination of breastfeeding after a period of successful breastfeeding. It generally involves addition of food to infant's diet

and / or replacement of breast milk infant's diet with another type of milk or food (Mohammed, Ghazawy & Hassan, 2014). The shift from exclusive breast feeding to semisolid food is a very in danger period because it is the time when malnutrition starts in many infants, contributing significantly to the high prevalence of malnutrition and infection in children under five years of age worldwide (Sethi, Padhy & Raju, 2017). The World Health Organization recommends a gradual weaning period from six months to two years (WHO, 2006). This allows for the child to still receive the benefits from Breastfeeding, while also consuming the necessary nutrients from weaning. Weaning should be prepared adequately containing the required nutrients as well as appropriately with a suitable texture and temperature (WHO, 2004). Weaning is a best process involving nutrition; immunological, biochemical and psychological adjustments (Workneh, 2014). Ten million children under the age of five years old die each year. Over half of the deaths occur because of malnutrition. If adequate nutrition were in place nearly two third of the deaths could be prevented. It is possible to 0-6 months exclusive breast feeding then six to twenty-four months continue the weaning (Mohammed, 2014).

Early start of weaning is a large problem in Bangladesh like many other countries. Three studies from Bangladesh had showed that before six months were start weaning 10.5%, six months 30.50 % after six months 10 % as much as the child gets 49 %. (Afroz, et al., 2017). Complementary feeding was initiated within four months of age in 15 %, between 5-6 months in 34.25 %, at seventh month in 34.25%, children 12.50% were started CF after seven months and 4 % were not started at all at the time of interview (Paul, et al, 2014) and 44.00 % was found in early

weaning practices followed by late 33.00 % and normal 23.00 % weaning practices (Khan, et al., 2008).

In Bangladesh there were 87.90 % children are suffering various degree of malnutrition. Malnutrition usually recognized as a major health problem in the developing countries like Bangladesh. Satisfactory weaning is essential for the prevention of infant morbidity and mortality, including malnutrition and overweight (Hasnain, Majrooh & Anjum, 2013).

Delayed weaning can lead to serious health complications for the infants because after six months of age breast milk alone is not sufficient, both in quantity and quality, to meet the nutritional requirements of child – especially for energy and micronutrient. Breast milk is not sufficient in iron, zinc, and vitamin A requirement of the baby's need (Manzoor, et al., 2009). The recent study about the Knowledge, Attitude, and Practices of Breastfeeding and Weaning among Mothers of Children up to 2 Years Old in a Rural Area, Egypt revealed that 92.2% of the mothers defined weaning as breastfeeding cessation however only 4.2% defined weaning correctly as introduction of assistant food with breastfeeding (Mohammed, et al., 2014).

Bangladesh has a large number of people live under socio economic condition. They are not properly used weaning. Many infants are suffering malnutrition and other infectious diseases. Therefore, this study will help to identify the gaps of Knowledge and Practice on weaning among lactating mothers. The findings of this study will have importance for the nursing personnel and nursing research to develop educational and interventional program that will be emphasized knowledge and practice of lactating mothers regarding weaning in Bangladesh.

## **METHODS**

### *Study Design*

This study was a descriptive correlational design.

### *Setting*

This study was conducted at three EPI centers in Noakhali Municipality, Noakhali. Study period was July 2017 to June 2018.

### *Research Subject*

A purposive sampling technique was used to recruit 120 mothers who have 6 - 12 months of aged baby.

### *Instruments*

Researcher was used developed questionnaires. The questionnaire developed for this study which used to assess the mother knowledge and practice among weaning. Structured questionnaire consisted of total 50 close ended questions. Socio-Demographic questionnaires consisted of 13 items to assess the subject, demographic data including age, religion, marital status, type of family, educational status, educational status of husband, occupation, monthly income, any teaching, care giver, start weaning. Mothers' knowledge related information regarding weaning questionnaire will be designed to identify the knowledge related information regarding weaning. It will be composed of 22 items "Yes" and "No" questions. Each correct answer carried one (1) mark and incorrect answer carried zero (0) mark. The total score had been ranged from 0 - 22 and then it was converted into a percentage. Mothers' practice related information regarding weaning questionnaire consists of 15 item practice related questionnaires regarding weaning. Practice related questionnaires were four-point rating scale was "Always, Some time, Few times, Never". All questionnaires were score from

1 to 4. Items no - 1, 2, 3, 10 and 11 are 4 = never, 3 = few time, 2 = some time, 1 = always" mark, and items no 4, 5, 6, 7, 8, 9, 12, 13, 14 and 15 were score from 1 = never, 2 = few time, 3 = some time, 4 = always" mark. Mothers were received a total of between 15 to 60 points, which was then be converted into a percentage.

### *Data Analysis*

After completion of data collection, data was analyzed by using a computer software program statistical package for social science (SPSS). These were check clean and edit manually to ensure the accuracy and consistency to ensure the accuracy and consistency of entered data. Descriptive statistics such as frequencies, percentages, means and standard deviations was used to describe the demographic characteristics of study subject. Knowledge of weaning and, practice of weaning among mothers among in Bangladesh data was analyzed and percentage in term of frequencies, percentages, means, standard deviations, minimum and maximum scores and t test and co-relation coefficient. Significance level 0.05 was considered in this study.

### *Ethical Consideration*

Ethical clearance will be obtained from Institutional Review Board (IRB), National Institute of Advanced Nursing Education and Research (NIANER) and Bangabandhu Sheikh Mujib Medical University (BSMMU). Permission will be obtained from Mayor of Noakhali Municipality, Noakhali and the head of the department of EPI center. Permission from the study subject will be taken by written consent. A coding system will follow to ensure the confidentiality and anonymity of study subject. The participant of the respondent will be voluntary. The participant can withdraw from the study at

any time. There will be no harm associated with this study.

## RESULTS

### *Distribution of Socio-demographic Characteristics of the Participants*

**Table 1.** Distribution of Socio-demographic Characteristics of the Participants at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variable	Category	n	(%)	M(SD)
Age	17-27	86	71.70	25.18 ± 4.32
	28-38	34	28.30	
Religion	Islam	111	92.50	
	Hindu	8	6.70	
	Buddhist	1	0.80	
Birth order	1 <sup>st</sup>	46	38.30	
	2 <sup>nd</sup>	51	42.50	
	3 <sup>rd</sup> or more	23	19.20	
Child's age	<9months	56	46.70	9.38 ± 1.65
	>9months	64	53.30	
Marital status	Married	118	98.30	
	Divorced	1	0.80	
	Widowed	1	0.80	
Type of family	Nuclear	74	61.70	
	Extended	46	38.30	
Educational status	Primary	12	10.00	
	Secondary	49	40.80	
	College/University	59	49.20	
Husband educational status	Non formal education	1	0.80	
	Primary	12	10.00	
	Secondary	44	36.70	
	College/University	63	52.50	
Mother's occupation	Housewife	111	92.50	
	Laborer	1	0.80	
	Business	-	-	
	Professional	8	6.70	
Monthly family income	5000-25000	69	57.50	26025±15498.69
	26000-46000	41	34.20	
	47000- 67000	8	6.70	
	> 68000	2	1.70	
Any teaching	Yes	120	100	
	No			
Where did you get the teaching	School	2	1.70	
	Friends/Relatives	47	39.20	
	Health workers	39	32.50	
	Mass media	32	26.70	
Care giver	Mother	111	92.50	
	Grandparent	9	7.50	
Start weaning	< 6 months	52	43.30	6.15 ± 1.268
	> 6 months	68	56.70	

## Distribution of Weaning Knowledge of Lactating Mothers

**Table 2.** Distribution of Weaning Knowledge of Lactating Mothers at three EPI centers in Noakhali Municipality, Noakhali (n = 120).

Variables	Correct n (%)	M(SD)
Weaning means - add other types of food beside breast milk.	104 (86.70)	0.83±0.34
Suitable age of baby to start weaning after six months.	103 (85.80)	0.86±0.35
Purposes of weaning are normal growth and development of infant.	117 (97.50)	0.98±0.15
Any types of food used for starting weaning for baby.	106 (88.30)	0.88±0.32
Weaning should be well cooked, soft and easy to digest.	105 (87.50)	0.88±0.33
Six – eight months baby have to give solid or semi solid food – 250 ml half bowl two times / day.	72 (60.00)	0.60±0.49
Nine - eleventh months baby have to give solid or semi solid food – 250 ml half bowl three times / day.	81 (67.50)	0.68±0.47
Babies need something to eat about every two hours.	88 (73.30)	0.73±0.44
An infant who is six months old should only be breastfeeding in the morning and afternoon.	109 (90.80)	0.91±0.29
During a baby's meal, she should not be given the additional food before breastfeeding.	84 (70.00)	0.70±0.46
Introduce other foods other than breast milk, before six months.	106 (88.30)	0.88±0.32
Purposes of weaning getting introduce to different taste of the baby.	89 (74.20)	0.74±0.44
During weaning period breast feeding should be stop.	111 (92.50)	0.93±0.26
Protein diet must be added during weaning e.g. Meat, fish, egg.	107 (89.20)	0.89±0.31
During weaning period check the baby weight every month.	95 (79.20)	0.79±0.40
After six months of age of baby should add different types of fruits such as mango, papaya, banana, jack fruit etc.	105 (87.50)	0.88±0.33
Green leafy vegetables should add for preparing weaning.	109 (90.80)	0.91±0.29
Iodized salt use is important for weaning.	103 (85.80)	0.86±0.35
Fibrous material should be avoided for Weaning.	42 (35.00)	0.35±0.47
Insufficient weaning developed mal-nutritious disease.	89 (74.20)	0.74±0.44
Before six months of baby to start weaning can causes diarrhea, malnutrition, iron deficiency disease.	87 (72.50)	0.73±0.44
Always use stainless steel or glass cups and bowls for baby food.	99(82.50)	0.83±0.38
<b>Total M (SD): 16.13 ± 4.32</b>		

## Distribution of Weaning Practice of Lactating Mothers

**Table 3.** Distribution of Weaning Practice of Lactating Mothers at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variable	Never	Few Time	Sometime	Always	M (SD)
	n (%)	n (%)	n (%)	n (%)	
Do you give you baby formula milk (e.g.- lactosen, baby care)?	69(57.5)	10 (8.3)	21(17.5)	20 (16.7)	3.07±1.19
Do you use commercially-made baby food for your baby?	85(70.8)	8(6.7)	13(10.8)	14 (11.7)	3.37±1.07
Do you feed your baby cow milk as weaning?	93(77.5)	4 (3.3)	10 (8.3)	13 (10.8)	3.48±1.03
Do you add protein like meat, fish, egg etc. for your baby food?	4 (3.3)	11 (9.2)	51(42.5)	54 (45.5)	3.29±.77
Does the baby give different fruits?	1 (.8)	12(10.0)	57(47.5)	50 (41.7)	3.30±.68
Do you add green leafy vegetables for the baby weaning?	9 (7.5)	12(10.0)	54(45.0)	45 (37.5)	3.13±.87
Do you prepare new food every day for the baby?	2 (1.7)	15(12.5)	74(61.7)	29 (24.2)	3.08±.65
Are you uses always pure water for the child?	1 (.8)	1 (.8)	-	118(98.3)	3.89±.28
Do you keep the food prepared for the baby at a safe temperature?	1 (.8)	-	1 (.8)	118(98.3)	3.97±.28
Did you use plastic utensil or feeder bottle for baby food?	60(50.0)	9 (7.5)	18(15.0)	33 (27.5)	2.80±1.31
Does the baby feed any food made by the market?	89(74.2)	14(11.7)	9 (7.5)	8 (6.7)	3.53±.89
Are you washing hands with soap and water before preparing food for the child and before and after feeding the baby?	2 (1.7)	1 (.8)	20(16.7)	97 (80.8)	3.77±.54
Are you clean all utensils immediately after use for baby?	-	1 (.8)	17(14.2)	102(85.0)	3.84±.38
Did you give feed freshly cooked food to your baby?	3 (2.5)	-	1 (.8)	116(96.7)	3.92±.47
Do you see the weight of the baby every month during weaning start?	49(40.8)	50(41.7)	14(11.7)	7(5.8)	1.83±.85
<b>Total M (SD): 2.83 ± .27</b>					

*Relationship between Socio-Demographic Characteristics and Knowledge on Weaning*

**Table 4.** Relationship between Socio-Demographic Characteristics and Knowledge on Weaning at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variables	Category	M	(SD)	t/r	p
Age of mother				0.10	0.27
Religion	Muslim	15.97	(4.40)	-2.17	0.05
	Non-Muslim	18.00	(2.50)		
Birth order	1 <sup>st</sup> baby	15.87	(4.39)	-0.50	0.61
	2 <sup>nd</sup> and others	16.28	(4.29)		
Child age				-0.07	0.41
Marital status	Currently Married	16.07	(4.33)	-1.11	0.26
	Widowed/Divorced	19.50	(0.70)		
Types of family	Nuclear	15.89	(4.37)	-0.74	0.45
	Extended	16.50	(4.24)		
Education level	Primary/secondary	15.31	(4.84)	-2.13	0.03
	College/university	16.97	(3.55)		
Education level of husband	Primary/secondary	15.63	(4.54)	-1.19	0.23
	College/university	16.57	(4.09)		
Occupation of mother	House wife	16.11	(4.18)	-0.15	0.88
	Others	16.33	(6.02)		
Monthly income				-0.07	0.43
Get information	Relative / others	16.98	(3.21)	1.95	0.05
	Media /health worker	15.54	(4.87)		
Care giver	Mother	16.21	(4.23)	0.73	0.46
	Grand mother	15.11	(5.48)		
Start weaning	< 6 months	15.02	(4.90)	-2.40	0.01
	> 6 months	16.97	(3.63)		

*Relationship between Socio-Demographic Characteristics and Practice on Weaning*

**Table 5.** Relationship between Socio-Demographic Characteristics and Practice on Weaning at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variables		M	(SD)	t/r	p
Age of mother				0.28	0.002
Religion	Muslim	2.83	(0.27)	1.20	0.23
	Non-Muslim	2.94	(0.23)		
Birth order	1 <sup>st</sup> baby	2.77	(0.29)	-1.92	0.05
	2 <sup>nd</sup> and others	2.87	(0.25)		
Child age				0.29	0.001
Marital status	Currently Married	2.84	(0.27)	1.21	0.22
	Widowed/Divorced	2.60	(0.09)		
Types of family	Nuclear	2.84	(0.27)	.260	0.79
	Extended	2.83	(0.28)		
Education level of mother	Primary/secondary	2.77	(0.27)	-2.70	0.008
	College/university	2.90	(0.25)		
Education level of husband	Primary/secondary	2.80	(0.25)	-1.30	0.19
	College/university	2.87	(0.28)		
Occupation of mother	House wife	2.83	(0.27)	-0.02	0.97
	Others	2.84	(0.32)		
Monthly income				0.15	0.10
Get teaching	Relative / others	2.80	(0.27)	-1.14	0.25
	Media /health worker	2.86	(0.27)		
Care giver	Mother	2.83	(0.28)	-0.44	0.65
	Grand mother	2.87	(0.17)		
Start weaning	< 6 months	2.76	(0.29)	-2.54	0.01
	> 6 months	2.89	(0.25)		



The mean age of the mothers was 25.18, (SD  $\pm$  4.32). Most of the subjects were Muslim. The results revealed that the lactating mothers reported moderate level of total knowledge, with the mean score was  $16.13 \pm 4.32$  and the low level of total practice, mean score was  $2.83 \pm .27$ . There were significant factors related to knowledge level were: non-Muslim mothers' ( $p = .05$ ), higher educated ( $p = .03$ ), get information from relative/others ( $p = .05$ ), and start weaning ( $p = .01$ ). Significant factors related to practice were older mothers' age ( $p = .002$ ), having baby more than one ( $p = .05$ ) and having older child age ( $p = .001$ ), higher educated ( $p = .008$ ), and period of weaning ( $p = .01$ ). There was no relationship between total knowledge and total practices of weaning among lactating mothers' ( $r = .02$ ,  $p = .82$ ). The relationship between knowledge regarding weaning and practice regarding weaning was analyzed. However, there was no statistically significant  $r = .02$ ,  $p = .82$ .

## DISCUSSION

Current study Weaning practices during infancy are important determinant of physical and mental wellbeing. Inappropriate weaning practices in terms of low nutrition density and high bulk of weaning are well known problems worldwide. Early introduction of solid diet and unhygienic predispose infants to malnutrition growth retardation, infection and high mortality (Monzoor et al., 2009).

However, this study showed there were 69(57.5%) mothers never given her baby formula milk (e.g. lactosen, baby care), sometime given 21 (17.5%), always 20(16.7%) and few time givers 10(8.3%) of mothers out of 120. On the other hand, study by Mohsin, et al. (2014), there were hundred and sixteen (84%) mothers gave other supplement milk along with breast milk and 100 (86%) of them used bottles. Indeed, this study result showed that there were 85 (70.8%) mothers never practice commercially made baby food, few time givers 8(6.7%), sometime given 13 (10.8%) and always given 14(11.7%) of mothers. Whereas the study by Mohsin, et al., (2014) showed that sixty-four (46.4%) mothers introduced commercial food items as complementary feed to their children. The current study result should that there were, most of the mothers 93 (77.5%) never given cow's milk before the age of one year. Whereas the study by Khan, et al. (2008)

showed 52.2% of mothers were practice cow's milk.

In addition, there were 45.5% mothers always given, 42.5% sometime given protein like meat, fish, egg etc. for preparing weaning and in this study shows 98.3% mothers always uses pure water for her baby. Whereas, in another study there were 71.7% mothers not practices boiling drinking water (Mohsin, et al., 2014).

Moreover, the current study revealed that baby feed any food made by market there were 6.7% mothers always given, 7.5 % sometime given, 11.7 % few time givers and 74.2% never given. Similarly, the study by Hasnain, et al., (2013) showed there were only 18% were used market prepared food. In addition in this study showed, there were most of mothers practices wash hands with soap and water before preparing food for the child and before and after feeding the baby always was 97 (80.8 %) of mothers, sometime was 20 (16.7 %). Similarly, the Study done by Mohsin, et al., (2014) found that evaluation of hygiene practices 128(92%) mothers were washing their hands before cooking as well.

Bivariate analysis of knowledge on weaning and practice on weaning with socio-demographic characteristics showed that there were non-Muslim mothers' knowledge was higher than Muslim, the result was  $t = 2.17$   $p = .05$ . The study result revealed that significant factors related to

knowledge on weaning were mothers' education ( $p = .03$ ) and significant factors on weaning practice were mother's education ( $p < .008$ ). Whereas, in another study by Hasnain, et al. (2013) was no statistically significant association of knowledge with the education of the parents but practices of complementary feeding are associated with education ( $p < .012$  and  $p < .012$  for mothers and fathers respectively). Another study of Bangladesh has reported statistically significant association between education of the mother with their weaning knowledge was positive and statistically significant  $p < .001$  (Khan, Hossain, & Banik, 2007). Moreover, this study showed that the relationship between start of weaning and weaning knowledge of the mothers was statistically significant ( $p = .01$ ), and start of weaning and weaning practice was statistically significant ( $p = .01$ ). Another study by Khan, et al., (2007) showed that the relationship between time of weaning practice and weaning knowledge of the mother was statistically significant ( $p = .001$ ).

The current study shows that the relationship between knowledge regarding weaning and practice regarding weaning was analyzed. However, there was no statistically significant  $r = 0.02$ ,  $p = 0.82$ . According to Khan, et al., 2007 showed that time of weaning practice and weaning knowledge of the mother was differed significant ( $p < .001$ ) and relationship between education of mothers of children and weaning practice was negative and significant ( $p < .000$ ).

## CONCLUSION

This finding indicated that the findings of this study indicated that the mothers who had higher education, more than two babies, and non-Muslim mothers especially was high knowledge and practice regarding

weaning.

## SUGGESTION

Therefore, the nurses and other health care provider should consider the following characteristics like low educated mothers, prime mothers, starting of weaning, and Muslim mothers especially. Thus, we can prevent of our infant mortality and morbidity regarding weaning practices in Bangladesh as well as abroad.

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