**Title:**

**“Assessment of the Knowledge and Practice about Infant and young Child Feeding among Mothers of Under -Two children in Derai Upazila, Sunamgonj”.**

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This Thesis is submitted to the North-East University Bangladesh for the partial fulfillment of the requirements for the Degree of Master of Public Health in the Department of Public Health, North East University Bangladesh.

Submitted by:

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**NORTH EAST UNIVERCITY BANGLADESH**

Education with Innovation

January 2012

**DECLARATION**

I hereby declared that this dissertation entitled “Knowledge and practice of Newly Married Couple regarding family planning method in Sylhet”.

The research work was carried out in the Golapgonj and Fenchugonj, Sylhet under guidance of **Dr. Tanusree Sarkar ,**Associate Professor, Department of Public Health, North East University Bangladesh.

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**CERTIFICATE**

This is to certify that Shafiqul Islam has completed this thesis entitled **“Knowledge and practice of Newly Married Couple regarding family planning method in Sylhet**” is partial fulfillment of the requirement for the degree of Masters in Public Health (MPH) in Department of Public Health at North East University Bangladesh, Sylhet at session Spring -2018 under my guidance and supervision.

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The undersigned certified that they have carefully read and recommended to the Faculty of Department of Public Health, NORTH EAST UNIVERCITY BANGLADESH (NEUB) for the acceptance of this thesis entitled **“Knowledge and practice of Newly Married Couple regarding family planning method in Sylhet”** Submitted by MOHAMMAD SAYDUL HOQUE in partial fulfillment of the requirement for the degree of Masters in Public Helath (MPH) in knowledge regarding safe water at rural area in Sylhet, Bangladesh during the session Spring-2018.

Board of Examiners

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Chapter –One

Introduction

* 1. **Introduction**

1. Infant and young child feeding (IYCF) practices play a critical role in determining the nutritional status, health, growth and development of children, along with improving the health of mothers (WHO, 2003). The current guidelines suggest breast feeding should to be initiated within the first hour of birth and infants be exclusively breast fed for the first 6 months of life, that is, receive only breast milk, with the exception of oral rehydration syrups solutions, drops/of vitamins, minerals and medicines (WHO, 2015). Exclusive breast feeding (EBF) offers the required nourishments for normal growth and development till 6 months of age; thereafter safe, timely and nutritionally adequate complementary foods should be added to the diet of infants, along with continued breast feeding up to 2 years of age (WHO, 2021).
2. Bangladesh Demographic and Health Survey (BDHS, 2014) have provided useful national- and state-level information on the IYCF practices. Available data showed a gross interstate variation. However, the BDHS was not designed to provide district-level data. According to the BDHS-2014 data Fifty-five percent of infants under age 6 months are exclusively breastfed. The Multiple Indicator Cluster Survey 2012-13 reported lower exclusive breastfeeding rates of 56 percent (Progotir Pathey, 2014). Overall, 26 percent of breastfed children age 6-23 months are given the recommended four or more food groups, and 63 percent are fed at least the minimum number of times. According to the Multiple Indicator Cluster Survey 2012-13 early initiation of breast feeding (within an hour of delivery) is 57.4%., continued breast feeding up to 2 years 87.5%.
3. Children who have been breast fed for longer periods of time tend to exhibit lower odds of infectious morbidity and mortality, as infants who are not breast fed have six fold greater risk of infections related in the first 2 months of life when compared with infants that have been adequately breast fed (Henrick *et al.*, 2017). The current evidence suggests that high-income countries practice shorter duration of breast feeding (<20%) compared with low/middle-income countries (Rahman *et al.*, 2020). However, even within LMICs, approximately only 37% of infants younger than 6 months are exclusively breast fed (Adda, Opoku-Mensah and Dako-Gyeke, 2020). Nutrient dense foods that can be easily eaten and digested should be added to infants’ diet in order meet their dietary demands. Both breast feeding and appropriate complementary feeding are pivotal for child growth and the prevention of disease and malnutrition (Bhandari and Chowdhury, 2016).
4. Bangladesh faces several challenges in ensuring age-appropriate nutrition to growing children which is critical for avoiding undernutrition during early development. For secured sustenance and developing a strong immune system, a child must be given only breastmilk for the first six months. After this period, caregivers must introduce some foods into their diets and continue breastfeeding until age two. This practice, known as complementary feeding, is the transition from exclusive breastfeeding to family foods. Many parents are inadequately informed about when and how to feed their children complementary food alongside breastfeeding — when to start, frequency and minimum dietary diversity. Household food insecurity affects a quarter of the population. Families with limited incomes cannot always buy protein such as fish and meat. Nationally, age-appropriate complementary feeding rates are very low and in some areas like urban slums, alarmingly so (UNICEF, 2021). This study will assess the level of knowledge and practice about Infant and young Child Feeding among Mothers of Under -Two children in Bangladesh.
   1. **Justification of the Study**

Infant and young child feeding (IYCF) practice is a highly concerned global public health issue for its extensive role on child development, growth, and survival (Kamble *et al.*, 2020). Almost 5.9 million under-five children died in 2015; among them, 45% were directly or indirectly associated with malnutrition, pneumonia, and diarrhea, while more than two thirds of those deaths were due to improper feeding practices (WHO, 2018).

Childhood malnutrition is appeared as a public health threats in both low-income and lower middle-income countries (LMICs) including Bangladesh (RE *et al.*, 2008). Proper IYCF practices is crucial for improving nutritional status and health, particularly for the young children aged 0–23 months in Bangladesh, as nutritional status could be directly affected by the IYCF practice. Inadequate IYCF practice has a considerable effect on childhood malnutrition, risk of diarrhea (S *et al.*, 2001), and respiratory infections (Chowdhury, Rahman and Khan, 2016). For both breast feeding and complementary feeding, mother’s knowledge and time investment are crucial and there are limited studies that investigated IYCF knowledge and practices and the health outcomes of the children in resource poor settings of Bangladesh (Lubna, Begum and Khatoon, 2015). This study will make aware about the importance of IYCF practices for all mothers and women in Bangladesh. Findings of this study will help policy makers to implement new programs.

* 1. **Research Question**

What is the level of knowledge and Practice about Infant and young Child Feeding among Mothers of Under -Two children in Derai Upazila, Sunamgonj?

* 1. **Objective of the Study**
     1. **General Objective**

Assess The knowledge and practice about infant and young child Feeding among Mothers of under-Two Children in Derai Upazila, Sunamgonj

* + 1. **Specific Objectives**
* To assess the practice ratio of Exclusive Breastfeeding within one hour of Childbirth.
* To Identify Current knowledge on importance of IYCF
* To evaluate practice of IYCF among mothers of under 2 child

**1.5 Key Variables:**

**Socio demographic variables-**

* Age
* Sex
* Religion
* Education
* Occupation

**Knowledge regarding Safe water and Sanitation related variables-**

* Knowledge
  1. **Operational Definitions:**

**Assessment:** By the structured questionnaire, systematically make scoring from obtain knowledge through analysis of collected data.

**Knowledge:**

**Illiterate:** A person without any formal education or schooling and unable to read and write one’s name.

**Only can sign:** A person without any formal education or schooling and only able to write one’s name.

**Primary level of education:** Those who attend class 1 to V.

**Secondary level of education:** Those who attend class VI to X.

**Widow**: A woman who has lost her husband and does not marry again.

**Widower**: A man who has lost her wife and does not marry again.

**Divorced:** Husband or wife legally separated is considered as divorced.

**Chapter –Two**

**Literature Review**

Malnutrition refers to deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients (WHO, 2018). It can be caused by various factors classified as Immediate causes which include diseases, inadequate dietary intake, underlying causes that is food insecurity at house hold levels, inadequate care, insufficient health services and unhealthy environment and basic causes which are inadequate education, political and economic factors (Weinstein *et al.*, 2017).

AS, FS and Md, (2011) illustrates that maternal malnutrition during the prenatal period, or infant malnutrition during the early postnatal stage, can result into lasting damage to the structure and function of the developing body systems, resulting in deficits which become manifest by early childhood.

IYCF has received increasing attention over the past 25 years. The WHO and UNICEF joint global strategy has significantly fostered appropriate practices of young and infant child feeding in mothers and caregivers (WHO, 2003).

A case control study in Central Sulawesi province- Indonesia Hijra, Fatimah-Muis and Kartasurya, (2016) found out that inappropriate complementary feeding increased the risk of stunting in children of 12-24 months of age by 8.26%. Similarly, the percentage of mothers who practiced optimal complementary feeding was 40.5% with low timely complementary feeding (56.4%), appropriate meal frequency (60.6%) and dietary diversity of 40.5% in a community-based cross-sectional study in North-West Ethiopia (Belew *et al.*, 2017).

A reports by Arage and Gedamu, (2016) indicate that exclusive breastfeeding in first six months of life can avert 1.4 million deaths and 10% of diseases burden among infants and young children in developing world. Further evidence suggest that about 10–15% of global under-five deaths could be prevented by achieving 90% of exclusive breastfeeding (Holla-Bhar *et al.*, 2015).

According to Lassi *et al.*, (2020), optimal IYCF is the single most effective intervention. Jones et a/. found that exclusive breast-feeding (EBF) could prevent 13 to 16% of all deaths; adequate complementary feeding (CF) between 6 and 24 months could prevent an additional 6% of all deaths; and if these practices spread to 90% of the deserving population, 19% of all deaths under five could be prevented.

**Chapter-Three**

**Methods and Materials**

* 1. **Study Design**

Descriptive type of Cross sectional study.

**Study Population and Sample Population**

Mothers of Under Two children at Derai Upazila, Sunamgonj

**Study Site and Area**

Derai Upazilla’Sunamgonj

* 1. **Study Period**

March 2021 to July 2021

* 1. **Sample size**

The Sample size was calculated using Cochran’s formula considering 5% level of significance, 5% precision level (permissible error) and 55.5% mothers have proper knowledge about IYCF practice (Arzu *et al.*, 2018).

The formula is: n =

Where, n = estimated sample size

Z = 1.96 (in 95% Confidence Interval)

p = prevalence, 55.5% (0.555),

q = 1- 0.555 = 0.445,

d = permissible error, 5% (0.05)

So, sample size (n) =

{(1.96)2\*0.555\*0.445}/(0.05)2 = 379.51 ≈ 380

Calculated sample size was 379.51 but we collected data as a round figure 380 respondents.

**Inclusive criteria:-**

1. Mothers of Under 2 child
2. Those who are willing to participate in the study.

**Exclusive criteria:**

1. Those who are not willing to participate in the study.
2. Data will not be collected from the Over- 2 Childs mother
3. Severely ill person.
4. Mentally disoriented.
   1. **Sampling Technique**

Multi stage sampling

* 1. **Data Collection tools**

In order to collect the data, a semi-structured English questionnaire has prepared at the beginning of the study by considering the objectives and variables of the study and pretested before finalization.

* 1. **Data collection methods**

Respondents were filling up questionnaire format to give answers. It was taken by using the semi-structured English questionnaire. The interviews conducted in a suitable time for the respondents in which they felt free to disclose their information. After collection, data were cheeked thoroughly for consistency and completeness. The collected data were checked, rechecked and verified by myself at the end of every working day. To ensure reliability and validity of data , 5% data recollected and compared with the previous data.

* 1. **Data Processing**

Data will be collected through face to face interview. At the beginning of data collection, permission from respective mother. The purpose of the study will be explained in details to the respondents. Interview of the respondents will be taken in the village. Respondents will be given full assurance on some ethical point of view that under no circumstances any part of the interview will not be disclosed to any unauthorized person.

* 1. **Data Analysis**

Data analyzed by windows based computer software devise. Descriptive statistics has been used to describe the data i.e. mean and standard deviation for quantitative variables, frequency and percentage for qualitative variables. Quantitative variables has been compared by t-test and qualitative variables by chi-square test. P value of <0.05 considered as significant. The result has presented in tables and figures.

* 1. **Quality control and quality assurance**

Before data collection from responder’s there created the friendly environment and clear on objective on the data to the responders. During data collection their tries to use local Bangla language with respondent.

**Ethical Consideration**

Written permission will be taken from the concern authority also from the respondent before data collection. The investigator will explain to the respondents regarding the purpose of the study before data collection.

**Chapter-Four**

**Results**

This descriptive cross sectional study was carried out among in Derai Upazila, Sunamgonj, Sylhet in 2021 to determine the Knowledge and practice about Infant and Young Child Feeding among mother of under Two children. Findings of the study are given below.

**Table I: Age distribution of the respondents**

|  |  |  |
| --- | --- | --- |
| **Age in years** | **Frequency** | **Percentage** |
| 0-6 month | 84 | 23.33 |
| 7-12 month | 204 | 56.67 |
| More than 1 year | 72 | 20 |
| **Total** | **360** | **100** |

Regarding age it was found that 84 (23.33%) respondents were between 0-6 month of age and a majority portion 204 (56.67%) respondents were between 7-12 month of age and other 72(20%) were more then one year old.

**Table II: Distribution of respondents by Educational Qualifications.**

|  |  |  |
| --- | --- | --- |
| Educational Qualifications | Frequency | Percentage |
| Illiterate | 55 | 15.28 |
| Can only Sign | 83 | 23.06 |
| Primary (1-5th class) | 102 | 28.33 |
| Secondary (6-10th class) | 62 | 17.22 |
| Higher Secondary level and above | 58 | 16.11 |
| Total | 360 | 100 |

Regarding educational qualification of the respondents, it was observed that 55(15.28%) respondents were Illiterate, 83(23.06%) respondents could only Sign, a102(28.33%) of the respondents had studied primary school, 62(17.22%) of the respondents were studied secondary level, 58(16.11%) of the respondents were studied Higher Secondary level and above.

**Table II: Distribution of respondents by occupation**

|  |
| --- |
| Marital status Frequency Percentage |
| Service holder 66 18.33  Housewife 248 68.89  Farmer 36 10  Others 10 2.78  Total 360 100 |

Regarding occupation of the respondents, it was observed that more half 248 (68.89%) respondents were housewife, 66 (18.33%) respondents were service holder, 36(10%) were farmer and 10 (2.78%) respondents were in others occupation.

**Table III: Distribution of respondents by monthly family income**

|  |
| --- |
| Monthly income (Taka) Frequency Percentage |
| 10000-15000 156 43.33 |
| 15001-20000 145 40.28 |
| above 20000 59 16.39 |
| Total 360 100 |

Regarding monthly income of the respondents, it was observed that majority 156 (43.33%) respondents’ monthly income were between 10000-15000 taka. About 145 (40.28%) respondents’ monthly family income were between 15001-20000 taka. 59(16.39%) respondents’ monthly family income was between above 20000 Taka.

|  |  |  |
| --- | --- | --- |
| **Table IV: Distribution of respondents by**   **Idea about IYCF, Idea about Nutrition, Interest on Nutritional Food, Knows about benefits of Nutritional Food, Aware of the Food Diversification, Influence of Neighbor for decision making.** | | |
|  | Frequency | Percentage |
| **Idea about IYCF** |  |  |
| Yes | 152 | 42.22 |
| NO | 208 | 57.78 |
| **Idea about Nutrition** |  |  |
| Yes | 320 | 88.89 |
| NO | 40 | 11.11 |
| **Interest on Nutritional Food** |  |  |
| Yes | 210 | 58.33 |
| NO | 150 | 41.67 |
| **Knows about benefits of Nutritional Food** |  |  |
| Yes | 167 | 46.39 |
| No | 193 | 53.61 |
| **Aware of the Food Diversification** |  |  |
| Yes | 275 | 76.39 |
| NO | 85 | 23.61 |
| **Influence of Neighbor for decision making** |  |  |
| Yes | 323 | 89.72 |
| NO | 37 | 10.28 |

Regarding occupation of the respondents, it was observed that 152(42.22%) respondents said that they have any idea about IYCF and 208(57.78%) respondents said that they have no idea about IYCF. 320(88.89%) respondents said that they have any idea about Nutrition and 40(11.11%) respondents said that they have no idea about Nutrition. 210(58.33%) respondents said that they have interest on Nutritional Food and 150(41.67%) respondents said that they have no interest on Nutritional Food. 167(46.39%) respondents said that they knew about benefits of Nutritional Food and 193(53.61%) respondents said that they didn’t know about benefits of Nutritional Food. 275(76.39%) respondents said that they were aware about the food diversification and 85(23.61%) respondent said that they were not aware about the food diversification. 323(89.72%) respondents said that they have influenced by their neighbors for decision making on IYCF and 37(10.28%) respondent said that they have not influenced by their neighbors for decision making on IYCF.

**Fig. 1: Simple Bar diagram showing the kind of food for respondents child**

The above bar chart showing that most respondent’s choose vegetable to feed their child , it was observed that about 219 (60.83%)respondents feed their child Fruit, 248 (68.89%) respondents feed their child c fish, 312 (86.67%) respondents like to feed their child vegetable and 128 (35.55%) respondents like to feed their child other foods.

**Chapter V**

**Discussion**

**Conclusion**

**Recommendation**

**Discussion**

Mothers who have sufficient knowledge on IYCF recommendation were more likely to have better feeding practice than mothers who have insufficient knowledge (Egata, Berhane and Worku, 2013). However, in this study only 42.22% of mothers had sufficient knowledge on IYCF recommendation. Inappropriate knowledge on IYCF recommendation was also reported from previous study finding in Hebei province, North China (Wu *et al.*, 2014).

On the other hand, this finding was lower than the study findings in Shashemene Woreda, Mekelle, Dehradun District and Nigeria (Yonas *et al.*, 2015). This discrepancy might be due to time gap between studies and difference in the study settings; since the former studies included mothers in the Woreda with better socio economic characteristics whereas the current study was done among mothers in slum area with lower socio economic status. Early initiation of breastfeeding plays a crucial role for a significant reduction of neonatal and infant mortality (KM *et al.*, 2006). Besides, it has benefit to the health of the mother as early suckling stimulates the release of prolactin, which helps in the production of milk, and oxytocin, which is responsible for the ejection of milk and stimulates the contraction of the uterus after childbirth (Feeding, 2003). Moreover, initiation of breast feeds within 1 h of birth is the key for successful breast feeding (R *et al.*, 1994).

In the present study, 88.89% of mothers knew the nutrition of complementary feeds.. This finding was consistent with study finding in Ghana (R *et al.*, 1994). This low level of knowledge might be due to low attention of participants during nutrition education, often diversity and frequency of complementary food is discussed near the end of education section. Educational status of the mother had statistically significant association with mothers’ knowledge on IYCF practice. Mothers who attained beyond primary education were 2.5 times more likely to have sufficient knowledge than mothers who attained lower than secondary education. Similar finding was reported from previous studies (F., S. and A., 2014). This might be due to the fact that literate mothers understand nutrition information given by the health and nutrition programs. Having radio was statistically significant factor to improve mothers’ knowledge. Mothers who have radio were 1.7 times more likely to have sufficient knowledge than their counter part have no radio. Similar result was reported from a study finding in Arba Minch Zuria (Tamiru and Mohammed, 2014). In the study area each woman who comes to the health institution to get immunization service, to attained antenatal and postnatal care is counseled on maternal and child nutrition. In addition to this, in each health facility, theoretical and practical education on IYCF practice is given one times per month during “mothers’ day”. In this “mothers’ day” complementary feeding preparation is demonstrated by health professionals. Moreover, education on IYCF practice is given in the health post to the women who come to get immunization service, to attained antenatal and postnatal care by health extension workers (HEWs). Furthermore, HEWs give nutrition education to all pregnant and lactating women at their home. All these have direct contribution on maternal knowledge. The fact that this study did not use qualitative information on the guideline to probe their knowledge level and the study includes mothers who have children 24–36 months old are the limitation of this study.

**Conclusion and Recommendations:**

The IYCF practices are strongly influenced by what people know, think and believe and also affected by social circumstances and economic factors. Effective communication for behavioral change is necessary for ensuring optimal infant feeding. Awareness regarding IYCF practices and their benefits in Maternal and Child Health (MCH) is poor leading to poor compliance. It is important to educate mothers during the antenatal visits. The situation can be improved by training of grass root health workers on IYCF policies of WHO and MoHFW, Govt. of Bangladesh, stressing on the benefits of appropriate feeding practices by the hospitals, Health & Family Welfare Centre (H&FWC), Union Health Sub Centre (USC) and Community Clinic and making these services universally available along with intensive IEC (Information, Education & Communication) efforts to generate demand for these services. Most of the world’s religions place particular emphasis on the total care of the child. In the context of the overwhelming evidence, the involvement of religious teachings in the promotion of breastfeeding is quite debatable. It is well established that religious ideologies influence the human mind and a person’s way of living. Health professionals traditionally encourage mothers to breastfeed by giving information on benefits of breastfeeding for the infant and the mother herself. The behavior of women can be easily modified through religious teachings in a positive way. Breastfeeding may be affected by religious ideologies using the doctrine in religious texts. Counseling the mothers by reinforcing the cultural and religious practices supporting breastfeeding can help enormously. Use of local religious teachings can bring positive changes in the implementation of health programs. In addition, public nutrition education that promotes infant and young child feeding as defined by WHO, taking into account social-cultural factors is needed and recommended.

**References:**

Adda, L., Opoku-Mensah, K. and Dako-Gyeke, P. (2020) ‘“Once the child is delivered, he is no more your baby,” Exclusive Breastfeeding experiences of first-time mothers in Kassena-Nankana Municipality, Ghana - a qualitative study’, *BMC Pregnancy and Childbirth 2020 20:1*, 20(1), pp. 1–9. doi: 10.1186/S12884-020-03272-5.

Arage, G. and Gedamu, H. (2016) ‘Exclusive Breastfeeding Practice and Its Associated Factors among Mothers of Infants Less Than Six Months of Age in Debre Tabor Town, Northwest Ethiopia: A Cross-Sectional Study’, *Advances in Public Health*, 2016, pp. 1–7. doi: 10.1155/2016/3426249.

Arzu, T. *et al.* (2018) ‘Study of IYCF Indicators on Practices and Knowledge of Mothers in Rural Areas’, *American Journal of Public Health Research*, 6(3), pp. 130–133. doi: 10.12691/AJPHR-6-3-1.

AS, de S., FS, F. and Md, do C. (2011) ‘Effects of maternal malnutrition and postnatal nutritional rehabilitation on brain fatty acids, learning, and memory’, *Nutrition reviews*, 69(3), pp. 132–144. doi: 10.1111/J.1753-4887.2011.00374.X.

BDHS (2014) ‘BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2014 National Institute of Population Research and Training Ministry of Health and Family Welfare Dhaka, Bangladesh’. Available at: www.mitra.bd.com. (Accessed: 30 October 2019).

Belew, A. K. *et al.* (2017) ‘Dietary diversity and meal frequency among infant and young children: a community based study’, *Italian Journal of Pediatrics*, 43(1). doi: 10.1186/S13052-017-0384-6.

Bhandari, N. and Chowdhury, R. (2016) ‘Infant and young child feeding’, in *Proceedings of the Indian National Science Academy*, pp. 1507–1517. doi: 10.16943/ptinsa/2016/48883.

Chowdhury, M. R. K., Rahman, M. S. and Khan, M. M. H. (2016) ‘Levels and determinants of complementary feeding based on meal frequency among children of 6 to 23 months in Bangladesh’, *BMC Public Health 2016 16:1*, 16(1), pp. 1–11. doi: 10.1186/S12889-016-3607-7.

Egata, G., Berhane, Y. and Worku, A. (2013) ‘Predictors of non-exclusive breastfeeding at 6 months among rural mothers in east Ethiopia: a community-based analytical cross-sectional study’, *International Breastfeeding Journal 2013 8:1*, 8(1), pp. 1–8. doi: 10.1186/1746-4358-8-8.

F., C., S., N. B. and A., D. (2014) ‘KNOWLEDGE AND PRACTICES OF POSTNATAL MOTHERS ON NEWBORN CARE IN TERTIARY CARE HOSPITAL OF UDUPI DISTRICT’, *Journal of Health and Allied Sciences NU*, 04(02), pp. 098–101. doi: 10.1055/s-0040-1703772.

Feeding, Y. C. (2003) ‘Global Strategy for Infant and’, 3(January 1998), pp. 1–21.

Henrick, B. M. *et al.* (2017) ‘Breastfeeding Behaviors and the Innate Immune System of Human Milk: Working Together to Protect Infants against Inflammation, HIV-1, and Other Infections’, *Frontiers in Immunology*, 0(NOV), p. 1631. doi: 10.3389/FIMMU.2017.01631.

Hijra, H., Fatimah-Muis, S. and Kartasurya, M. I. (2016) ‘Inappropriate complementary feeding practice increases risk of stunting in children aged 12-24 months’, *Universa Medicina*, 35(3), pp. 146–155. doi: 10.18051/UNIVMED.2016.V35.146-155.

Holla-Bhar, R. *et al.* (2015) ‘Investing in breastfeeding – the world breastfeeding costing initiative’, *International Breastfeeding Journal 2015 10:1*, 10(1), pp. 1–12. doi: 10.1186/S13006-015-0032-Y.

Kamble, B. D. *et al.* (2020) ‘Infant and young child feeding practices among mothers of children aged 6 months -2 years in a rural area of Haryana: A qualitative study’, *Journal of Family Medicine and Primary Care*, 9(7), p. 3392. doi: 10.4103/JFMPC.JFMPC\_164\_20.

KM, E. *et al.* (2006) ‘Delayed breastfeeding initiation increases risk of neonatal mortality’, *Pediatrics*, 117(3). doi: 10.1542/PEDS.2005-1496.

Lassi, Z. S. *et al.* (2020) ‘Impact of Infant and Young Child Feeding (IYCF) Nutrition Interventions on Breastfeeding Practices, Growth and Mortality in Low- and Middle-Income Countries: Systematic Review’, *Nutrients*, 12(3). doi: 10.3390/NU12030722.

Lubna, M., Begum, N. and Khatoon, S. (2015) ‘Infant Feeding Practices and Nutritional Status of Children of Less Than 1 Year’, *Bangladesh Journal of Obstetrics & Gynaecology*, 30(2), pp. 74–79. doi: 10.3329/BJOG.V30I2.30895.

Progotir Pathey (2014) ‘Bangladesh multiple indicator cluster survey 2012–2013 Key findings’.

R, P.-E. *et al.* (1994) ‘Infant feeding policies in maternity wards and their effect on breast-feeding success: an analytical overview’, *American journal of public health*, 84(1), pp. 89–97. doi: 10.2105/AJPH.84.1.89.

Rahman, M. A. *et al.* (2020) ‘Determinants of exclusive breastfeeding practice in Bangladesh: Evidence from nationally representative survey data’, *PLOS ONE*, 15(7), p. e0236080. doi: 10.1371/JOURNAL.PONE.0236080.

RE, B. *et al.* (2008) ‘Maternal and child undernutrition: global and regional exposures and health consequences’, *Lancet (London, England)*, 371(9608), pp. 243–260. doi: 10.1016/S0140-6736(07)61690-0.

S, A. *et al.* (2001) ‘Exclusive breastfeeding reduces acute respiratory infection and diarrhea deaths among infants in Dhaka slums’, *Pediatrics*, 108(4). doi: 10.1542/PEDS.108.4.E67.

Tamiru, D. and Mohammed, S. (2014) ‘Maternal Knowledge of Optimal Breastfeeding Practices and Associated Factors in Rural Communities of Arba Minch Zuria’, *http://www.sciencepublishinggroup.com*, 2(3), p. 122. doi: 10.11648/J.IJNFS.20130203.15.

UNICEF (2021) *Infant and young child feeding | UNICEF Bangladesh*. Available at: https://www.unicef.org/bangladesh/en/maximising-growth-children/infant-and-young-child-feeding (Accessed: 29 July 2021).

Weinstein, J. N. *et al.* (2017) ‘Communities in action: Pathways to health equity’, *Communities in Action: Pathways to Health Equity*, pp. 1–558. doi: 10.17226/24624.

WHO (2003) ‘Global Strategy for Infant and Young Child Feeding World Health Organization Geneva WHO Library Cataloguing-in-Publication Data Global strategy for infant and young child feeding’, pp. 1–36. Available at: http://www.who.int/nutrition/publications/gs\_infant\_feeding\_text\_eng.pdf (Accessed: 27 July 2021).

WHO (2015) *Breastfeeding*. Available at: https://www.who.int/news-room/q-a-detail/breastfeeding (Accessed: 29 July 2021).

WHO (2018) *Child health*. Available at: https://www.afro.who.int/health-topics/child-health (Accessed: 29 July 2021).

WHO (2021) ‘Infant and young child feeding’, in. doi: 10.1787/health\_glance\_ap-2016-20-en.

Wu, Q. *et al.* (2014) ‘Poor infant and young child feeding practices and sources of caregivers’ feeding knowledge in rural Hebei Province, China: findings from a cross-sectional survey’, *BMJ Open*, 4(7), p. e005108. doi: 10.1136/BMJOPEN-2014-005108.

Yonas, F. *et al.* (2015) ‘Infant and Young Child Feeding Practice Status and Associated Factors among Mothers of under 24-Month-Old Children in Shashemene Woreda, Oromia Region, Ethiopia’, *OALib*, 02(07), pp. 1–15. doi: 10.4236/OALIB.1101635.

Attachment:

Appendix-I: Data collection instrument with informed written consent in English.

Appendix-I

DATA COLLECTION SHEET

Questionnaire

I am a student of MPH , Department of public Health , North East University , Sylhet. I am conducting a thesis work titled Knowledge regarding safe water and sanitation at rural area in Sylhet sadar, Bangladesh. Hope you will co-operate by providing correct answer to the questions. Your supplied data will be kept confidential and will be used for thesis work only.

SL No Date:

General Information

Name :-

Father’s/Husband Name:

Present Address:

1. Socio demographic Characteristics:
2. How old are you?---------------------------------------------------------------Years
3. What is your religion? Islam Hindu Christian Buddhist Others
4. What is your Marital Status? Married Unmarried Divorced Window/Widower
5. What is your occupation?------------------------------
6. What is your Educational Qualification? Illiterate Can only sign Primary (1-5th class) Secondary (6-10th class) Higher secondary level and above
7. What is your Monthly family income?--------------------BDT
8. Number of family members?-----------------
9. **Health and Hygiene related data (water source and using , latrine use )**
10. What do you mean by safe water?

Free from organism Transparent Free from odor

1. According to your opinion which source of water is safe water?

Tube well water Well water Pond water Bottle water

Rain water

1. What is the source of your drinking water

Tube well Well Pond Others ----------

1. What is the source of water used by your family for cooking?

Tube well Well Pond Others ---------------

1. What is the source of water used by your family for bathing?

Tube well Well Pond Others ---------------

1. What is the distance of water source from your household?--------------
2. Do you wash your hand before taking food?

Yes No If Yes then -------------------

1. What do you use to wash your hand before taking food?

Soap Ash Soil Water Others--------

1. Do you use latrine for defecation?

Yes No

1. Do you wash hand after defecation?

Yes No If Yes--------------

1. What do you use to wash your hand after using latrine?

Soap Ash Soil Water Others--------

1. What kind of latrine do you use?

Kacha Semi Pacca Pacca Others-------

1. Do you regularly clean your latrine?

Yes No

1. Is your latrine is near to your drinking water source?

Yes No

1. Does your children and other family member use latrine?

Yes No

I am-----------------------------------------------------------------hereby giving informed consent willingly to participate in the study to be conducted by Shafiqul Islam without any prejudice. I am fully convinced that during study I ( or my respondent) will not suffer from any serious physical or psychological problems. I am also informed that this study was carried out previously in the developed countries safely and my participation will bring fruitful result that will beneficial for most of the rural people in our country. I have right to withdraw myself ( or my respondent ) from this study at any time. I ( or the respondent) will not receive any financial benefit. I have understood that the personal information will be kept strictly confidential and will be used for research purpose only.

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Signature / Left thumb impression of the participant

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Signature / Left thumb impression of a witness

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Signature of data collector and date: