

**A Study of Mothers' Knowledge and Practices on Children's Feeding and
Nutrition in the Early Years**

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ID: 21355010

A thesis submitted to BRAC Institute of Educational Development in partial fulfillment of the requirements for the degree of Master of Science in Early Childhood Development

BRAC Institute of Educational Development
BRAC University
April 2023

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It is hereby declared that,

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2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
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Ethics Statement

Title of the thesis topic: **A Study of Mothers' Knowledge and Practices on Children's**

Feeding and Nutrition in the Early Years

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1. Source of population: Mothers living in Dhaka (Uttara, Dhaka cantonment, and Mirpur)
2. Does the study involve (yes, or no)
 - a) Physical risk to the subjects - no
 - b) Social risk-no
 - c) Psychological risk to subjects-no
 - d) discomfort to subjects-no
 - e) Invasion of privacy-no
3. Will subjects be clearly informed about (yes or no)
 - a) Nature and purpose of the study-yes
 - b) Procedures to be followed-yes
 - c) Physical risk-yes
 - d) Sensitive questions-yes
 - e) Benefits to be derived-yes
 - f) Right to refuse to participate or to withdraw from the study-yes
 - g) Confidential handling of data-yes
 - h) Compensation and/or treatment where there are risks or privacy is involved-yes
4. Will Signed verbal consent for be required (yes or no)
 - a) from study participants-yes
 - b) from parents or guardian -n/a
 - c) Will precautions be taken to protect anonymity of subjects? -yes
5. Check documents being submitted herewith to Committee:
 - a) Proposal-yes
 - b) Consent Form-yes
 - c) Questionnaire or interview schedule-yes

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Abstract

Nutrition plays a major role in a person's life and it is the essential element for overall growth and development, beginning at conception and continuing throughout life. It has a significant impact on a child's development. Lack of nutrients in any stage of a child's life can hamper their proper physical and mental development. Like some other developing countries, in Bangladesh, child malnutrition is still a serious public health problem. It is one of the major risk factors for mortality among young children. Starting from birth onwards, children are extremely sensitive to what and how they are fed. Thus, this study aimed to explore the feeding knowledge and practices of children's mothers who are the prime caregivers of children. Here, mothers from different educational backgrounds with similar socioeconomic status were studied and their knowledge and practices towards early childhood nutrition in the context of the urban area of Dhaka city were explored. The study is a descriptive quantitative study conducted on 45 mothers who were selected via a purposive sampling technique. Data for this study was collected through a web survey. The study followed two main research questions, which are, mothers' feeding knowledge of nutrition for children aged 3 to 5 years and the feeding practices (nutritional support), that are provided by the mothers. The study found the differences in understanding, nutritional knowledge, behaviors & practices on child's nutrition of 3 to 5 years aged children. The study also significantly highlighted that for working mothers, child feeding decisions and practices are influenced by their time and work pressures. The study also found a significant number of mothers, despite having an understanding of nutrition and how childhood malnutrition could be prevented in terms of their feeding practice, sadly do not practice their nutritional knowledge.

Keywords: Nutrition; Knowledge; Feeding; Practices

Dedication

To

My Parents and My Lovely Family

Acknowledgement

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Chapter -1: Introduction & Background

1.1 Introduction:

The World Health Organization has recognized undernutrition as the basic and underlying cause of almost half of child deaths worldwide [2006]. In South Asia, early childhood undernutrition is highly prevalent (World Bank, 2006). In most developing countries, malnutrition continues to be a growing problem and this chronic malnutrition is one of the major reasons for morbidity and mortality among young children and the future productivity of nations. About 149 million children under five years of age in developing countries are undernourished. Also, about 13 million children under the age of five die annually and among them, many are linked to malnutrition (Rahman A et al, 2009). The evidence shows that children who are suffering from linear growth failure are more affected by infectious diseases, like- pneumonia, malaria, diarrhea, etc. [Black RE et al, 2003]. Poor nutrition during childhood is one important issue impeding the physical and mental development of young children, which eventually propagates the brutal cycle of intergenerational malnutrition. The issue of child malnutrition is critical because its effects are not bound by childhood but rather linger into adulthood. It silently demolishes the future productivity of nations. In 2007, Grantham *et al.* estimated that 2.91 years of performance deficiency that resulted from stunting caused a 19.8% loss in adulthood income. Malnutrition expands the economic burden of a society because it directs to an increased threat of death from infectious diseases, severe infections, higher cases of fatalities, additional psychosocial burden, etc. (Chen LC et al, 1980). It is estimated that in developing countries, 29% of children aged less than five years are stunted or chronically undernourished, and two-thirds of them live in Asia (UNICEF,2005). In developing countries, the main factors associated with undernutrition are, poor socioeconomic status, parental

education, maternal nutrition, food shortage preceding short birth interval, quantity, and quality of food, child labor, the burden of disease, poor knowledge about long-term consequences of undernutrition and less access to health and nutrition services, etc. Presently, it is an important public health problem in Bangladesh. In Bangladesh, low family income, lack of education, and periodic food shortages, ignorance, lack of understanding about nutritional knowledge are associated with inadequate dietary intake (Abdullah et al, 1985), which might have led to undernutrition of young children. Half (47–54%) of school-going young children are having vitamin A deficiency (Helen Keller International Bangladesh, 1997-98). Again, 45% of children in Bangladesh are undernutrition in early childhood which is also associated with poor mental development (Jena D et al, 2006).

Globally, nutritional status is measured in height for age. Sometimes, stunting is also referred to as one of the preferable predictors of well-being for young children [Shetty P,2006]. It is an important indicator for determining the progress towards the second Sustainable Development Goal which aims to terminate all kinds of malnutrition by 2030 [United Nations. 2015]. Bangladesh is committed to achieving the SDG target of reducing the stunting from prevailing levels (2014 est.) to 25% by 2030 [Equity BD Campaign Brief. 2017]. Improving nutrition can achieve a significant impact on survival, also physical and cognitive development and productivity. So, to meet the challenges of the 21st century and to improve the diets of young children we need to recognize the forces like urbanization and globalization on nutrition and focus more on using local and global food systems (UNICEF, 2019). It is also important to realize the most essential factors which have a great influence on a child's regular dietary intake. Again, mothers' knowledge about nutrition and daily feeding practice for their children is considered to

have a great influence on a child's overall nutritional diet intake as well as ultimate growth and development.

1.2 Statement of the Problem:

The prevalence of malnutrition or inadequate growth among children is a significant health policy concern in developing countries, as it is a precise indicator of nutritional status, which is associated with physical and mental development, learning capability, and is also associated with body size as well as workability in adult life. Nutrition is an important part of health and development in every stage of life. Better nutrition in early years is related to improve the infant, and child health, stronger immune systems, physical ability, lower risk of non-communicable diseases (such as diabetes, and cardiovascular disease), and longevity. Young children are dependent on parents and caregivers for their everyday diet, as they are too little to take care of themselves, and mostly in a country like Bangladesh, this duty falls onto the mothers. Unfortunately, it is found that most mothers of young children aren't aware of these nutrients issues or the importance of practicing a nutritional diet. Many of them don't even have an understanding about the enormous side effects of malnutrition, resulting in their children's serious health problems, poor academic performances and later dropping school. In Bangladesh, there are two scenarios are mostly seen, some of the mothers are forcefully feeding their children and some of the mothers are skipping the meal as many mothers are working mothers and many belong to joint families, so their children could be looked after and fed by caretaker or others, and the mother might not be getting them the whole day, only for some hours. So, it's also a very concerning issue for them. In their children's everyday eating habits, whether the mothers themselves are playing the proper role for it or not, raising alarming situations for their children's lives. Understanding the present reality, it's

important to know about their knowledge, understanding and feeding practices in this regard. The children who can eat, the mother is providing them more, sometimes without the consideration of the appropriate and adequate amount of nutrients, which may cause major health diseases and adverse effects among their children. This study is designed to explore what is the mother's knowledge of their children's nutrition and what are the roles they play in their daily life routines. According to a research study, it has been mentioned that, both traditional beliefs and a lack of appropriate knowledge regarding nutrition and feeding practices, a perceived or real lack of appetite has negative effects on appropriate complementary feeding (Paintal & Aguayo, 2016). Additionally in Bangladesh, it is found that urban children are fond of fast foods or readymade foods, which are high in sugars, even some children don't want to take any homemade food or any nutrient sufficient foods. Researchers have found that among them the consumption rate of fast foods and sugary drinks is high, and the consumption of fruits, vegetables, and animal source foods is comparatively low (Bhuyan K & Urmi AF, 2019). The regular intake of junk foods can greatly hamper their body's metabolism, increase the risk of chronic diseases, hamper healthy lifestyles, and make them malnourished. In addition, recent concerns about child obesity are huge. According to World Health Organization data, in developing countries, among children under the age of five, malnutrition is responsible for almost 60% of all fatalities (WHO, 2021). The study addresses the importance of mothers' nutritional knowledge for children in their early years. If the mothers are not aware of nutritional knowledge and do not practice from early years children will be at risk. Parents are considered the main ones responsible for their child's eating behaviors and which should be early modulated. Which will help to reverse the diet related Noncommunicable Diseases (NCD) growing trend (Barends C. et al. 2019).

In Bangladesh due to the scarcity of food more than half of the total population, most of them are children and women, suffer from malnutrition (Karim et al., 1985). In 1996-97 a national survey showed that more than half of the children under 5 years old are severely moderately malnourished (Mitra et al., 1997). Research had shown that malnutrition is a major component of childhood mortality in Bangladesh (Chen et al., 1980; Roy et al., 1983). In Bangladesh, in 2019 a cross-sectional cluster survey was conducted on a total of 17,490 children (aged below 5 years) from 64,400 households. Here, to determine the risk factors associated with child stunting and severe stunting, multiple logistic regressions were used. The data found that the prevalence of stunting and severe stunting for children was 25.96% and 7.97%, respectively. Children aged 2 years to < 4 years had more risk of stunting compared to children aged < 6 months (Tuhinur Rahman et al, 2022). The study with a total of 5,333 children under-5 years old sample by Azizur R. et al (2008) shows that nearly half (47%) of the children in Bangladesh are consistently unable to receive proper nutrition. Among them, 13% of children were severely underweight. This identifies a serious health problem in the country according to the WHO classification (WHO, 1995). This figure is 9% lower than the total frequency of underweight estimated at 56% in the 1996-97 BDHS (Mitra et al., 1997). For this research, Non-experimental correlational quantitative research procedures will be applied. This study is designed in the urban area of Dhaka city to explore how the nutritional issues are raised by the mothers of children 3 to 5 years and to understand their nutritional knowledge, and practices and whether they incorporate pepper diet practices in their children's lives.

1.3 Purpose of the Study:

The level of nutritional knowledge is one of the important factors in deciding mothers understanding of its importance and feeding practices in their children. The investment in nutritional education will help to increase the level of productivity and future employability. The purpose of this study is to maximize the possibility and initiatives aiming at children's nutrition and optimal growth & development and to prevent common diseases. This study will show mothers' knowledge of child nutrition and what role they can play for their children for greater nutrition investment. As a result, the understanding and knowledge of this area can develop the effectiveness of further nutritional interventions, which is the prime importance in early childhood development. The information and data from this Non-experimental correlational quantitative research study will provide important and useful insight into understanding factors that influence mothers to practice for their children in an everyday meal in some urban areas of Dhaka city.

1.4 Justification/ significance of the Study:

Recent data from the World Health Organization stated that about 60% of all deaths taking place among children aged less than five years (under-five children) in developing countries, could be chalked up to malnutrition. Nearly 50.6 million under-five children are malnourished and around 90% of these children are from developing countries. Bangladesh is one of the countries with the highest rate of malnutrition. Data from the nutrition surveillance at the ICDDR, B hospital showed that the proportion of children with stunting, underweight, and wasting has reduced during 1984-2005. Parents' knowledge about nutrition is directly connected to the children's diet plan. Parents' poor nutritional knowledge can lead children to a lack of energy, food allergies, digestive problems, weight gain, depression, and anxiety as well as many prevalent chronic diseases like coronary heart

disease, cancer, ADHAI, etc. Having nutritional knowledge and making informed choices about foods will help mothers to achieve optimum health for their children over a lifetime. Again, poor nutritional knowledge of mothers creates social and financial burdens to the individual, the family, the society, and finally the nation. In this alarming situation, it is important to know mothers' nutritional knowledge and practice the insight nature of food intake patterns in the community. A cross-sectional study was conducted among 380 randomly selected children aged less than five years in Dhaka city, where the study data revealed that the prevalence of stunting among preschool children in Dhaka city was 39.5%, with 14% moderately stunted and 25% severely stunted (Jesmin A. et al. 2011). Children are considered national wealth, so it will be a vital loss for the nation if we allow them to remain malnourished.

Proper knowledge and the age-appropriate dietary practices played by the mothers for the children's nutrition are very important to prevent malnutrition and any kind of nutrient deficiencies, which could have a great impact on the children's lives in the very long run. As a result, it's crucial to research mothers' knowledge of nutrition for children in their early years. Due to the country's rapid urbanization, this study is much needed as it's proven that during the early lifespan, the effects of malnutrition are devastating and evidence on mothers' knowledge of nutrition and their responsive feeding practices for children aged 3 to 5 years living in the urban area of Dhaka city.

1.5 Research Questions:

1. What is the mothers' knowledge about the importance of nutritional knowledge for children aged 3 to 5 – living in the urban area of Dhaka?
2. How do mothers provide nutritional support through feeding practices for children aged 3 to 5 years living in the urban area of Dhaka?

1.6 Operational Definition: Practices, Nutrition, Feeding and Knowledge:

Practices: According to Simpson, & Weiner, (2022), “Doing an activity or training regularly so that you can improve your skill; the time you spend doing this.” In this quantitative research, practices refer to the activity’s parents perform and engage in to ensure their children’s healthy diet in their early years.

Nutrition: According to the Cambridge Academic Content Dictionary, nutrition is the process by which the body takes in and uses food, esp. food that it needs to stay healthy, or the scientific study of this process. Again, according to the Oxford learner's dictionary, nutrition is the process by which living things receive the food necessary for them to grow and be healthy, and also, the process by which living things receive the food necessary for them to grow and be healthy. In this quantitative research nutrition refers to parents' knowledge and understanding to ensure a healthy diet from the early years of their children.

Feeding: Feeding is the act or process of eating or being fed. According to the Cambridge dictionary, feeding is an occasion when a baby has something to drink or eat. Again, in the Oxford learners dictionary, feeding is explained as the act of giving food to a person, an animal, or a plant. It also means the regular and intermittent reservoir of food, allowing the maintenance or placing of supply of food on a regular or intermittent basis. Feed or feeding means a deliberate act of furnishing; preparing food, and other sustenance available which is likely to be consumed.

Here, feeding means purposely or knowingly preparing and providing any food, grain, fruit, vegetables, hay, mineral, salt, food by-product or other edible materials to young children (aged 3 to 5) by their mothers in their everyday meals.

Knowledge: According to Simpson, & Weiner, (2022) “The information, understanding, and skills that you gain through education or experience.”. In this quantitative research, parents’ knowledge refers to parents’ existing perceptions and ideas on the importance of nutrition for children in the early years, which we will be assessing. Vidgen and Gallegos (2011) narrated how knowledge and skills are interconnected with attitudes and behaviors by introducing the concept of nutrition literacy. Nutrition literacy has been mentioned as a powerful ally for healthier eating behavior encouragement and reveals the importance of knowing how to appropriately plan and manage meals, select foods, prepare meals, and consume them.

Chapter -2: Literature Review:

In this section, we explored various other works from different parts of the world under a range of selective themes concerning parents’ nutritional knowledge and its effect on their children.

2.1 Influence of Parental Nutritional Knowledge on Forming a Child’s Eating Habits and Nutritional Knowledge:

According to Campbell and Hesketh, young children's knowledge about food, dietary

preferences, and eating habits may underpin lifelong eating habits. Structured home environments created by parents, like- food availability, feeding rules, parent role modeling, discussion about food and parents' food preparation skills, etc. help them to have their earliest experiences with food and eating, and with these experiences, they gain their knowledge of nutrition (Birch and Davison). Parents usually control what foods children have access to at home and thus influence their child's eating practices. According to studies, good parental role modeling influences kids' eating preferences and behavior in a good way. (Brown & Ogden, 2004). They explored the modeling and control theories of parental influence on children's eating attitudes and behavior for 112 pairs of parents from Southern England. According to their study, the child's diet resembled what the parent ate, and they concluded that a positive parental role model may be more effective than dietary management measures for enhancing a child's diet. Similarly, another study on a sample consisting of 287 Spanish preschool children found that food quality and nutritional sufficiency of the sample were positively correlated with parental views toward healthy eating (Romanos-Nanclares, et al., 2018). Their findings emphasize the significance of recognizing and better comprehending parents' influences on children's diet quality and long-term health, particularly those of their eating habits. They also imply that to enhance the quality of children's diets, parental behavioral-focused programs rather than traditional nutrition education programs may be more effective than food knowledge alone. Zarnowiecki, D., Sinn, N., Petkov, J., & Dollman, J. in their 2011 study on 192 children aged 5–6 years from Adelaide, Australia, and their parents, found that parents could transfer knowledge about healthy foods to their young children. These findings imply that regardless of a family's socioeconomic position, enhancing parents' nutrition awareness can result in improvements in the child's nutrition knowledge.

2.2 Influence of Parental Knowledge on Child's Health:

The study by Johnson et al showed that Parental feeding strategies may play a role in the development of childhood overweight, by excessive control in child feeding associated with poorer eating regulation, which increased body mass.

Relatively, continuously increasing fast food and beverage intake in recent times results in the increased obesity risk for young children (Bowman et al. 2012).

Another article “Influence of parental attitudes in the development of children eating behavior” showed that, environments created by parents for children may foster the development of healthy eating habits and gain weight or may elevate overweight and exposure to disordered eating. Again, in the same study, research on behavioral mediators of familial patterns indicated that parents' eating patterns and their parenting practices influence the development of children's eating habits (Silvia S. et al. 2008).

A study by Andrew J Hill (2009) stated that parental influences sometimes direct the children's behavior shapes for food acceptance, exposure to fruit and vegetables, or foods high in energy, sugar, and fat. Some parents control what and how much children eat by imposing child-feeding practices according to their knowledge. However, this practice of over-control and teaching children to dislike the very foods they want them to consume, can be counterproductive and generally undermine children's self-regulation capabilities.

Parents have the main responsibility for their child's eating behaviors, which should be modulated early to reverse the diet related NCD growing trend (Barends C et al.2019).

2.3 Relation between Parental Knowledge and a Child's Healthy Food Intake:

We also investigated the study by Cooke et al, in 2003 concerning the fruit and vegetable intake of children. They found that parents' fruit and vegetable consumption was a strong indicator of a child's fruit and vegetable intake. In another study, Gibson *et al.* (1998) showed that mothers' concern for immunity and attitude to fruit and vegetable intake were significant predictors of fruit and vegetable consumption, indicating that parents' attitudes can also influence a child's types of food intake.

Parents with less education are disclosed to have a higher preference for sugar or salt and less perception of fruits and vegetables sufficiency ability and lower consciousness level regarding their child's sugar and salt intake. These findings are in line with studies showing that the level of parents' education is associated with better health habits, namely, higher fruit & vegetable consumption (Barends C. et al.2019). Other authors stated the impact of educated parents on child fruit and vegetable consumption and minimum sugar-sweetened beverages consumption (Gase LN. et al. 2014). Parental education is an important determinant, which in turn influences their children's eating habits and what their children will eat.

2.4 Role of Mother's Nutritional Knowledge:

We further investigate studies related to mothers' nutritional knowledge as we plan to focus more on mothers' knowledge. In a study on 302 children from Ankara, Turkey, it was found that mothers who have higher nutritional knowledge levels tend to provide their children with a more balanced diet and prefer to give their children fewer sugary drinks and fast foods (Yabancı, Kısaç, & Karakuş, 2014). Additionally, their study also found that the nutritional

knowledge level of mothers influenced their dietary preferences. In 2011, Al Shookri et. al. investigated the food habits of preschool-aged Omani children and their relationships to sociodemographic traits as well as the mother's views and nutrition knowledge and found lower dietary adequacy of children's food intake in mothers with lower levels of both nutritional knowledge and food-related health attitudes. Significant evidence was further observed by Variyam, et. al. in 1999, that the more a mother knows about health and nutrition the better the overall quality of her children's diet and it was found to be more significant for preschoolers' diet more so than that of older children. Gibson *et al* (1998) reported that young children's knowledge of the sugar and fat content of food and total nutrition knowledge was positively associated with mothers' knowledge. Sometimes, feeding young children in the wrong way unintentionally encourages children to become obese (Clark et al, 2007). Baughcum et al, (2000) pointed out that obesity prevalence is more found in low-educated mothers.

Sunwoong et al. (2000) stated that there is an interconnection between mothers' nutritional knowledge and their nutritional status, nutritional habits, and nutritional knowledge of their children. In other different studies by Vereecken & Maes, (2010), it is found that nutritional knowledge and attitude scores in mothers are positively related to the diet scores of their children (Vereecken & Maes, 2010).

2.5 Related Studies Based on Global Context

Globally around 60% of the mortality of children under the age of five, either directly or indirectly because of malnutrition (Mostafavi, F. et al, 2016). At least 1 in 3 children is not growing well in its more visible forms: wasting, stunting, and overweight. 45% of deaths of children under five years of age are attributable to a lack of proper nutrition. It is an underlying

reason for the death of a third of child deaths globally each year (2.6 million children). Around 171 million children worldwide, resulting in lifetime cognitive impairment due to Chronic malnutrition each year. At least 1 in 2 suffer from hidden hunger due to deficiencies– which are often not visible – in essential nutrients (UNICEF, 2019). Each year worldwide around 160 million children under five years of age are affected by stunting; 116,000 children died due to zinc deficiency and 157,000 children died because of Vitamin A deficiency (ICDDR'B, 2017).

The study has also mentioned that children aged from the rural areas and the poorest households are fed the minimum recommended diverse diet for healthy growth and brain development. Above 44% of young children are not fed fruits or vegetables and 59% are not fed eggs, dairy, fish, or meat (UNICEF, 2019). Again, childhood obesity is associated with premature death, a higher chance of obesity, and disability in adulthood. Research shows that, most of the world's population lives in countries where obesity and overweight kill more people than underweight. Another study by WHO (2016) shows that, under the age of 5 years 38.9 million children were overweight and more than 124 million children and adolescents were obese. Hence children's proper acceptable growth and development are still being obstructed because of the inadequate amount of nutrition and these issues have been acknowledged all around the world.

2.6 Related Studies Based on Bangladeshi Households:

A Cross-sectional Study in Dhaka City showed that considering socioeconomic profile, more than 53% of mothers in Bangladesh had no tertiary education (below graduation), and more than 82% were housewives. 67% of mothers' nutritional knowledge was quite high (Jesmin. A. et al, 2011). After analysis, this study also found that the mean height-for-age z (HAZ) score was higher and significantly differed for children of mothers with a postgraduate degree comparing the primary, secondary, and higher secondary education groups. The mean HAZ also found that children's nutritional status of working mothers was better compared to that of children of mothers who were homemakers. Mothers with good knowledge of nutrition had significantly better nutritional status than mothers with poor nutritional knowledge. Despite their use of urban facilities, such as electricity, media access, and sanitation, they also suffered from air pollution, and insufficient water/ electricity supply, and with a fair level of nutritional knowledge of the mothers, the prevalence (43%) of malnutrition among the preschool children was found to be very high.

A cross-sectional study by Tuhinur et al. (2022) associated with stunting among 17,490 children below five years of age in Bangladesh, found that children of higher-educated mothers were less likely to develop stunting compared with children of mothers having less or no education at all. Similarly, children of the higher educated father were found to have less risk of stunting compared with children whose father hadn't any education. Substantially children whose mother and father both completed secondary education or above, a lower risk of stunting was observed. Again, children coming from the richest households found 51% lower odds of stunting compared to children coming from the poorest households.

Another study conducted in Dhaka city illustrates that the height of mothers, education level of fathers, birth weight of children, mothers' nutritional knowledge, and frequency of feeding

have been identified as significant factors that have direct and independent influences on the stunting of preschool children (Jesmin A. et al. 2011). Further, the study showed that children's parents who attained secondary education were less likely to be stunted compared to the children whose parents were without formal education. Due to mothers' lower educational status and lack of knowledge of nutritional sources, these children may become stunted.

Moreover, a study by Bangladesh Demographic and Health Survey (2013), illustrates that the mothers who have more understanding of child health and nutrition are educated and come from richer households, and have great access to media compared to mothers from poorer households. Financial ability is also important for ensuring the required number of nutritious foods for the children. Again, the study showed that compared to mothers from richer families, mothers from poor households did not have the financial ability to purchase nutritious foods for their children.

Hoddinott J, Ahmed I, Ahmed A, Roy S (2017) Behavior change communication activities improve infant and young child nutrition knowledge and practice of neighboring non-participants in a cluster-randomized trial in rural Bangladesh. Hoddinott et al (2017) in their study, 900 households were invited to participate, among them 450 from the North and 450 from the southern rural area of Bangladesh and found that a large scale of proof indicates that poor infant and young child nutrition (IYCN) practices come up with poor pre-school nutrition outcomes. Behavior change communication activities (BCC) were seen as an element of essential actions that improve IYCN knowledge and practices and guidelines to improve nutritional outcomes in preschool children. A Survey of studies of effective nutrition BCC activities acclaimed that there have been five well-planned reviews documenting the effect of BCC on maternal knowledge of proper Infant and Young Child Feeding (IYCF) practices.

In Bangladesh, it is found that among children under the age of five years is still significant (36%) the incidence of underweight), leads to the prevalence of anemia among young children as well as adolescent boys and girls. According to UNICEF (2014) in Bangladesh report, above three-quarters of children do not have proper access to a minimum acceptable diet in terms of amount and diversity. As a result, they face deficiencies in micronutrients macronutrient and micronutrient deficiencies, which are exposed to physical, sensory, and cognitive impairment. About 49% of children under the age of five are anemic because of less dietary intake of micronutrients, again, about 34% of school-age children have iodine deficiency, which sometimes coupled with an increased incidence of infections, due to insufficient amount of adequately iodized household salt. So, in Bangladesh, rather than only a lack of food, the major causes of malnutrition in households are insufficient knowledge about nutrition, less understanding about different sources of easily available nutritious food and poor feeding practices over a long period. In 2022 data from UNICEF shows that, about 47 million children were already wasted in 2019 even before the COVID-19 pandemic. If proper actions are not taken immediately then the number of malnourished children could rise to over 54 million by the end of the year 2021(UNICEF, 2020).

Chapter-3: Methodology

3.1 Study Design: In this research including correlational quantitative information, a non-experimental study design was applied. The main objective of quantitative research, according to Borg and Gall (1989), is the perception of causal relationships between variables. In this research design, information on the observed behaviors of samples was obtained through statistical data collecting of the observed behaviors of the samples. The data, which were collected, were analyzed in numerical form (Borg and Gall, 1989; Gall et al., 1996). Without manipulating the independent variable, this design focuses on the statistical relationships between variables. Again, the variables were not controlled in any status and were discovered the result in the relationship between them. This design had been chosen to perform this research to achieve its objective and to address these issues; to understand the differences in practices, and knowledge of mothers of their children's nutrition, who had children aged 3 to 5 years in the urban area of Dhaka.

3.2 Study Setting: The study was conducted remotely in the urban area of Dhaka city, where the respondents of interest live. For this quantitative research, utilizing data was gathered through web surveys and emails. This setting is selected for this study for the following reasons: 1) This setting is one of the most populated district (Dhaka) in Bangladesh. 2) Its geographical location is easy to access for good communication and technology services. as some of the areas might have internet issues which would hamper the quality of the study due to very few participants who knew much about using technology.

3.3 Study Population: A study population is a group contemplated or acknowledged for a study or statistical reasoning. The study population is not bounded or limited to the human population only. It is a set of features that have something in common. In this quantitative research, the research population of this study consisted of women who were the mothers of children aged 3 to 5 years and aged between 25 to 45 years old. All the mothers were from urban upper-middle-income background and who were eligible for this research, were targeted from urban areas (Dhaka cantonment, Uttara, and Mirpur) of Dhaka city.

3.4 Sample size and Sampling Method: A Purposive Sampling method was done in a natural setting. The target population was mothers of children aged 3 to 5 from the urban areas in Dhaka city. In the Bangladesh context, most mothers are involved in feeding practices for their children, so considering the fact, only mothers were selected for this study. A minimum of 45 mothers and this can be more than 45 mothers aged 25 to 45 were selected as respondents in the survey. The criteria for the inclusion of these respondents were that all mothers with children aged between 3 and 5 years and had the access to the Internet. There was an age limit for respondents' mothers. All the respondents' mothers were from Dhaka city, from similar socioeconomic brackets (the upper middle class), and from different educational backgrounds.

3.5 Measures/ tools: In quantitative research, most of the data can be obtained by the questionnaire (Smith et al., 1994). The questionnaire is very effective using in large-scale surveys as it demands less time and is less expensive (Gay, 1987). The questionnaires are usually mailed, but they can also be personally administered. In this study, a self-rating Questionnaire was applied as a tool. After defining the problem and understanding the

specific objectives to be achieved a questionnaire was designed. Then identifying the sample was needed for this specific study. It is important to include the appropriate samples, who has the information, and who are willing to give the information. The advantage of the especially the mailed questionnaire, it's lower cost and the speed of dissemination and collection (Gay, 1987; Borg and Gall, 1989). As the subjects were literate and could understand the questions, this tool covered a wider geographic area and many subjects were sampled, compared to other tools such as interviews or experimental research. A structured questionnaire with multiple questions was used as a survey tool for respondents to answer. These questions were all self-explanatory and divided into two parts, as per the two research questions: participants' knowledge about the importance of children's nutrition during early years and the practices in day-to-day which respondents engage in with their children. Some of the questions were standard 'Yes' and 'No' questions, some of them having one more option such as 'May be', and some of the questions were designed in linear scale and check box. In a Linear scale, series of statements that respondents may select to rate their responses to evaluative questions. Here, in the liner scale the combination of different scales like – Frequency, Importance, Dichotomous Scales, Five-Point Scales etc.were used.

3.6 Data Collection Procedure: The remote survey was conducted on an online platform. Data was collected via Google Forms. Before sharing the questionnaire, respondents were selected based on the following criteria: similar socio-economic backgrounds and living in Dhaka city, with at least one child aged between 3 years to 5 years. Once respondents were selected, they were informed about the topic, the purpose of the research as well as the process of data collection. After getting their expressed written consent, the questionnaire

was mailed to all respondents to their email addresses via Google Forms with a detailed instruction paragraph attached. The instruction paragraph consisted of issues on confidentiality, how to provide the answers and the reason for the survey. Respondents were given a specific time to complete the survey after which they individually sent back the completed questionnaire via Google Forms.

3.7 Data Analysis: Descriptive analysis was done where nominal data and raw data were checked. The data was organized into a database structure using google spreadsheet (like-MS excel). Here, categorical analysis was done. All the analysis, frequency distribution and percentage of different data was calculated using SPSS analysis tools.

3.8 Validity & Reliability of the Research Tool: The questionnaire was reviewed and approved by the supervisor and other experts at BRAC, IED, to confirm its validity and then it was piloted on 01 respondent. After getting the feedback from the respondent (the piloted one) the questionnaire was mailed to other selected respondents. Here, it is needed to mention that, as the piloted respondent was literate like other selected respondents so she did not face any difficulties in understanding the questionnaire and took 22 minutes to answer the all 26 questions. Later, to assure the authenticity of the research, unique and reliable data records were kept. To ensure accuracy, collected data was transcribed as quickly as possible.

3.9 Ethical issues: Honesty, integrity, objectivity, carefulness, openness, respect for intellectual property, confidentiality, responsible mentoring, social responsibility, non-discrimination, competence, etc. are some principles of ethics. This study was carried out in compliance with the ethical guidelines of the Declaration of BRAC University. Before the survey, the respondents' permission was taken, and they will remain anonymous.

Respondents were given confidence in the investigation through mutual respect and understanding. All the respondents were informed about the specific objective of this study until they continued to fill up the questionnaire. Respondents were ensured that they would not be harmed physically or psychologically during the conduct of the research. and their cultural values would be fully kept respectfully. Respondents were allowed to complete the survey once and could terminate the survey whenever they wished. All the respondents had the right to withdraw from the research at any time. They were not forced, pressured, judged, or controlled at any point in the study. Confidentiality and anonymity of the data were ensured. These ethical norms helped to ensure accountability to the public and help to build public support for research. People are more likely to respond in any research project when they can trust the integrity and quality of the research. Research ethics also provides guidelines for the responsible conduct of research. Again, it will help to conduct research to ensure a high ethical standard. respondents were not harmed physically or psychologically during the conduct of the research.

- 3.10 **Limitation of the study:** Quantitative research is the procedure of gathering observable data to answer a research question using statistical, mathematical, or computational techniques. It is often seen as more valuable or accurate than some other research, as quantitative research focuses more on gathering numerical data. Sometimes the questionnaire does not allow respondents' feelings and opinions to be expressed freely. Also, it is impossible to modify the items, even though they may be unclear to some respondents (Borg and Gall, 1989). A serious problem in questionnaires is non-response (Krahtwohl, 1993). Since it includes a large sample is usually volunteers, the researcher has no control to force them to return the questionnaire. Sometimes the return of the

questionnaire may be delayed (Bryman, 1989). Here, the study only disclosed the findings from the respondents of the selected socio-economic backgrounds, and only the urban areas were selected. Generalization of the study might be bounded as it was done only in a specific area of Dhaka city. The selected area represents only the upper middle income socio-economic domain. According to the study, only mothers participated, and fathers were not included, thus there might be less generalization of the findings in terms of parent gender. Here, in the study it is also found that all the mothers were not similarly serious and interested to participate in the survey.

Chapter-4: Results & Discussion

4.1 Results:

Demographic outline of Mothers (Age, educational qualification, and occupation):

- **Age:** Demographic outline of mothers was assessed to gather a more rounded understanding of children's immediate surroundings. Out of total of 45 mothers, 13 (28.9%) mothers were from 25 to 30 years, 11(24.4%) mothers were from 31 to 35 years, 17 (37.8%) mothers were from 36 to 40 years, and the rest 04 (8.9%) mothers were from 41 to 45 years old.

Table 1: Frequency distribution table of mothers' ages

	Frequency	Percent	Cumulative Percent
25 to 30	13	28.9	28.9
31 to 35	11	24.4	53.3
36 to 40	17	37.8	91.1
41 to 45	4	8.9	100.0
Total	45	100.0	

- **Educational qualification and occupation:** Out of 45 mothers, 4 were SSC passed, 11 were HSC passed, 12 were Honors and 18 were master's degree holders. Here, most of the mothers were homemakers.

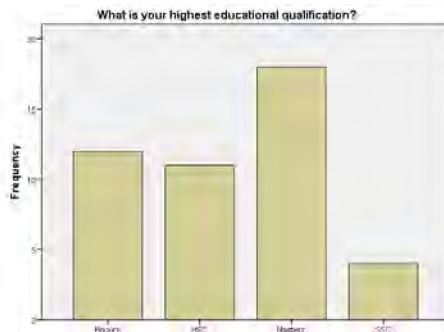


Figure 1: Frequency distribution of mother's education level

The distribution of the mother's educational qualification is illustrated in the above figure 1 and mother's occupation is illustrated in table 2.

Table 2: Frequency distribution table of mothers' occupation

	Frequency	Percent	Cumulative Percent
Private sector employee	3	6.7	6.7
Banker	1	2.2	8.9
Government employee	5	11.1	20.0
Homemaker	29	64.4	84.4
Military	3	6.7	91.1
Teacher	4	8.9	100.0
Total	45	100.0	

Demographic outline of children (Age and gender):

In figure 2, distribution of children's gender and age is presented respectively. Out of a total of 45 children, 24 (53.3%), children were boys, and 21 (46.7%) children were girls.

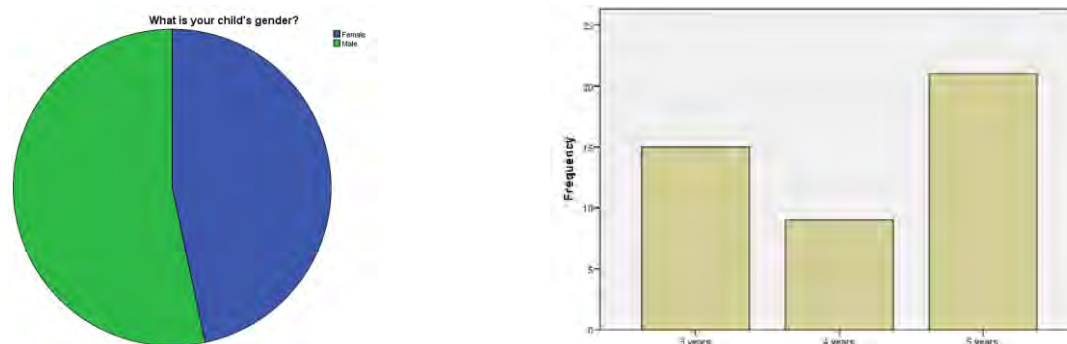


Figure 2: Frequency distribution of child's gender and age

Mothers' knowledge:

For all the respondent mothers' understanding and knowledge regarding nutrition, multiple numbers of questions were placed.

All the mothers were asked about the term 'balanced diet' and most of the mothers responded positively. Out of 45 mothers, around 30 mothers (66.7%) replied 'yes', whereas 05 mothers

(11.1%) have no idea about balanced diet and the rest 10 mothers (22.2%) had shown no clear knowledge about a balanced diet by responding ‘may be’.

Table 3: Do you know about the term ‘balanced diet’?

	Frequency	Percent	Cumulative Percent
Valid			
Maybe	10	22.2	22.2
No	5	11.1	33.3
Yes	30	66.7	100.0
Total	45	100.0	

Among the mothers, 24 mothers (53.3%) mothers knew about the components of a balanced diet. The distribution of mothers’ knowledge about the components of a balanced diet is illustrated in figure 3.

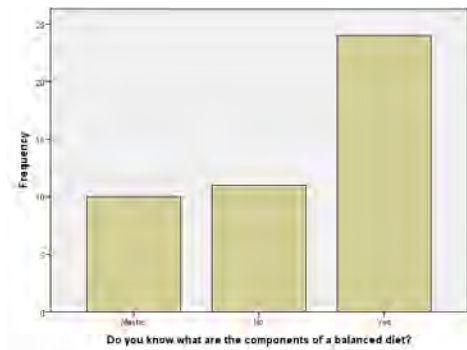


Figure 3: Frequency distribution of mothers’ knowledge about the components of a balanced diet

To understand the correlation between the independent variables (mothers’ occupation and mothers educational background) regarding mothers understanding about the importance of nutrition in child’s every day meal, the analysis is illustrated in the figure 4 and figure 5.

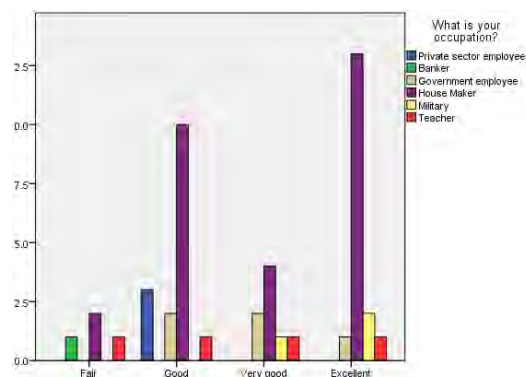


Figure 4: Crosstabulation of mothers' occupation and "On a scale of 1 to 5, how would you rate your understanding of the importance of nutrition in a child's diet?"

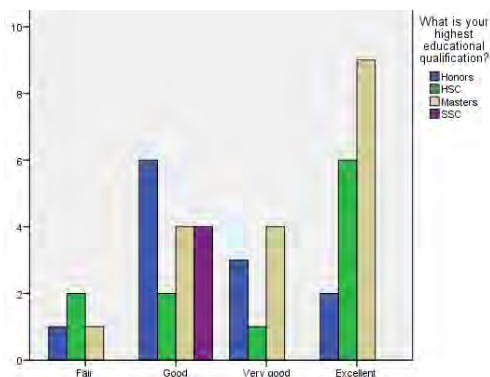


Figure 5: Crosstabulation of mothers' education level and "On a scale of 1 to 5, how would you rate your understanding of the importance of nutrition in a child's diet? "

Table 4: Do you love reading magazines, journals, and books about nutrition for making meals for your child?

	Frequency	Percent	Cumulative Percent
Valid			
Maybe	14	31.1	31.1
No	9	20.0	51.1
Yes	22	48.9	100.0
Total	45	100.0	

In table 4, mothers' interest about reading magazines, journals, or books regarding nutrition, is illustrated. Again, in the study it is found that 10 mothers responded their children everyday meal is appropriate according to his/her age. In table 5, the frequency distribution is illustrated.

Table 5: "On a scale of 1 to 5, how appropriate do you think your child's everyday diet is according to his/her age

	Frequency	Percent	Cumulative Percent
Inappropriate	1	2.2	2.2
Slightly inappropriate	6	13.3	15.6
Slightly appropriate	14	31.1	46.7
Appropriate	14	31.1	77.8
Absolutely appropriate	10	22.2	100.0
Total	45	100.0	

To understand about mothers' knowledge about 'Malnutrition', it is found that 21 mothers know about the causes of 'Malnutrition', 12 mothers do not know. The frequency distribution of understanding of mothers' knowledge about cause of 'Malnutrition' is illustrated in figure 6.

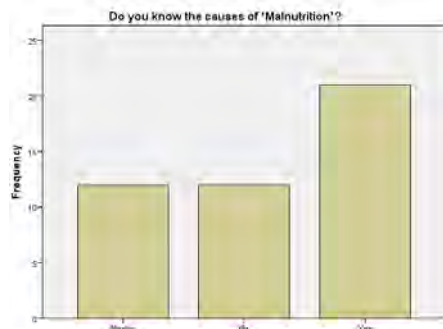


Figure 6: Bar graph representation of the question, "Do you know the causes of 'Malnutrition'?"

Depending on mothers' occupation and educational level the understanding of the statement, "Knowledge of nutrition is important for child", the frequency distribution is illustrated separately in the figure 7 and figure 8.

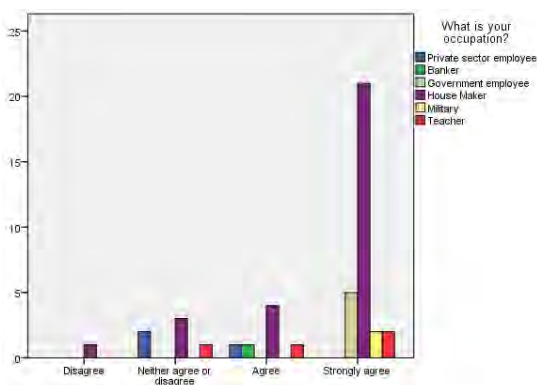


Figure 7: Crosstabulation of mothers' occupation and "On a scale of 1 to 5, how much do you agree with the following statement, "Knowledge of nutrition is important for children"?"

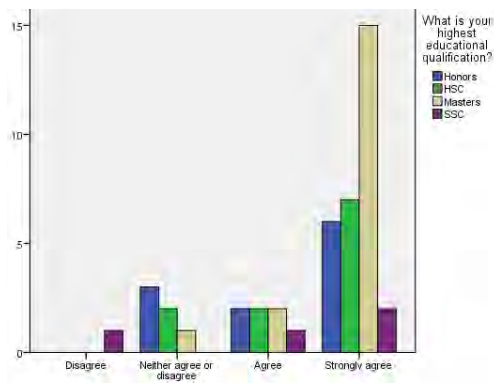


Figure 8: Crosstabulation of mothers' educational level and "On a scale of 1 to 5, how much do you agree with the following statement, "Knowledge of nutrition is important for children"?"

Mothers' feeding practice:

To find out the mothers' feeding practices for their children in daily meal, a multiple number of questions were asked. All the mothers were asked, do they follow a balanced diet for their child everyday meals- here, 16 (35.6%) mothers responded 'yes', that they everyday follow a balanced

diet for their children. On the other hand, 14 (31.1%) mothers responded “no”, and 15 (33.3%) mothers were doubtful and replied “maybe”.

Table 6: Do you think, you follow a balanced diet for your child in everyday meals?

		Frequency	Percent	Cumulative Percent
Valid	Maybe	15	33.3	33.3
	No	14	31.1	64.4
	Yes	16	35.6	100.0
	Total	45	100.0	

Regarding preparing everyday nutritious meals for the child, mothers’ responses according to their occupation and educational background, the results are illustrated separately in the figure 9 and figure 10 below.

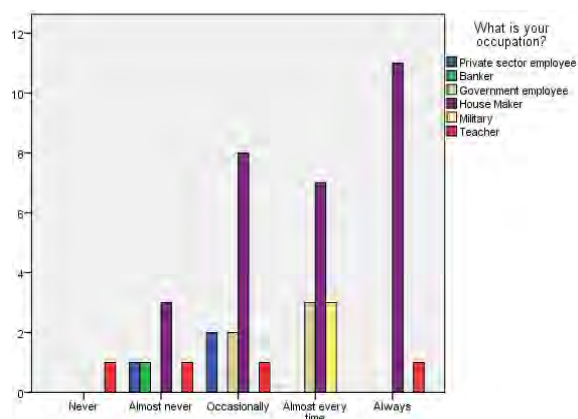


Figure 9: Bar graph representation of mothers' occupation and "On a scale of 1 to 5, how much do you think about the nutritional facts while preparing the food for your child?"

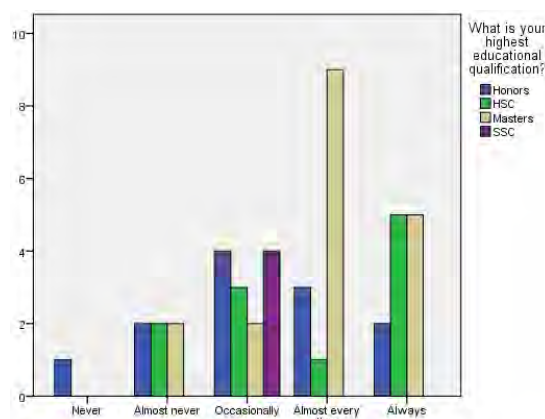


Figure 10: Bar graph representation of mothers' education level and "On a scale of 1 to 5, how much do you think about the nutritional facts while preparing the food for your child?"

To understand the correlation between mothers’ occupation and educational background regarding the confidence in providing nutritionally valued meals every day, the frequency distribution is illustrated in the table 7 and table 8.

Table 7: Crosstabulation table of mothers' occupation and "On a scale of 1 to 5, how confident do you feel about the nutritional value of the everyday meals you feed your child."

		What is your occupation?						Total
		Private sector employee	Banker	Government employee	House Maker	Military	Teacher	
On a scale of 1 to 5, how confident do you feel about the nutritional value of the everyday meals you feed your child.	Not confident at all	0	0	0	1	0	1	2
	Less confident	1	1	1	5	0	2	10
	Somewhat confident	2	0	1	7	0	1	11
	Moderately confident	0	0	2	7	3	0	12
	Very Confident	0	0	1	9	0	0	10
Total		3	1	5	29	3	4	45

Table 8: Crosstabulation table of mothers' education level and "On a scale of 1 to 5, how confident do you feel about the nutritional value of the everyday meals you feed your child."

		What is your highest educational qualification?				Total
		Honors	HSC	Masters	SSC	
On a scale of 1 to 5, how confident do you feel about the nutritional value of the everyday meals you feed your child.	Not confident at all	0	0	1	1	2
	Less confident	4	3	2	1	10
	Somewhat confident	4	3	2	2	11
	Moderately confident	3	0	9	0	12
	Very Confident	1	5	4	0	10
Total		12	11	18	4	45

To know more about mothers' practice, all 45 mothers were asked about the time they spend preparing their child's meal.

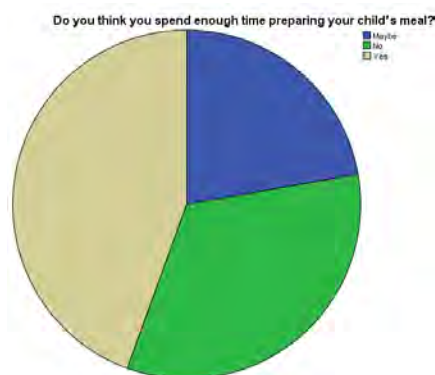


Figure 11: Pie chart representation of "Do you think you spend enough time preparing your child's meal?"

It is found that 20 (44.4%) mothers think they spent enough for preparing their child's everyday meals by responding "yes", 15 (33.3%) mothers replied "no" and the rest 10 (22.2%) mothers

responded “maybe”, as they were not very much sure about their actions. The frequency distribution is illustrated in the above figure 11.

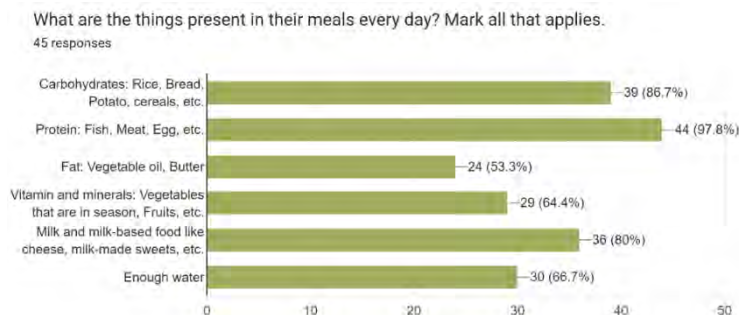


Figure 12: Bar graph representation of the main nutritional elements found in the everyday meals of the children.

In the figure 12, from the bar graph, it is found that, most of the children (97.8%) are having protein i.e., Fish, meat, egg etc. in their everyday meals. Carbohydrates, like- rice, bread, potato, etc. are present in 39 children’s everyday meals (86.7%) and milk or milk-based foods are present in quite reasonably but not as per required according to their age, the consumption rate of fat (53.3%) and vegetables (64.4%) were quite low which are a very essential component of a balanced diet. The water intake is also found inappropriate (66.7%).

Among 45 mothers, 2 mothers frequently went out to eat, 24 mothers once a month and 15 mothers once a week usually visit outside for taking meals with their children and 4 mothers did not like to go outside for taking meal.

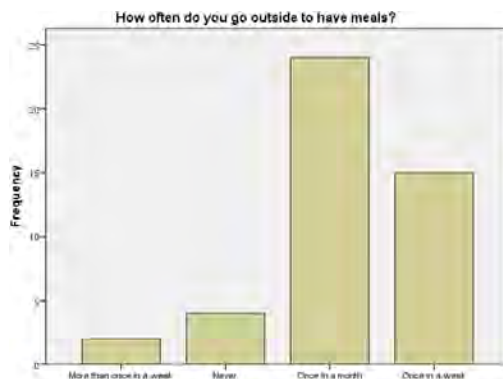


Figure 13: Bar graph of "How often do you go outside to have meals?"

To find out about child preferences, in figure 14, it is found that, among 45 children, 32 children (71.1%) prefer homemade food and 13 children (28.9%) have great interest in junk food. The frequency distribution of the child's preference is illustrated in figure 14.

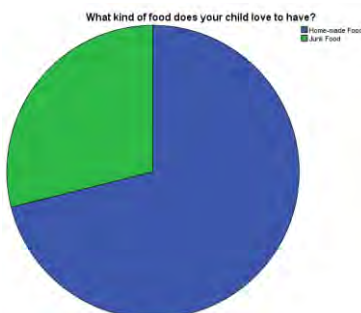


Figure 14: Pie chart representation of "What kind of food does your child love to have?"

According to the study, 24 children (53.3%) have fixed timetables for everyday meals and responded "yes", whereas 17 children (37.8%) have no fixed timetables for everyday meals, responded "no" and the rest 4 children (8.9%) responded "maybe".

Table 9: Does your child have a fixed timetable for everyday meals?

	Frequency	Percent	Cumulative Percent
Valid			
Maybe	4	8.9	8.9
No	17	37.8	46.7
Yes	24	53.3	100.0
Total	45	100.0	

According to the study, out of 45 mothers, 03 mothers always feed their child forcefully, 10 mothers almost every time, 17 mothers occasionally, 09 mothers almost never and 06 mothers never forcefully feed their children. The frequency distribution according to mothers' occupation is illustrated in table 10.

Table 10: Crosstabulation table of mothers' occupation and "On a scale of 1 to 5, how often do you feed your child forcefully? "

		What is your occupation?						Total
		Private sector employee	Banker	Government employee	House Maker	Military	Teacher	
On a scale of 1 to 5, how often do you feed your child forcefully?	Always	0	0	1	1	0	1	3
	Almost every time	0	1	3	4	0	2	10
	Occasionally	3	0	1	12	1	0	17
	Almost Never	0	0	0	7	1	1	9
	Never	0	0	0	5	1	0	6
Total		3	1	5	29	3	4	45

It is also found that mothers' different educational background also affects their understanding of the importance of nutrition in a child's diet. The distribution is illustrated in figure 12. Mothers from SSC background only 04 responded having good understanding. Mothers from HSC background 02 mothers have fair, 02 have good, 01 have very good and 06 have excellent understanding of the importance of nutrition in a child's diet. A mother from Honors background, 01 mother has fair, 06 have good, 03 mothers have a very good, and 02 mothers have an excellent understanding of the importance of nutrition in a child's diet. Lastly, mothers from master's degree background, 01 mother has fair, 04 mothers have good, 04 mothers have very good, and 09 mothers have an excellent understanding about the importance of nutrition in a child's diet.

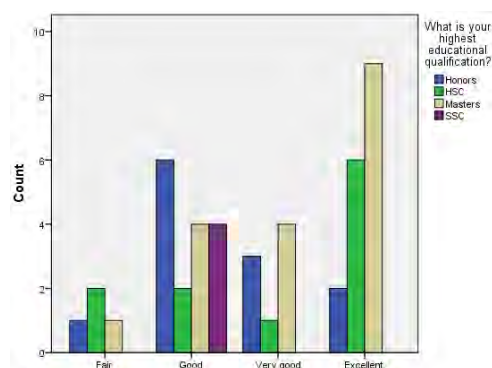


Figure 15: Bar graph representation of cross tabulation table

According to the study, only Homemaker mothers (08) feel very easy to serve food containing different nutrients to their child's everyday meals and 02 mothers (Teacher) feel very difficult. The frequency distribution is illustrated in table 11.

Table 11: Crosstabulation table of mothers' occupation and "On a scale of 1 to 5, how difficult is it to give food containing different nutritious content/value to your child each day?"

	What is your occupation?						Total	
	Private sector employee	Banker	Government employee	Homemaker	Military	Teacher		
On a scale of 1 to 5, how difficult is it to give food containing different nutritious content/value to your child each day?	Very Difficult	0	0	0	0	0	2	2
	Difficult	1	1	2	6	0	1	11
	Neutral	2	0	1	8	1	1	13
	Easy	0	0	2	7	2	0	11
	Very Easy	0	0	0	8	0	0	8
Total		3	1	5	29	3	4	45

Among 45 mothers, a total of 10 mothers (most of the house maker) think that their children's everyday diet is appropriate according to his/her age. Other mothers responses are illustrated in the table – 11 regarding to their occupation.

Table 12: Crosstabulation table of mothers' occupation and "On a scale of 1 to 5, how appropriate do you think your child's everyday diet is according to his/her age?"

	What is your occupation?						Total	
	Private sector employee	Banker	Government employee	House Maker	Military	Teacher		
On a scale of 1 to 5, how appropriate do you think your child's everyday diet is according to his/her age?	Inappropriate	0	0	0	0	0	1	1
	Slightly inappropriate	1	1	0	3	0	1	6
	Slightly appropriate	1	0	2	11	0	0	14
	Appropriate	1	0	2	7	2	2	14
	Absolutely appropriate	0	0	1	8	1	0	10
Total		3	1	5	29	3	4	45

In the last section of the questionnaire, there was an open-ended question for all the mothers, about do they think there is any link between feeding practice and childhood nutrition – here, most of the mothers responded positively. The study revealed that most mothers understand the knowledge of nutrition only in terms of the necessity of their children but not nutrition. The study analysis shows that, all mothers are aware of the term 'balanced diet', but they have no proper knowledge about the 'balanced diet', like – its components, how to compile in everyday food habit, etc. The choices of food differ in households even within the same socio-economic group of mothers. The

feeding practices vary due to several, multiple factors. Again because of work pressure and time limitation, sometimes working mothers feel lazy to concentrate on nutritional facts and prepare meals for their children, eventually, sometimes they go with the easy options, like – readymade/ processed/ outside junk food.

Discussion:

This study aims to explore mothers' attitudes from their knowledge, experience, and practices regarding children's nutrition in Bangladesh by analyzing the nutritional knowledge and practices of mothers from similar socioeconomic backgrounds with different educational backgrounds. According to the demographic profile of the study, all the mothers who participated in this research had at least one child within the age range of 3 to 5 years. All participants were mothers from upper-middle-income backgrounds and were from different educational backgrounds (from SSC to master's degree holders). According to this study, it is found that most of the mothers from different educational backgrounds have an understanding only of the term, 'balanced diet'. But many of them do not even know the component of a balanced diet. Here, it is found that among 45 mothers, only half of them have the proper knowledge of a balanced diet, the rest of the mothers are doubtful or have no understanding of the components of a balanced diet. But to maintain a proper food habits and practice this nutritional knowledge is very important to know. In this connection, it is also found that mothers' different educational background also affects their understanding of the importance of nutrition in a child's diet. Mothers from SSC background only a few of them responded having good understanding. Mothers from HSC backgrounds, few of the mothers have fair, and good, 01 have very good and only 06 have excellent understanding about the importance of nutrition in a child's diet. Mothers from an Honors backgrounds found more fair, good and excellent understanding about the importance of nutrition in a child's diet compared to

the above two educational backgrounds. Whereas mothers from master's degree background, almost every mother has a fair, good, and excellent understanding about the importance of nutrition in a child's diet. Despite knowing the fact, in this study it is found that service holders mothers find it difficult to serve home prepared meals to their child's everyday meals in comparison to Homemaker mothers. According to the literature, there are many other factors such as- food availability, feeding rules, parent role modeling, discussion about food, parents' food preparation skills, their earliest experiences with food and eating, their knowledge of nutrition (Birch and Davison, 2001) which is consistent with the findings.

In this study, it appears that highly educated mothers from the upper middle class have the right perceptions of the significance of childhood nutrition. They're quite aware and try to ensure their child's proper nutrition from the very early years to ensure their children's optimum health and development. According to the study's findings, educated mothers understand the overall reasons for practicing a good nutritional diet and they have good interest in acquiring nutritional knowledge by reading different articles, which also help them to understand about the necessity of nutrition, its's different sources, proper feeding practices etc. Mothers' different educational backgrounds also plays an affective role in the preferences of food in houses. The levels educational qualification, tradition, culture, religion, geography, joint or nuclear family setting, availability of caregivers all impact food preferences and different feeding practices. All these factors ultimately impact on children's early childhood nutrition and malnutrition factors.

Unfortunately, most of the less-educated mothers from a similar socioeconomic background, who don't have a clear knowledge of early childhood nutrition as well as not all of them had much understanding and awareness regarding the issue, as a result most of them can't do well practice regarding the issue. From the literature, it is found that beside this food quality and nutritional

sufficiency of the sample were positively correlated with parental views toward healthy eating (Romanos-Nanclares, et al., 2018) which is consistent with the findings.

The study found that regardless of a mother's career, educational background, or socio-economic status, they are the primary caregivers for the family's children (whether working or staying at home). Additionally, it is found in the study, the caregiver, in laws, or relatives are also assisting and assuring in the nutritional development of children in the absence of the working mothers as they need to stay out of the house for a long period. In this regard, In the study it is found that educated mothers, have more clear ideas and they could give their children the full support and time to meet up their child's nutritional demands again it is sometimes found difficult for the working mothers to ensure their child nutritional diet as they need to depend on others. Though they have clear knowledge of this issue, they cannot pay full attention to their child's meal. Sometimes the improper distribution of foods, meal frequency diet diversity, timeliness- all multiple barriers are affecting their young children. Here, responsive feeding practices are missing, as sometimes children don't want to eat from the assigned person except for their mothers. As a result, they're deprived of the proper nutritional diets they require at this crucial time in their life. Some studies shows that researchers believed that family socioeconomic status (SES, particularly, family income and parents' educational qualifications) is an important factor that affects an individual's neural and cognitive development (Hair et al., 2015; Noble et al., 2015).

Analysis of this study present study, the women who were higher educated were much prepared and followed healthier eating habits for their children and perhaps for their other family members. Here, it also showed that another maternal variable that was strongly connected with was mothers' formal education. This could be explained by the fact that those mothers who were less educated, likely to be less knowledgeable regarding proper nutritious diets. Also, several factors can

influence an individual's food choices for herself and her family (Adamo & Brett, 2014). According to this study's findings, it is also shown that even within the same socio-economic, the way of feeding practices differs. So, sometimes although higher educated mothers can lead to a better nutritional diet, it is not necessarily a positive practice of it. According to the literature, there is an interconnection between mothers' nutritional knowledge and their nutritional status, nutritional habits, and the nutritional knowledge of their children (Sunwoong et al.,2000). In other different literature, it was found that nutritional knowledge and attitude scores in mothers are positively related to the diet scores of their children (Vereecken & Maes,2010) which both are consistent with the findings.

It is also found that some of the reasons, like- integration of technology in family lives, loss of appetite amongst children, unavailability of mothers & caregivers to cook or prepare the meals, and the introduction of unhealthy outside foods (junk food) that is lack of nutritional values but cater to taste buds, etc. the conventional knowledge of malnutrition is challenged. This study also revealed that several children love to have ultra-processed, fast/junk foods more than healthy nutritious foods. This finding suggests young children who have the habit of consuming these foods instead of more nutritious foods are at risk of micronutrient deficiencies, stunting, being underweight, overweight, and obesity because of the high calorie content and tendency to develop long-term sweet food preferences (Ventura, A., & Mennella, J. 2011). All these innutritious foods and beverages are also negatively weakening the recommended eating habits, such as the consumption of healthy nutritious traditional foods and the willingness of mothers to prepare everyday meals. Relatively, according to the literature continuously increasing fast food and beverage intake in recent times redounds the obesity risk for young children (Bowman et al. 2012) which is very much consistent with the findings. Again, some other literature shows that the level

of parents' education is associated with better health habits, namely, higher fruits & vegetable consumption (Barends C. et al.2019) which is consistent with the findings.

According to this study, some mothers had forcefully fed style for their children. And this by force and improper behaviors of mothers can affect the social behaviors of the child, which are developed and established at this age. According to an American journal, several cases of child death following force-feeding have also been reported globally (AJ OB, 2014). During forced-feeding moments, children experience negative feelings of anger, fear, disgust, and humiliation and they feel nausea and vomiting (Batsell, 2002). As this is a crucial time of development, it is extremely important for mothers to build a close relationship, a close interaction between the children. As it is very important for the child's physical, mental, and social growth and development in the subsequent years ahead will depend upon it.

According to this study, it is also found that most mothers are very cautious about the presence of carbohydrates and protein in their child's everyday meals. It is found that most children have any one kind of protein, like- fish, meat, egg, etc. in their everyday meal. Carbohydrates, like- rice, bread, potato, etc. are also present in children's everyday meals and Milk or milk-based foods are present quite reasonably but not as per required according to their age, the consumption rate of fat is also quite low which is very essential component of a balanced diet. The water intake is also found inappropriate, as water is very much essential for a child's digestion, balancing total body temperature and keeping the body hydrated. Mothers are found not as careful about the consumption of water intake compared to other food intakes. According to the literature, Andrew J Hill (2009) stated that parental influences sometimes direct the children's behavior shapes for food acceptance, exposure to fruit and vegetables, or foods high in energy, sugar, and fat. Some

parents control what and how much children eat by imposing child-feeding practices according to their knowledge, which is correlated with the findings.

The study also revealed that, comparatively children have less interest in the consumption of vegetables, which is also consistent with the findings of Pate et al. (2015), that most children between the ages of two and five consume an insufficient amount of fruit or vegetables to meet the dietary recommendations of Americans. Additionally, scientists have hypothesized that nutritional behaviors acquired by children at an early stage when they do not consume enough fruit or vegetables will appear later in their adolescent behaviors, and increase potential health problems including obesity (Black, 2019).

Children's habits of food consumption, in terms of quantity, quality, verity and frequency, are significant determinants in deciding children's early childhood malnutrition. The emotions, efforts and reactions of mothers play a vital role here. This finding is remarkable because, according to the research, to practice a healthy food habit behavior, an individual must first recognize that a diet is inadequate and clearly understand the health risks associated with sustaining such a diet (Straub, 2014). Also, the behavioral modification of mothers often impacts their emotional and physical availability when it comes to feeding their children as well as providing their daily nutritional needs. If the mother is depressed, tense or overwhelmed with workload, many times it affects their child's everyday meals. So, this is very important in which condition they're being treated or growing up and in which environment the children are living, what kind of foods they're having, and how they're being fed has a great influence on their mother's emotional and physical well-being, which greatly influences children's food habit. Here, in the study, it is found that as service holder mothers are additionally pressurized with their outdoor workloads, none of the service holder mothers responded very confidently regarding their feeding practices of their children.

In this study, according to working mothers, have a good understanding of the nutrition and its importance on their child's overall physical and mental development. They are also aware of the causes of malnutrition. But as they need to stay out of the house from the early morning till evening, they cannot pay proper attention to selecting and preparing their child's everyday meals. Some of them are very serious about selecting the proper nutritious food and preparing the meal for their child every day before leaving for the workplace. However, they are not very sure if their child is having the meals properly or if they are taking the meals in proper portions or at the proper time. Very few of them responded that they do not have that much time to think deeply about this issue, as they need to face a workload issue from their workplace. After coming back home, they again need to prepare for the next day. So, they cannot monitor their young children's food consumption the whole day due to their formal work outside. Again, some of the Homemaker mothers responded they used to make separately selective meals for their child, but their children do not want to have those foods, so to avoid the wastage of food, they stopped preparing the selective meals these days.

So, according to study responses, it is found that although all participant mothers from the study know the fact that there is a link between feeding practices and childhood nutrition they do not manage to exercise healthy feeding practices constantly and based on some of the mothers' responses, many of the mothers' feeding practices are not fully consistent with healthy dietary patterns because of having multiple limitations, such as ignorance, time limit, workload, lack of knowledge of supplementary food, less availability of nutritious elements, etc.

Conclusion:

As children grow and develop, they need important nutrients to be strong and healthy, stable in energy, maintain a healthy weight, prevent chronic diseases, improve mental health, and many

more. Most of the development happens in the early years of a child. Parents play the most crucial part in feeding practices for their children, in Bangladesh context mostly mothers decide, prepare, and feed their children rather than fathers. Mothers' knowledge and understanding of nutrition play a vital role here. As children are the future of the nation, their physical and mental soundness is very much needed. Considering this fact, our research aimed to find out the statistical status of mothers' understanding of nutritional knowledge and how they practice it in their child's day-to-day life.

According to the study, it is profoundly proven that, in the early stage of life, all young children are mostly dependent on other elderly people in their family for their everyday meals, and most mothers take responsibility and are considered as their primary caregivers. In this regard, mothers' awareness, and nutritional knowledge, as well as their educational qualification are highly reliant on them. The understanding and knowledge of nutrition encourage mothers to appropriately select and choose what constitutes a healthy diet, which might assist them to promote and encourage young children to develop a healthy eating habit from the very early stage of their life.

This study also revealed that, in any cultural context, socioeconomic status or educational background mothers continue to be the primary caregivers for their children. For working mothers, sometimes this becomes harder as they could not manage enough time to think separately and establish proper feeding practices for their child alone. In this regard, to relieve time and work pressure on mothers, fathers can also contribute in some ways, like- helping the mothers with household chores, food preparation and feeding their young children, etc. Sometimes, uneven household chores, too many social commitments, tension from the workplace, too many family responsibilities, etc. create mental disturbance and stress among mothers. But, in much research, it is found that mothers' sound minds and emotion play an effective role in their child's feeding

practice, so the father of the child or the other members of the family can come forward, share the burdens, and let the mothers have the time or liberty to spend some time according to their own way or wish. According to the study, in the public health context, all this information can also help the health professionals counsel people more effectively as they need to deal with patients' perceptions more rather than with their practice and behaviors.

In the present situation of Bangladesh, the number of working mothers is increasing and these mothers are highly depended on their parent or care giver in regards of their child's everyday choice of meal as well as feeding. Due to work-life pressure and staying out of the house for long period, they are inadequately being able to model the behavior of feeding to their children. Sometimes for this reason children grow lethargic for homemade nutritional food intake and grow more crave in excessive eating of outside junk/fast foods.

In Bangladesh, most of the general parents don't even know the importance of a properly balanced diet, attention, care, and adequate nutrition is very significant from the very early stage of life. Because of this unawareness, many children remain aloof from the proper food habit in this early stage. Though highly educated mothers are very much aware about the nutritional knowledge, it's importance in child's physical and mental development, but in terms of implementation in feeding practice, sometimes, unfortunately they remain far behind.

For ensuring young children a healthy childhood, a proper food system consisting of a nutritional diet and safe nutrients to meet their requirements for growth, development, and learning is very much needed. because investing in improving children's health is an investment in the overall quality of life of the future generation of the whole country. Hence, studies on this issue are still quite necessary (Adamo & Brett, 2014). And these could be carried out in different ways, not just

through qualitative research to explore mothers' nutritional knowledge and practices, as well as children's dietary habits and nutritional outcomes, quantitative research design can be an essential choice here.

Recommendations:

To improve the status of the child's nutritious food intake habits and prevent malnutrition, the study's findings provided some recommendations, such as:

- Mothers and caregivers should have the proper knowledge of nutrition for their young children. They need to understand the importance of nutritious food in their child's everyday meals and apply it in their feeding practices and realize the fact of early years of malnutrition can be controlled through a properly balanced diet. In this regard, utilizing social protection programs might be helpful to improve mothers' nutritional knowledge of young child feeding and encouraging practices.
- For mothers who are less educated or less knowledgeable regarding the child's nutritional issues, some programs can be helpful to improve their nutritional knowledge and its necessities, like - home-based counseling, community-based programs, etc. all these can be applied to deliver quality counselling and assist the mothers' who are in burning need of these. In this connection, highly educated mothers or mothers who have the proper understanding of the issue might come forward and help the less knowledgeable mothers.
- Rather than considering only the mothers responsible for taking care of their children, fathers should be encouraged to contribute to this issue physically and directly. Not only by monetary facilitating but also by acquiring nutrition knowledge, its importance on their

child's health, discussing with the mother of the child, making a diet chart, feeding the child, etc.

- To improve awareness among the parents, some awareness-building initiatives could be applied, like - workshops and training for mothers and caregivers regarding child raising and other child-related issues. Since conception, several parenting sessions can be arranged to deliver nutritional information through GOs, NGOs, and other educational institutions. Again, through different media options, like – TV, radio, leaflets, drama, music, etc. the issues could easily be conveyed to a good number of populations.
- Several seminars, meetings, forums, open discussions, and talk shows could be held specifically on the issue with genuine information and advice on early childhood feeding by the popular celebrity, leaders, or the stakeholders of the community.
- Again, Community-based integrated ECD centers should be established in every local area and the practices of feeding nutritious foods could be promoted effectively here.
- Up to date plans and policies should be included in the national development plan and a comprehensible policy to ensure young children's right to a nutritious and safe diet is a prime priority.
- To determine the reasons and gaps regarding the development of nutritional knowledge of mothers or caregivers and less implementation in feeding practice, furthermore, research is required in this area on a larger scale not only for a certain area but for the whole country. For this, a larger random sample and different population groups are needed, to analyze the mother's nutritional knowledge, and feeding practices, by using both qualitative and quantitative approaches focusing on a healthy future citizen. As children are our future citizens and as well as the future leaders of the country, they are very precious. To establish

and maintain a healthy dietary program is very much essential for their physical and mental development and in this regard, collaboration from every sector needs to be ensured.

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Annex:

• Consent Forms:

You are invited to participate in a research study about Parents knowledge about the importance of children's nutrition during early years.

Participation in this study is voluntary. If you agree to participate in this study, you would have to answer questions regarding your perception and understanding of nutrition. Participating in this study may not benefit you directly, but it will help us learn.

The information you will share with us if you participate in this study will be kept completely confidential to the full extent of the law. Furthermore, we will not be collecting your email addresses.

Your information, i.e. your answers will be kept securely and only the Study Director and other researchers will be able to see the survey you participated. Apart from that, no one else will be able to see your survey or even know whether you participated in this study.

Consent form

When the study is completed and the data have been analyzed, the list containing your information will be deleted. Study findings will be presented only in summary form and your name would not be used in any report. While the investigator(s) will keep your information confidential, there are some risks of data breaches when sending information over the internet that are beyond the control of the investigator(s).

If you have any questions about this study, please contact Shuvra Fatema at shuvrafatima76@gmail.com.

By completing this survey, you are consenting to participate in this study.

*Please print or save a copy of this form for your records. *

1. Do you want to proceed? *

Mark only one oval.

Yes

No

- **English Survey Questionnaire:**

* Required

Mother's information

1. Mother's Name:

2. Which age group do you fall under? *

Mark only one oval.

25 to 30

31 to 35

36 to 40

41 to 45

3. What is your occupation? *

Mark only one oval.

Homemaker

Teacher

Banker

Government employee

Doctor

Other: _____

4. What is your highest educational qualification? *

Mark only one oval.

- S S C
- HSC
- Honors
- Master'ss
- Other: _____

Child's information

5. What is your child's name?

6. Which age group does your child under? *

Mark only one oval.

- 3 years
- 4 years
- 5 years

7. What is your child's gender? *

Mark only one oval.

- Male
- Female

Section A

8. Do you know about the term 'balanced diet'? *

Mark only one oval.

- Yes
- No
- Maybe

9. Do you know what are the components of a balanced diet? *

Mark only one oval.

- Yes
-

No

Maybe

10. On a scale of 1 to 5, how would you rate your understanding of the importance *
of nutrition in a child's diet?

Mark only one box.

1 Poor	2 Fair	3 Good	4 Very good	5 Excellent
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Do you love reading magazines, journals, and books about nutrition for making *
meals for your child?

Mark only one oval.

Yes

No

Maybe

12. On a scale of 1 to 5, how appropriate do you think your child's everyday diet is *
according to his/her age?

Mark only one box

1 Inappropriate	2 Slightly inappropriate	3 Slightly appropriate	4 Appropriate	5 Absolutely appropriate
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Do you know the causes of 'Malnutrition'? *

Mark only one oval.

Yes

No

Maybe

14. On a scale of 1 to 5, how much do you agree with the following statement,
"Knowledge of nutrition is important for children"?

Mark only one box.

1 Strongly disagree	2 Disagree	3 Neither agree or disagree	4 Agree	5 Strongly agree
---------------------------	---------------	-----------------------------------	------------	---------------------

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Section B

15. Do you think, you follow a balanced diet for your child in everyday meals? *

Mark only one oval.

- Yes
- No
- Maybe

16. On a scale of 1 to 5, how much do you think about the nutritional facts while preparing the food for your child? *

Mark only one box.

1 Never	2 Almost never	3 Occasionally	4 Almost every time	5 Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. On a scale of 1 to 5, how confident do you feel about the nutritional value of the everyday meals you feed your child. *

Mark only one option.

1 Not confident at all	2 Less confident	3 Somewhat confident	4 Moderately confident	5 Very confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Do you think you spend enough time preparing your child's meal? *

Mark only one oval.

- Yes
- No
- Maybe

19. What are the things present in their meals everyday? Mark all that applies. *

Check all that apply.

- Carbohydrates: Rice, Bread, Potato, cereals, etc.
- Protein: Fish, Meat, Egg, etc.
- Fat: Vegetable oil, Butter
- Vitamin and minerals: Vegetables that are in season, Fruits, etc. Milk
- and milk-based food like cheese, milk-made sweets, etc.
- Enough water

20. On a scale of 1 to 5, how difficult is it to give food containing different nutritious content/value to your child each day?

Mark only one box.

1 Very difficult	2 Difficult	3 Neutral	4 Easy	5 Very easy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. How often do you go outside to have meals? *

Mark only one oval.

- More than once in a week
- Once in a week
- Once in a month
- Never

22. Does your child have a fixed timetable for everyday meals? *

Mark only one oval.

- Yes
- No
- Maybe

23. What kind of food does your child love to have? *

Mark only one oval.

- Home-made FoodJunk
- Food

24. Does your child love to eat by him/herself?

Mark only one oval.

Yes

No

Sometimes

25. On a scale of 1 to 5, how often do you feed your child forcefully?

Mark only one box.

1 Always	2 Almost every time	3 Occasionally	4 Almost never	5 Never
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C

26. Do you think there is any link between feeding practices and childhood nutrition? Please explain (within 50 words).

• Bengali Survey Questionnaire:

সমীক্ষা প্রশ্নাবলী:

* প্রয়োজন

মায়ের তথ্য:

1. মায়ের নাম:

2. আপনি কোন বয়স গ্রুপের অধীনে পড়েন?*

শুধুমাত্র একটি ডিসক্রিপ্টি চিহ্নিত করুন।

- ২৫ থেকে
৩০
- ৩১ থেকে ৩৬
- ৩৬ থেকে ৪০
- ৪১ থেকে ৪৫

3. আপনার পেশা কি? *

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- গৃহিণী
- শিক্ষক
- ব্যাংকার
- সরকারি কর্মচারী
- ডাক্তার
- অন্যান্য: _____

4. আপনার সর্বোচ্চ শিক্ষাগত যোগ্যতা কি?*

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- SSC
- HSC
- অনার্স
- মাস্টার্স
- অন্যান্য: _____

শিশুর তথ্য

5. আপনার সন্তানের নাম কি?

6. আপনার সন্তানের বয়স কত?

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন। *

- ৩ বছর
- ৪ বছর
- ৫ বছর

7. আপনার সন্তানের লিঙ্গ কি?

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন। *

পুংলিঙ্গ

স্ত্রীলিঙ্গ

বিভাগ ক

8. আপনি কি 'সুষম খাদ্য' শব্দটি সম্পর্কে জানেন?

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন। *

হ্যাঁ

না

সম্ভবত

9. আপনি কি জানেন সুষম খাদ্যের উপাদানগুলো কি কি? *

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন। *

হ্যাঁ

না

সম্ভবত

10. ১ থেকে ৫ স্কেলে, আপনি কীভাবে একটি শিশুর খাদ্যে পুষ্টির গুরুত্ব সম্পর্কে আপনার বোঝার মূল্যায়ন করবেন?

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১ নগণ্য	২ উপযুক্ত	৩ ভাল	৪ খুব ভালো	৫ অসাধারণ
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. আপনি কি আপনার সন্তানের জন্য খাবার তৈরি করতে ম্যাগাজিন, জার্নাল এবং *
খাদ্য পুষ্টি সম্পর্কে বই পড়তে পছন্দ করেন?

শুধুমাত্র একটি ডিঙ্গাকৃতি চিহ্নিত করুন।

- হ্যাঁ
 না
 সম্ভবত

11. ১ থেকে ৫ স্কেলে, আপনার সন্তানের দৈনন্দিন খাদ্য কতটা উপযুক্ত বলে আপনি *
মনে করেন তার বয়স অনুযায়ী?

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১ অনুপযুক্ত	২ সামান্য অনুপযুক্ত	৩ সামান্য উপযুক্ত	৪ উপযুক্ত	৫ অধিক উপযুক্ত
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. আপনি কি অপুষ্টির কারণ জানেন?*

শুধুমাত্র একটি ডিঙ্গাকৃতি চিহ্নিত করুন।

- হ্যাঁ
 না
 সম্ভবত

13. ১ থেকে ৫ স্কেলে, আপনি নিচের বক্তব্যটির সাথে কতটা একমত, "শিশুদের *
জন্য পুষ্টির জ্ঞান গুরুত্বপূর্ণ"?

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১ দৃঢ়ভাবে অসম্মত	২ অসম্মত	৩ কোন মতামত নেই	৪ সম্মত	৫ দৃঢ়ভাবে সম্মত
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

বিভাগ খ

14. আপনি কি মনে করেন, আপনি প্রতিদিনের খাবারে আপনার সন্তানের জন্য একটি সুস্বাদু
খাদ্য অনুসরণ করেন? *

শুধুমাত্র একটি ডিঙ্গাকৃতি চিহ্নিত করুন।

- হ্যাঁ
 না
 সম্ভবত

15. ১ থেকে ৫ স্কেলে, আপনি পুষ্টির তথ্য সম্পর্কে কতটা চিন্তা করেন যখন আপনার * সন্তানের জন্য খাবার প্রস্তুত করছেন?

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১ কখনই না	২ প্রায় কখনই নয়	৩ মাঝে মাঝে	৪ প্রায় প্রতিবারই	৫ সবসময়
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. ১ থেকে ৫ স্কেলে, আপনি আপনার সন্তানকে খাওয়ানো প্রতিদিনের খাবারের পুষ্টিগুণ * সম্পর্কে আপনি কতটা আত্মবিশ্বাসী বোধ করেন।

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১ মোটো আত্মবিশ্বাসী নন	২ কম আত্মবিশ্বাসী	৩ কিছুটা আত্মবিশ্বাসী	৪ পরিমিতভাবে আত্মবিশ্বাসী	৫ খুব আত্মবিশ্বাসী
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. আপনি কি মনে করেন যে আপনি আপনার সন্তানের খাবার তৈরি করতে যথেষ্ট সময় ব্যয় করেন? *

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- হ্যাঁ
 না
 সম্ভবত

18. আপনার সন্তানের প্রতিদিনের খাবারে কী কী জিনিস থাকে? *

প্রয়োজ্য সমস্ত চিহ্নিত করুন।

- কার্বোহাইড্রেট: ভাত, রুটি, আলু, সিরিয়াল, ইত্যাদি।
 প্রোটিন: মাছ, মাংস, ডিম ইত্যাদি।
 ফ্যাট: উদ্ভিজ্জ তেল, মাখন
 ভিটামিন ও খনিজ পদার্থ: মৌসুমের শাকসবজি, ফলমূল ইত্যাদি
 দুধ এবং দুধ ভিত্তিক খাবার যেমন পনির, দুধে তৈরি মিষ্টি ইত্যাদি।
 পর্যাপ্ত পানি

19. ১ থেকে ৫ স্কেলে, , আপনার সন্তানকে প্রতিদিন বিভিন্ন পুষ্টিগুণ উপাদান/মূল্য সম্বলিত খাবার দেওয়া কতটা কঠিন *

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১	২	৩	৪	৫
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

খুব কঠিন	কঠিন	অস্পষ্ট	সহজ	খুব সহজ
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. আপনি সাধারণত কতবার বাইরে খাবার খেতে যান?*

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- সপ্তাহে একাধিক বার
- সপ্তাহে একবার
- মাসে একবার
- কখনই না

21. আপনার সন্তানের কি প্রতিদিনের খাবারের জন্য একটি নির্দিষ্ট সময়সূচি আছে?*

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- হ্যাঁ
- না
- সম্ভবত

22. আপনার সন্তান কি ধরনের খাবার খেতে পছন্দ করে?*

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- ঘরে তৈরি খাবার
- জাঙ্ক ফুড

23. আপনার সন্তান কি নিজে নিজে খেতে পছন্দ করে?

শুধুমাত্র একটি ডিম্বাকৃতি চিহ্নিত করুন।

- হ্যাঁ
- না
- মাঝে মাঝে

24. ১ থেকে ৫ স্কেলে, আপনি কত ঘন ঘন আপনার সন্তানকে জোর করে খাওয়ান?

শুধুমাত্র একটি বক্স চিহ্নিত করুন।

১ সব সময়	২ প্রায় প্রতিবারই	৩ মাঝে মাঝে	৪ প্রায় না	৫ কখনই না
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

বিভাগ গ

25. আপনি কি মনে করেন খাওয়ানোর অভ্যাস এবং শৈশবের পুষ্টির মধ্যে কোন যোগসূত্র আছে? অনুগ্রহ করে ব্যাখ্যা করুন (৫০ শব্দের মধ্যে)।
