

Mothers' Perceptions and Practices on Child's Nutrition of 0-3 Years Old Children in Dhaka City

By

Mumtasin Muntaha
20355002

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

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Brac University
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Declaration

It is hereby declared that

1. The thesis submitted is my/our own original work while completing degree at Brac University.
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.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

Mumtasin Muntaha
20355002

Approval

The thesis titled “Mothers’ Perceptions and Practices on Child’s Nutrition of 0-3 Years Old Children in Dhaka City” submitted by Mumtasin Muntaha, 20355002 of Fall 2021 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Master of Science in Early Childhood Development on 14th December, 2021.

Examining Committee:

Supervisor:
(Member)

Mohammad Safayet Khan
Research Associate, ECD Resource Centre
BRAC Institute of Educational Development, BRAC
University

Program Coordinator:
(Member)

Ferdousi Khanom
Senior Lecturer, ECD Academic Program
Brac Institute of Educational Development
Brac University

External Expert Examiner:
(Member)

Dr. Md Tariqul Islam
Assistant Professor, MEd Academic Program
Brac Institute of Educational Development
Brac University

Departmental Head:
(Chair)

Dr. Erum Mariam
Executive Director
Brac Institute of Educational Development
Brac University

Ethics Statement

Title of Thesis Topic: Mothers' Perceptions and Practices on Child's Nutrition of 0-3 Years Old Children in Dhaka City

Student name: ___Mumtasin Muntaha ___

1. Source of population: ___Mothers' living in Dhaka city ___
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

Ethical Review Committee:

Authorized by:
(chair/co-chair/other)

Dr. Erum Mariam
Executive Director
Brac Institute of Educational Development
Brac University

Abstract

Child malnutrition is still a serious public health problem in developing and underdeveloped countries. It's one of the major risk factors of mortality among young children. From birth to two years of age, children are extremely sensitive to what and how they are fed. Thus, this study aimed to explore the perceptions and feeding practices of prime caregivers of children that is mothers'; both educated & uneducated mothers' perceptions and practices towards early childhood nutrition in the context of the urban area of Dhaka city was explored in this study. The study is a descriptive qualitative study conducted on 6 mothers (3 mothers from the lower-income background and 3 mothers from the upper-middle-income background) who were selected via purposive sampling technique. Data of this study were collected through both in-depth interviews and focus-group discussions, with a total of 12 mothers'; conducted in both natural home settings and via online zoom meetings. The study followed by two main research questions, which are, mothers' perceptions of nutrition for children aged 0-3 years – living in the urban area of Dhaka city & the nutritional support (feeding practices), that is provided by the mothers for children aged between 0-3 years in the study area. The study found out the differences of perceptions, behaviors & practices on child's nutrition of 0-3 years aged children in between lower-income and upper-middle-income group, the disparities in children's nutrition that exist between these two groups. The study also highlighted that child feeding decisions/practices are influenced by 'time' and 'work pressures' on mothers. The mothers' have knowledge of how childhood malnutrition could be controlled but their practices on preventing childhood malnutrition, don't entirely reflect the knowledge.

Keywords: Malnutrition; mothers' perception & feeding practices; breastfeeding; complementary feeding; South Asia; young children.

Dedication

To My Parents, Students & Little Neighbors

Acknowledgement

First and foremost, I want to thank almighty Allah for providing me with the opportunity and strength to complete this research. I owe my sincere gratitude to many people who encouraged and supported me during the different phases of writing my thesis.

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Chapter I

Introduction & Background

Introduction

The biochemical and physiological process by which an organism utilizes food to sustain its life is referred to as 'Nutrition'. Nutrition is a major element of a person's overall growth and development, beginning at conception and continuing throughout life. It has a significant impact on a child's brain development and the lack of any nutrients which are required at these stages can hamper the children's proper brain developmental functions. From conception to the second birth year of a child, most of the neural connections are formed and the majority of cognitive and physical impairment or underdevelopment can occur in these phases, and research studies suggest that it may cause due to inadequate amount of nutritious food intaking (Michael K. Georgieff et al, 2016). In these early periods of children's lives, specially from 0-3 years, children remain the most active and for their proper bodily functions, they need the appropriate amount of nutrients in their daily meal. And when the nutrient deficits, excesses, or imbalances in a person's diet, that imbalance of nutrition causes malnutrition.

Child malnutrition is still a serious public health problem in developing countries (United Nations Children's Fund, UNICEF 2012) And the Insufficient nutrition is one of a wide range of interlinked factors forming the so-called 'poverty syndrome' (UNICEF, 2012). Lack of nutrition is the most important risk factor globally for developing illness and mortality (WHO'15).

Effects of malnutrition are devastating during the first two years of life. As we know most of the neural connections of the brain are formed during these stages which may not occur for the rest of the lifetime and any kind of lacking vital elements can hamper the proper brain and

physical development of a child. Malnutrition is the cellular imbalance between the supply of nutrients and energy and the body's ability to utilize it for growth and the maintenance of specific functions, including resistance to infections and recovery from illness (WHO,2015). So adequate amount of nutrition plays as one of the most important significant factors in this period of a child's life.

Malnutrition is mainly split into two broad groups of conditions: Undernutrition, including stunting, wasting, underweight and micronutrient deficiencies, and Overweight, which includes obesity and diet-related non-communicable diseases. This double burden of malnutrition of undernutrition and overweight undermines children's health and physical and cognitive development (ICDDR,B; 2020). So, to meet the challenges of the 21st century, we need to recognize the forces like urbanization and globalization on nutrition and focus increasingly on using local and global food systems to improve the diets of children, young people, and women (UNICEF, 2019). We need to realize the most important factors which have a great influence on a child's regular dietary intake, hence mothers' involvement of nutrition for their children is considered to have a powerful influence on a child's overall nutritional diet intake and ultimate growth and development.

Operational definitions

Nutrition: The nourishment or energy acquired from the food consumed, or the process of consuming the appropriate food, is referred to as nutrition. Nutrition is a broad terminology. It is vital for the appropriate development for the fetus in the womb, as well as for normal human genetic programming and overall growth and development (Workalemahu, 2018). Children's survival, physical growth and intellectual development, excellent health, and overall well-being-- all require optimal nutrition.

Malnutrition: It refers to energy and/or nutrient deficits, excesses, or imbalances in a person's diet. Malnutrition is a broad phrase that refers to two distinct conditions. Stunting (low height for age), wasting (low weight for height), underweight (low weight for age), and micronutrient deficiencies or insufficiencies are all symptoms of malnutrition (a lack of important vitamins and minerals). The other is overeating, which leads to obesity, overweight, and noncommunicable diseases linked to diet (such as heart disease, stroke, diabetes, and cancer) (UNICEF, 2016).

Perception: Perception is not only about the reception of a stimulus but also comprised of the attribution of meaning to such stimuli. People's behavior is influenced by their perception which is interpretation of reality and not necessarily of reality itself (Michner, H., Delamater, J., & Myers, D., 2005).

Underweight: Underweight is mainly defined as insufficient weight for age; it is bodyweight that is too low for a normal healthy adult or child. It is also known by various other names such as wasting, emaciation, thinness, stunting, etc., and is caused by multiple factors especially lack adequate nutrients in the body (Stella, 2016). Stunting is defined as mainly for the insufficient height for age, and wasting or thinness is insufficient mass for height (Victora, 1991:1105).

Overweight or obese: Childhood obesity is a serious medical condition that occurs when a child is above the normal weight for his age and height. Children eating behavior is important in terms of children's health. Evidence also indicates that dietary habits acquired in childhood persist through to adulthood (Bhatt, 2016).

Young children, 0 – 3 years: Here in the context of this study, a child aged 0-3 years (Zero to three years), refers to a child from birth to age three. It does not cover the period of conception in this study.

Statement of the Problem

Scientists considered the connection between nutrition and intellectual development to be straightforward. So, the poor nutritional diet not only affects the physical growth of a child but also influences their overall mental development. In the draft of the Early Learning Development Standards Bangladesh report, it's reported that children with developmental delays and growth retardation are more likely to be stigmatized by society, less likely to start school on time, perform poorly in school, and become low-achievers in life (ELDS). Children are dependent on others for this diet, as they are too little to take care of themselves; parents and caregivers are responsible for their intake of nutritional diet, and mostly in a country like Bangladesh, this duty falls onto the mothers. Unfortunately, most of the mothers aren't aware of these nutrients' issues or the importance of maintaining a nutritional diet. Many of them don't even know the enormous side effects of malnutrition, resulting in their children's serious health problems, poor academic performances and later drop school. According to a research study, it has been mentioned that, combined with traditional beliefs and a lack of appropriate knowledge regarding infant and young child's nutrition and feeding practices, a perceived or real lack of appetite has negative influences on appropriate complementary feeding (Paintal & Aguayo, 2016).

As it's said that body and mind are interconnected with each other, one hampers another. If the body is properly nourished, if it gets proper nutrition for its overall growth and development, and well as to keep balance within, one's mind can then properly work, learn better, and remain active as well. And for keeping a balanced healthy body, proper nutrition is the first thing that comes into the main topic. Having nutritious foods is all about eating a balanced and healthy diet. Fast food, sometimes known as junk food, refers to a variety of foods that are high in energy due to their high fat, sugar, and salt content, but are deficient in other vital elements like protein, fiber, folic acids, vitamins, and minerals (UNICEF, 2019); which are essential for the

overall human development. In Bangladesh, two scenarios are mostly seen here- either the mother is forcefully feeding the child or the mother is skipping the meal. The children who can eat, the mother is giving them more but are they conscious about if they're giving an adequate amount of nutrients to their child's meal or not? The amount of sugar or fast food that they're providing instead of the appropriate amount of nutrients are causing major health diseases and adverse effects among their children. So, to answer all these questions, this study is designed to see what is the mother's perceptions of their children's nutrition and what are the practices and roles that they play in their daily life routines. Bangladesh is already experiencing a double burden of malnutrition with high rates of undernutrition and rising rates of overweight and obesity (7.6 and 9.5%) among children and adolescents especially in urban areas (Biswas T et al, 2017). The urban children are mostly fond of fast foods or readymade foods, which are high in sugars. Researchers have found that among urban Bangladeshi school children the consumption rate of fast foods and sugary drinks are high, and consumption of fruits, vegetables, and animal source foods are comparatively low (Bhuyan K & Urmi AF, 2019). The regular intake of junk foods can greatly hamper their body's metabolism and will alter it and the risk of chronic diseases will be increased. In addition, the recent concerns on child obesity are huge. Even some children don't want to take any homemade food or any nutrient sufficient foods rather they love to take only the fast foods. Some parents are not concerned about its major side effects as they think their children are eating with much enthusiasm so that's satisfactory for them. But little did they know about their children that they aren't getting the adequate amount of nutrition, rather their children are suffering from malnourishment and obesity. Hence, it not only hampering the children's healthy lifestyles but also makes them malnourished. According to World Health Organization data, malnutrition is responsible for almost 60% of all fatalities among children under the age of five (under-five children) in developing countries (WHO, 2021). Malnutrition among children between these early ages

may be caused by a lack of maternal awareness and knowledge about nutrition. Evidence suggests that knowing about nutrition is critical for mothers' health and the overall growth of their children as well. As many mothers are also working mothers and many belong to the joint family, so their children could be raised by others, and the mother might not be getting them the whole day, only for some hours. So, it's a very concerning issue for them as well. Their children are getting the appropriate amount of nutrition in their everyday food habits or whether the parents themselves are playing the proper role for it or not, raising alarming situations for their children's lives. It's really important to know about their perceptions, feeding practices, and behavior in this regard. Malnourishment causes serious health problems by lowering immunity and increasing illness susceptibility, as well as decreasing academic performance due to impaired physical and mental development (Choge,2020). Result in children's lower productivity and future earning capacity hampers, overall, a country's development hinders. So, this study is designed to explore how the nutritional issues are raised and to understand the knowledge, perceptions, and practices of mothers for the nutrition of children aged 0-3 years, living in the urban area of Dhaka city.

Purpose of the study

The current scenario showed approximately one in six children in South Asia have moderate or severe wasting. The study also stated that by combining universal coverage with enhanced supplemental feeding, the mortality rate in children under the age of five years might be reduced by 6% (Mostafavi, F., & Hassanzadeh, A. et al. 2016). Children and young people should be provided with diets that are nutritious, safe and secure, affordable and sustainable. The purpose of this study is to maximize the possibility to better manage, provide and assess initiatives aiming at children's nutrition and optimal growth & development and also to prevent

common childhood diseases, hence it is very essential to consider caregivers' understanding of their children's nutrition. Evidence on mothers' perceptions of nutrition for children is hence mostly needed as the country's urbanization accelerates. This study will show mothers' understanding of child nutrition and also what role they can play for greater nutrition investment for their children. As a result, the knowledge and understanding of this area can enhance the effectiveness of further nutritional interventions, which is the prime importance in early childhood development.

Significance of the study

Appropriate nutrition during the first 1000 days between a woman's pregnancy and a child's second birthday has been shown to have enormous benefits throughout the life cycle and across generations by enhancing proper physical and mental growth, lowering the risk of stunting, wasting, obesity, and non-communicable diseases (USAID, 2021). Most of the cognitive and physical damage or underdevelopment that occurs as a result of poor nutrition during this crucial 1000-day timeframe is permanent (Save the Children, 2012). So, any kind of ignorance, gender biases or unawareness can make suffer the children in their further lives. Previous research studies suggest that, abnormalities in growth are indicators of undernutrition because feeding status reflects growth amongst children (Robinson et al. 2001:287). It has been further proven that, both hemoglobin concentrations and feeding styles were associated with infants' energy intake (Mouque, C. et al., 2017). In this sense, parents can have significant, both a positive and a negative influence on their children's eating habits and dietary quality.

According to one UNICEF (2015) data, well-nourished children perform better in school, earn 20% more in the labor market later in life, and are 10% more likely to start their own businesses; hence, making nutrition a top national priority not only for it improves social justice but also leads to enhanced economic growth. So, the higher chances of better health and more

concentration can be gained by taking an adequate amount of nutrients from the very early years and having a practice of it in everyday life.

Women living in low- or middle-income countries, are not given sufficient nutrition in many families during their pregnancy period because of their economic status and many of them are even also unaware of the proper nutritional needs of themselves and for their young children due to poverty, ignorance, cultural biases, believing in myths and lack of proper education. A study suggests that socioeconomic inequality also causes wasting, stunting which is quite prevalent in Bangladesh (Huda TM et al. 2017). So, this study also mentions, the household economic status has significant impacts on children's feeding style. Also with the economic status, maternal and parental education, health-seeking behaviors of the mothers, sanitation, fertility, and maternal stature were the major contributors to the disparity in stunting prevalence in Bangladesh (M. J. et al. 2017). Given the impact of parental actions, particularly those of mothers on children's eating habits and nutrition, it's important to comprehend this phenomenon not simply through research into family dietary patterns, which has been extensively examined in recent years, but also by emphasizing the attitudes and perceptions of parents especially of mothers that support and influence these practices (behaviors and choices). As a result, it's essential to research mothers' perceptions on nutrition for children aged 0-3 years. As it's proven that the effects of malnutrition are devastating during the first two years of human lifespan, evidence on mothers' perceptions of nutrition and their responsive feeding practices for children aged 0-3 years living in the urban area of Dhaka city is much needed due to the country's rapid urbanization. Responsive feeding occurs when the caregiver recognizes and responds in a timely and developmentally appropriate manner to infant hunger and satiety cues (V Slater, 2020). Infants' responsive and active positive feeding styles were positively associated with their energy intakes as well as caregivers' responsive positive feeding styles as above mentioned. So, the proper knowledge, skills and the age-appropriate dietary

practices that are played for the children's nutrition by the mothers are very important to prevent malnutrition and any kind of nutrient deficiencies from the very beginning, which could support and have a great impact on the children's lives in the very long run. As a result, it's crucial to research mothers' perceptions on child nutrition for children aged 0-3 years.

Research Questions

The key research questions that are addressed here:

- i) What are mothers' perceptions of nutrition for children aged 0-3 years – living in the urban area of Dhaka city?
- ii) How do mothers provide nutritional support (feeding practices) for children aged between 0-3 years in the study area?

Chapter II

Literature Review

Here to explore the mothers' perceptions and practices of nutrition for children aged between 0-3years living in the urban areas of Dhaka city, this section of the research proposal assesses the literature from the source of child nutrition, effects of early childhood malnutrition both globally and in the context of Bangladesh for children under the age of five years.

Children's proper growth and development are hampered because of the adequate amount of nutrition worldwide. They are only surviving but not thriving (UNICEF, 2019). To understand malnutrition, there is an increasing need to focus on food and diet. Improving dietary quality is a challenge for poor households in South Asia because nutritious food, particularly animal source food, is often more expensive (Headey et al., 2017). In low-income households, caregivers may be unable to act upon the information or counseling on complementary feeding that they receive from health workers unless the household also receives support to purchase, produce, or acquire nutritious food and conversely children in high-income households, who are able to afford nutritious food, may have a poor-quality diet if their caregivers are not informed or counseled on how best to feed their children (UNICEF, 2020). Although children can decide whether to accept a certain food and how much to eat, it is generally the caretakers who determine which foods are offered to them (Mennella & Trabulsi, 2012). Studies have highlighted the important influence mothers have on their children's diets in relation to various factors, such as food intake, as mothers' diets are similar to those of their children in terms of the types of food consumed (Hart et al., 2010). Eating habits developed during this age is likely to influence life-long healthy food consumption behavior (Ensaif H et al., 2015). Hence it is also necessary to look into the scenarios of the effects of malnutrition both globally and in the context of Bangladesh for children under the age of five years.

Global Context

Globally, at least 1 in 3 children is not growing well due to malnutrition in its more visible forms: stunting, wasting and overweight. Malnutrition is responsible for over 60% of the mortality of children under the age of five, either directly or indirectly (Mostafavi, F. et al, 2016). Globally 45% of deaths of children under five years of age are attributable to under-nutrition. It is an underlying cause of death of 2.6 million children each year – a third of child deaths globally (WHO, 2017). Chronic malnutrition affects 171 million children worldwide, resulting in lifetime cognitive impairment. At least 1 in 2 suffers from hidden hunger due to deficiencies– often not visible – in essential nutrients (UNICEF, 2019). Around 160 million children under five years of age worldwide are affected by stunting; Vitamin A deficiency causes 157,000 child deaths a year and zinc deficiency causes 116,000 child deaths (ICDDR'B, 2017). Only 2 in 5 infants under six months of age are exclusively breastfed, as recommended, where breastfeeding could save the lives of 820,000 children annually worldwide (UNICEF, 2019). The study has also mentioned that only 1 in 5 children aged 6 to 23 months from the poorest households and rural areas is fed the minimum recommended diverse diet for healthy growth and brain development. And the poor diets drive malnutrition in early childhood: 44 per cent of children aged 6 to 23 months are not fed fruits or vegetables and 59 per cent are not fed eggs, dairy, fish or meat (UNICEF, 2019). Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood. Most of the world's population live in countries where overweight and obesity kill more people than underweight. Another research study shows that, 38.9 million children were overweight under the age of 5 years, and more than 124 million children and adolescents were obese (WHO,2016). Hence children's proper growth and development are still being hampered because of the adequate amount of nutrition and these issues have prevailed all around the world.

Bangladesh Context

It was previously reported that Malnutrition is responsible for almost half of the 343,000 deaths among children under the age of five that occur in Bangladesh each year, either directly or indirectly (Black, R. E. Morris et al, 2003). Around 450000 children suffer from severe acute malnutrition, while nearly 2 million suffer from moderate acute malnutrition; anemia affects 52 percent of children under the age of five; 41 percent of children under the age of five are stunted; 16 percent of children under the age of five are wasted; and 36 percent of children under the age of five are underweight in Bangladesh (ICDDR'B, 2017). According to the BDHS (2017-18), 30.8% of children are stunted, 8.4% are wasted, and 2.2% are overweight. Early almost all children (98%) are breastfed at some point in their lives, and over 80% of children are still breastfed at 20-23 months of age. It has also previously been reported (BDHS) that nearly one-third (29%) of children aged 6-9 months do not consume any solid or semi-solid foods, breastfed children of 6-23 months fed the minimum meal frequency is only 36.1%. Also, these complementary foods offered to infants and young children in Bangladesh are often nutritionally inadequate and unsafe, unhealthy; resulting in malnutrition, according to the further report (DHS, 2017-2018).

In Bangladesh, the incidence of underweight among children under the age of five years is still significant (36%), so as is the prevalence of anemia among young newborns, adolescent girls, and pregnant women. According to a Bangladesh report, more than three-quarters of children (6-23 months) do not have access to a minimum acceptable diet in terms of amount and diversity, resulting in macronutrient and micronutrient deficiencies, which are risk factors for physical, sensory, and cognitive impairment (UNICEF 2014). Here Vitamin A deficiency has been largely controlled due to high coverage of six-monthly Vitamin A supplementation, but anemia affects 49% of children under the age of five, indicating poor dietary intake of micronutrients, and 34% of school-age children are iodine deficient due to insufficient

coverage of adequately iodized household salt. So, one of the major causes of malnutrition in households of Bangladesh is due to mainly the result of poor feeding practices over a long period, coupled with an increased incidence of infections, rather than only a lack of food. According to one UNICEF data 2020, even before the COVID-19 pandemic, 47 million children were already wasted in 2019. Without immediate action, the number of children suffering from malnutrition could rise to over 54 million by the end of the year 2021. This would result in amounts of global waste that have not been witnessed in this millennium (UNICEF, 2020).

Chapter III

Methodology

Research Approach

A qualitative design had been chosen to perform this exploratory research to achieve its overall goal/objective and to address these issues; to understand the differences in beliefs, attitudes, practices, and perspectives of mothers of their children's nutrition, who had children aged 0-3 years. It'd aid in the development of hypotheses for quantitative research in this field in the future as well.

Research Site

Since this research study was being designed to understand the mother's perspectives and practices on their child's nutrition, the research was conducted at their homes. By considering demographic structure, different locations of South Badda and its nearby area under Dhaka South City Corporation had been purposively selected for the study.

Research Participants

The research population of this study consisted of women (mothers). 12 Mothers of two different socio-economic background participated, living in the Dhaka city of Bangladesh. All the participant mothers who were eligible for this research had children aged 0-3 years old (from both urban upper-middle-income household mothers and lower-income household mothers).

Sampling Procedure/ Participants Selection Procedure

All of the participants in this study had children aged 0 to 3 years who live in Dhaka, Bangladesh. The sampling population was non-random, purposive. Mothers were chosen based

on the convenience of the researcher. For this study, a total of twelve mothers participated. They all had to go through two Focus Group Discussions. Six mothers from two different socio-income groups also took part in In-Depth Interviews, 3 from the lower-income group and 3 from upper-middle-income group.

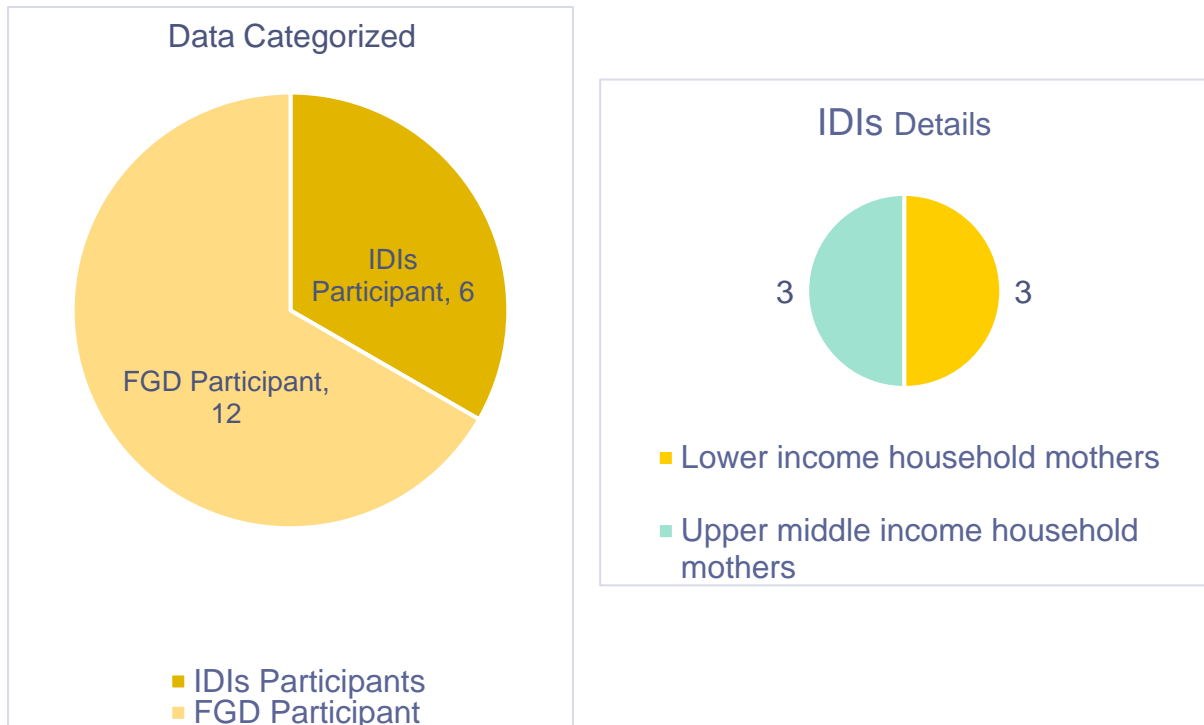


Figure 1: FGD and IDI participant numbers from different socio-economic background

Measures:

Data were collected through both

- a) Focus Group Discussion Questionnaires
- b) and In-Depth Interview Questionnaire.

After the of the guidelines were developed, the researcher examined the guidelines for face validity.

Data Collection Methods

2 FGDs and 6 IDIs were taken for collecting the data. The researcher herself conducted all the six in-depth interviews and two focus group discussions. The field notes were maintained solely by the researcher. The FGDs were conducted at two different settings, one face-to-face for the lower-socio-economic group of mothers and another one (upper-middle-income) via zoom meeting. Face-to-face In-Depth Interviews were taken. Two FGDs conducted which were comprised of all the 12 participant mothers, six from the upper-middle-income group and six from lower-income group. The face-to-face IDIs were conducted with the selected 6 mothers; 3 from the privileged group and 3 from the underprivileged group. All of them actively participated for the study.

Data Management and Analysis

After the data collection procedure, all the data were managed and categorized based on In-Depth Interviews (IDI) and Focus Group Discussions (FGD). The data were double-checked for accuracy. The FGD and IDI responses were then transcribed, and the researcher's responses, which were previously put in short notes, were recast in a narrative style. The data were then read numerous times to highlight the information that strongly relates to the research purpose. As part of the research purpose, the data were evaluated several times again to identify different themes and issues that emerged from the data. A summary of the important points under each theme is one technique to convey qualitative data. The researcher followed likewise, including some direct citations from the transcribed data as citations to back up the summary arguments. Finally, data were re-evaluated to decode the meanings of the findings by looking for concepts related to the issue, recurring themes, and findings that support presenting the qualitative data.

Ethical Issues

Ethical considerations were rigorously maintained to determine under what conditions the research conducted. A request for permission to conduct the study were addressed to the participants before it was carried out. The participants were informed about the study's setting, aim, and objectives, as well as the rationale for approaching them, the researcher's profile, and so on. After taking consent from every participant and explaining the purpose of the interview, the FGD and IDI conducted. To maintain the participants privacy, the researcher assured them that all the information would keep confidential and would use only for the research purpose.

Validity & Reliability

Data were collected through both Focus Group Discussion and In-Depth Interviews by following the development of the guideline, then the researcher examined the guideline for face validity.

Limitations of the Study

The study only revealed the findings from the participants of the selected socio-economic backgrounds and only the urban areas were selected. Generalization of the study might be limited as it was done only in the specific area of Dhaka city. The selected area represents both lower and upper middle income socio-economic domain. According to the study, only mothers were participated, thus there might be less generalization of the findings in terms of parent gender.

Chapter IV

Results & Discussion

Results

The goal of this chapter is to present the data's outcomes and findings. The data in this chapter is provided in a way that is consistent with the two instruments that were used in the study. Data were gathered from an in-depth interview questionnaire and from a focus group discussion questionnaire. The data were collected using a thematic approach to identify and analyze emerging themes and subthemes. There are two parts to this chapter. The study revealed three main themes and fourteen subthemes under these three main themes in total.

Demographic profiles of mothers:

The study's demographic profile observed at the age range of mothers and children, as well as the mothers' educational qualifications, occupation and socioeconomic status for both Focus-Group-Discussions and IDIs. The data were collected from two different socio-economic background.

The demographic details of the six participant mothers' of IDIs are presented on the table below:

Table 1: Number of respondents in FGD and IDIs

General Information						
Date:		Start Time:			End Time:	
Name of participant	Age	Education	Occupation	Number of Children	Gender of Children	Age of Children
1. Laili	26	Class 5	Housemaid	2	Female, Male	9, 3 yrs.
2. Rojina Akhter	28	Class 2	Housemaid	2	Female	9, 3 yrs.
3. Nasima	30	Primary	Housewife	2	Male, Female	10, 3 yrs.
4. Ashrifa Sultana	30	MSc. in Physics	Housewife	1	Female	3 yrs.
5. Zarrin Tasnim Mridula	29	M.Phil. in Development Studies	Development Sector Professional	1	Female	5 months
6. Sohana Parvin	33	MSc. in Biotechnology and Genetics	Housewife +PhD student	1	Female	1 year 2 weeks

Theme 1: Mothers perceptions regarding childhood nutrition

Sub theme 1: Mothers understanding on the term nutrition and early childhood nutrition

Most of the participant mothers from IDIs and FGDs were a little bit confused and unclear when they were asked about their understanding of the term nutrition. Almost all the participants focused more on child nutrition and responsive feeding practices than the term nutrition in detail. All the mothers' have an understanding of early childhood nutrition and malnutrition. So, most of the mothers couldn't specify the meaning of nutrition broadly, but all the mothers had a clear idea about child nutrition and could say about the importance of nutrition for the children in the early years.

One mother stated about nutrition is that, *“Well... I think nutrition is a very broad term, which cannot be just signified by a line. Nothing can happen without it, no further development in a human is possible without it” (IDI #4: Mother #A)*

Another participant mother from the FGD of upper-middle-income background stated as:

“Malnutrition is the deficiency of essential nutrients in human body. The main reason is the lacking’s of balanced diet which is required for the body...” (FGD #2, Mother #T)

Sub theme 2: Mothers understanding on the causes of childhood malnutrition:

The majority of mothers were aware of the causes of childhood malnutrition. The main reasons that cause early childhood malnutrition, according to them, are food habits, eating more junk foods and greasy meals, lack of practice of intaking nutritious foods at home, lack of interest in children for eating healthy foods, and addiction to TV and mobile phones, as most of the children even the very younger children in Bangladesh is now being fed with the help of these gadgets. One mother said regarding this as: *“In our country which we often do, even it can be seen more now that is the children are watching cartoon on the mobile phone or the tv and they’re being fed like that way. That may save one’s time, maybe the children are eating quickly by watching those but, this is a very bad practice, I’d say. This shouldn’t be done at all. Rather what we can do is, we can talk with them or tell stories to them, we can make them understand that this food tastes like this. If my attention is fully somewhere else, like in the cartoon or to the song, I can never realize what I’m eating or how much I’m eating. So of course, I mean feeding the children by doing this kind of practice shouldn’t be done.” (IDI 6 #: Mother #S).*

Another mother pointed out as: *“There could be many more other reasons, like- low income, I’m not being able to buy the food rightly, or the other reason could be I’m not being able to provide my child the food by cooking/ preparing; or I’m not understanding what is actually needed for her at this condition, at this period of her life. There could be many more like these; social and so many other reasons could be behind the malnutrition. But this is the health condition, where a child isn’t getting the optimum nutritional foods, what he/she is needed according to her requirement. So, this is a state, malnutrition is a state. And there could be so many reasons behind malnutrition, like what I said” (IDI #5: Mother #M)*

All mothers from lower-income backgrounds had the idea about the causes of childhood malnutrition. Though few of them gave very short answers, like only not feeding the nutritious foods to their children, others explained it quite broadly. One mother mentioned,

“I know some of them, though I don’t know every reason of it. One cause may be the children don’t want to eat, then it’s also seen that many mothers also don’t feed them as children don’t want to eat. That’s the time when the children face malnutrition. And now-a-days the children don’t want to eat at all. And that’s why the mothers should feed them continuously with little amount again and again, but not by force, not too much at a time. The children who don’t want to eat, they should be fed in a while by showing something; yet they have to be fed in any way, I think” (IDI #1: Mother #L).

So, this finding suggests almost all of them gave relevant replies. According to most of them, the main cause of early childhood malnutrition was their children’s lack of appetite for food and mothers’ ignorance and apathy for their children’s feeding issues.

Sub theme 3: Mothers understanding on the effects of early childhood malnutrition:

Almost all mothers had a clear concept about the effects of early childhood malnutrition, for which the children also suffer in their later lives. One mother from an upper-middle-income household stated as:

“Firstly, what I think is the child, might not have the defense system in his body to fight to different kinds of diseases. Because malnutrition causes a lot of problems in the body. And the child might face a lack of appetite or interest in food or drink. And the child might have. like the inability to concentrate or focus or anything. She might be tired, irritated all the time, and also when they get hurt, it might take a longer amount of time for the wounds to heal. And then there are many other sciences which will be caused by malnutrition” (IDI #5: Mother# M).

One participant mother from the low socio-economic group said: *“The children who suffer from malnutrition face the problem of stunting, they suffer from malnutrition continuously, affects by diseases easily; overall face a lot of problems” (IDI #2: Mother #R).*

And another participant mother from the same socio-economic group thinks that: *“A lot of problems can occur, as the children can even die, we people don’t understand why the child died. Then again in their later lives, some find so many obstacles and autism problems, they lack intelligence. So, a child who suffers from all these kinds of problems, become the burden of their parents, as well as for the country, I think. A healthy and sound child can be an educated one, who can do many things for the country as well” (IDI #1: Mother #L)*

Here, the findings show that both socio-economic groups were well known about the effects of lack of nutrition in children's early lives. They're aware of the importance of nutrition according to their own perceptions and they think that it's the effects of early childhood malnutrition, which is the basis of all other diseases and later life problems in children.

Sub theme 4: Mothers understanding on the link between food/diet habit and childhood malnutrition

When the mothers were asked about the link between diet habits and childhood nutrition, the highly educated mothers from upper-middle-class backgrounds had a clear concept regarding this and they could mention some of the very important points.

One mother mentioned:

“Um, aa feeding practice is very much linked with malnutrition because, the way I feed my child; the number of times when, where, by whom- it's very important. If I don't feed the child frequently or at the right times, with the right foods, in the right amount, then the child is sure to face malnutrition. So, this is very much linked, I think” (IDI #5: Mother #M).

Even one mother stated that improper diet habits and malnutrition are directly interrelated to each other, which have also effects on the child's activity and playfulness. She stated as:

“Yes of course that is directly connected I'd say! If I can't provide my child with the right nutritious foods from the very beginning of her childhood, she'll face malnourishment in her body and will suffer from malnutrition. And if my child doesn't eat well; she won't be active. It'll be seen that she'll sleep more, she won't smile will be less happy, her playfulness will reduce. So of course, it's all related to the nutrition” (IDI #6: Mother #S)

Most of the mothers from both socio-economic groups emphasized on intaking nutritious foods of children at this early stage. One mother mentioned that:

“Ummm, obviously! Because in this period of the babies' lives, timely feeding and nutrition are involved. If we feed the children in a timely, it means giving them the right number of nutritious foods at the right time, then it'll benefit them in their next years, I mean the growth or the overall development will get better in their next years. So, if they aren't being fed timely, then the growth and ultimately nothing will happen properly” (IDI #4: Mother #A).

Theme 2:

Mothers' practices regarding child's nutrition (feeding practices, nutritional support)

Sub theme 1: Importance of home environment and its impact on feeding practices and early childhood nutrition

Almost all the mothers who belong to upper-middle-income backgrounds have profound the importance of home environment and its impact on their feeding practices. One highly educated mother from upper-middle-income background mentioned,

“Children love to imitate the elders, they follow their parents, so generally the foods that we intake, the same food in the plate or same kind of foods should be provided to the children as well. To show them that see, you're eating the same things together, and so our (parents) foods should be that much nutritious as well. So that the children can learn. Actually, children learn by following us, they do what we do. So, if a parent can maintain a healthy and better life, then the children will follow alike and learn those things in their lives as well, I think!” (IDI #6, Mother #S)

The positive impact of a quality home environment like a safe, neat and clean, and hygienic way to maintain children's nutritional demands, timely feeding practices; overall providing nutritious foods every day to ensure healthy growth and development of their children is quoted by almost all educated mothers. According to all upper-income household mother participants, calm and quiet, peaceful environment is necessary for the children's early diet habits. So, an appropriate environment is very important as per their saying. One mother mentioned regarding this is-

“I always try to maintain a chaos-free, sound pollution-free environment for my child. As more sound pollution isn't even good for a child's development. So, when my child eats, I keep the environment calm and peaceful, so she can concentrate on her foods more. So, she can understand what she's eating actually” (IDI #6, Mother #S)

Mothers who belong to lower socio-economic backgrounds had no concern regarding this issue. Most of the mothers from this economic group living in the urban slum reported that they can't maintain a fixed timing for their children's feeding, though they try to feed their children first then they have their own meal. From the FGD and their home observation it was found that they don't have much spaces for proper living; or eating foods all members altogether, as they could only afford a little room for their living, so due to both time constraints

and inadequate spaces, maybe they don't get the chance of well practicing or maintain a quality home environment for the feeding practices of their children & as they have to even share their kitchen for preparing food (many families, one kitchen), they cannot maintain proper cooking environment or cooking timing, feeding timing or the proper hygienic way of preparing foods all time for themselves and their children's food preparation.

Subtheme 2. Mothers reported roles for their children's early nutrition and feeding practices:

One educated mother from upper-middle-income background mentioned her role in cooking practice for her child that:

".... now I cook with less spices for her.... It is forbidden to give excess sugar or salt to a child's food for up to one year. Even it's even better if we don't put any of them into their foods. As the children's brain develops in their early years, as the research studies say that it's better not to give these two things in their foods." (IDI #6, Mother #S)

Whereas one lower-income background mother mentioned preparing food for her children:

".... I don't make or prepare anything different for them, whatever we can eat, I give them those, whatever I can prepare for myself, that's what my child eats as well...." (IDI #1, Mother #L)

Mothers' own mental health, emotional wellbeing, and physical availability may have some effect on their role in their child's early nutritional practices. One mother could reveal her statement as:

"I try not to express that in front of my children. I try to make them happy. Maybe I cook some noodles for them or give them some boiled egg. I don't make them understand that I'm sad or depressed. I try to keep my home environment good. I always try as without me, they have no one else. So even if I'm sad, I try to play my role for their feeding properly. As my child doesn't want to feed alone, I have to feed her." (IDI #2: Mother #R)

As it is mother who decides what to feed to their children, so in which environment the children are living, they're being growing up in which condition, which food they're having and how they're being fed has a great influence on their overall nutritional outcomes.

Subtheme 3. Mothers' food plans/choices for their child's early years and the reason for choosing these (nutrition map)

There was no such specific food plan for the children of lower-income household mothers. As they belong to the underprivileged group of society, they don't have many opportunities or choices. When they were asked this question, most of the responses that were got from both FGD and IDI was they try to feed their children egg, milk, and all kinds of foods that they eat, whatever they could provide according to their financial condition. They mostly provided 'khichuri' to their children from the six months maybe in a liquid/ soft form along with their breastmilk. But the privileged group mothers' of the study had the better choices and opportunities for providing their children age-appropriate nutritious meals. The upper-middle-income household mothers could mention about the 'formula milk' to their children in their absence and one mother said as:

"..... formula milk, it's a balanced food which contains vitamins and all kinds of nutrition. So, as she's not taking the other foods, this formula milk is covering the nutritional demands of her health. And now as she has passed her one year, now I'm giving her cow's milk mixing with her formula milk, to adjust her with the normal milk as well. I mix both of the milk together in a half and half portion and together maybe I also mix sesame (shuji) or cerelacs sometimes with her milk. She also takes the milk like this way as well" (IDI #6, Mother #S)

She also pointed out that,

"When I started feeding her the solid foods, I've started with carrot and potato. Because children cannot digest protein at the very beginning. So, a very easy simple food that carrot or potato could be good to start feeding them the solids/semi-solids, I think. Very gradually, patiently if we could recognize the different kinds of foods, then it could be good". (IDI #6, Mother #S)

Here this finding revealed both the level of education and socio-economical condition determines a mothers' food choices for their children's early years and the opportunities that they can provide to explore the different types of food for their children.

Subtheme 4. Mothers' practices that accelerate the tendency of childhood malnutrition in early years

Almost all mothers, both educated and non-educated mothers of the study gave relevant replies regarding this. One mother from lower-income background said as:

“It is seen now-a-days that many mothers don’t care about their children, maybe they’re busy with their mobile phones, or the household chores, or if there is a different kind of mind or mentality that, there is no love for the child, then the child is also neglected. So, these kinds of attitudes or behaviors of mothers are responsible for their child’s early malnutrition” (IDI#3: Mother #N).

Another mother from upper-middle-income background said as:

“...another thing that I want to say to the mothers is that they shouldn’t provide their children the junk food, this should also be included in their personal practice. Because in the junk food, there are such certain amount of chemicals in the food ingredients, for which the children get an addictive tendency for those foods. So, they want to have those kinds of foods continuously, after eating once, which isn’t nutritious at all and it’s very harmful to their physical and mental health as well.” (IDI #5, Mother #Z)

So, the easy access of unhealthy fast foods, apathy for feeding, ignorance & lack of awareness of mothers, lack of correct behaviors coming from the mothers/ primary caregivers- these all is responsible that would accelerate the tendency of early childhood malnutrition and would have harmful effects on child’s nutrition and in their future health; their physical, mental, psycho-social health and behaviors.

Subtheme 5. Mothers’ practices/ perceive their role in preventing early childhood malnutrition of children (in/from early years)

Most of the mothers from both socio-economic groups replied that they try to do their best to provide their children with the best diets. According to their own level best, they try to provide their children with nutritious foods, but regarding practice or properly maintaining the feeding issues, not every mother could mention their role. One housewife mother from the focus group discussion of lower socio-economic group narrated that, her child doesn’t want to eat anything except biscuits and sometimes only the outside foods and as she’s fed up with her child’s apathy of daily meals. Hence the mother is even reluctant to feed her child three times meal per day, as she mentioned she only tries one or two times a day to make her child’s feeding, sometimes

she doesn't even try that. On the contrary to one educated upper-middle-income household mother replied:

“What I do even if she doesn't take her meal for five times a day; she has a different feeding chair, so whenever we sit down to eat for our three times meal, we try to make her sit with us as well. To make her understand that it's mealtime, so you'll have to eat with us, at least to taste the foods with us. So even though she doesn't eat much, but she tastes all the food at least even if that's a very small amount. So, I'm expecting that she will gradually learn to eat like this way.” (IDI #6, Mother #S)

Mothers who are modeling their diet behaviors to their children amidst their busy schedule, these quotes might point toward that, feeding habits, diet quality, and healthy diets do not necessarily depend on the availability of time only and it might depend on the circumstances, the surrounding environment, and mainly on the prime caregivers of the children, so mothers' perceptions of considering these practices are crucial as a part of overall healthy development of their children.

Theme 3. Challenges mothers face to manage child's nutrition

Sub theme 1: Challenges that mothers' face for providing/ facilitating their child's nutrition

A lot of challenges that mothers face in providing their children's nutrition came while doing the research. One mother described some of the challenges that mothers' face for facilitating their child's nutrition as:

“There could be many more other challenges, like- low income, I'm not being able to buy the food rightly, or the other reason could be I'm not being able to provide my child the food by cooking/ preparing; or I'm not understanding what is actually needed for her at this condition, at this period of her life. There could be many more like these; social and so many other challenges could be behind the malnutrition.” (IDI #5, Mother #M)

Sub theme 2: Challenges that mothers' face for feeding practices

According to most of the mothers from both socio-economic groups, they face a lot of challenges in ensuring their children's optimum nutrition. First of all, both groups of mothers and also mothers who work outside of the home and mothers who stay at home full-time with their children defined the same problem that is the apathy of children for intaking foods. Over to that the working mothers who have to go outside for their job for the whole day, they face more challenges for their child's nutritional care, specially during their child's illness. Thus, their feeding style/ practice is also get influenced for these factors.

One mother from the lower-income group mentioned:

“My child, he takes a lot of time. One hour minimum. I feel tired and angry sometimes; sometimes I feel like beating him for eating. As I have a tension that I'll have to go for my work, so if he finishes first, I can go again for work. But he needs a lot of time for eating. Most of the time it's seen that he's sitting quietly with food in his mouth and watching tv, doesn't even chew or swallow the food, says that he can't chew the foods or cannot swallow the foods. I continuously tell him, but he doesn't listen. So minimum he takes one hour for his eating.” (IDI #1, Mother #L)

Sub theme 3: Mothers ability/ the ability of the mothers to retain the information

According to the upper-middle-income educated mothers, they generally don't face any problem retaining the nutritional information as they have the knowledge of books, access to the internet, and different sources to gain any kind of nutritional care-related information. But most of the lower-income households were very less educated; many of them couldn't even read up to the primary level of school. So, for these mothers, retaining information for their children regarding nutrition and appropriate feeding manners and practices is quite challenging according to their narration. One mother from the lower-income group reported as:

“Yes, many mothers don't know these as most of us here are uneducated. If they were educated, they could have gathered some more knowledge by reading books that what is needed for a baby or which kinds of foods are beneficial. Many mothers don't know about these. So, if someone could let us know these pieces of information through something, then I think the mothers who aren't much aware, they'll also be conscious for this and this knowledge will trigger them for good.” (IDI #1, Mother #L)

Sub theme 4: The socio-economical status that can play the roles for child's illness due to malnutrition and subsequent health seeking behaviour by the parents/caregivers in health care

The socio-economic statuses are one of the most important factors and play the main role in the child's nutritional demands in the health care system, especially for a middle-income country like Bangladesh. The privileged group can afford to provide their children the best possible if needed according to their narration, but the underprivileged ones cannot. The upper-middle-income mothers could mention keeping the health insurance for their children, whereas many mothers from the lower-income group have even no idea about this health insurance. According to the narration of one upper-middle-income mother:

"I'll obviously not want my child to be ill and I don't want her to face anything like where a long-time treatment is needed; I don't want her to face anything like that. And for this reason, I always try to give her a balanced diet every day, still, she has health insurance for an emergency, yet my family and by God's grace, we have the capacity to spend on the best treatment possible for my child." (IDI #5, Mother #M)

Another mother from the same socio-economic group mentioned:

"I'll obviously think about what will be the best for my child; I'll at least try to do whatever will be the best for her. That's why I have to keep health insurance for her, so that in an emergency or in any kind of distress, I can give her the best treatment. And in every month, I try to do some savings for my child..." (IDI #6, Mother #S)

It's also interesting to see that the upper-middle-income mothers are well aware of their child's health and at the same time health insurance is getting popular day by day in a middle-income country like Bangladesh.

When the FGD participants were asked their opinion about the current health care system in Bangladesh, all the mothers from the lower-income group replied that they don't have any health facilities nearby, moreover they don't have access to free facilities of these health care systems. Even if their children get ill, they have to spend money on doctor and that's why many of them don't even visit the doctors' places even if their child gets ill, thinking about the spending money and distance public health facility services, don't even have any access of free nutrition counselling. All of the participant mothers from the upper-middle-income household believed and agreed that they could afford it according to their affordability but the lower-

income background, they have the dire need for health care facilities and proper guidance. Regarding the issue, one mother from upper-middle-income background exemplified like this way,

“Aa... well, this a very important question. If I say about the underprivileged group of people of our country, as they’re very helpless, they actually don’t know or can’t play their role for raising or give special care to a child from birth to one year specially, the diet habits or responsive feeding and caring, most of the time they don’t receive any proper guidance. They can’t even learn anything even if they want to regard these, so if govt actually could provide the equal access for them, and could make them understand by covering every place of our country, though its yet not being possible in our country” (IDI #6: Mother #S)

One mother from the lower-income household mentioned in her statement of FGD is that:

“Nowadays children get easily affected by cold, fever because of the feeding of adulterated, lack of quality foods. They want to go to the big doctors, big medicals. But we have to survive by working in others homes, how can we afford big medicals, where govt even has raised prices of everything...” (FGD #1, Mother #H)

Sub theme 5: Impact of covid 19 pandemic on young child’s nutrition and feeding practices

The impact of covid 19 had severe disruptions in the food services for young children. The upper-middle-income household mothers had shared their experiences as their children’s cravings for fast foods had increased more for the pandemic, as they had to stay home all the time; they felt bored and didn’t want to have nutritious meals all time. On the contrary, the lower-income group mothers had the problem in managing their everyday foods as many of them mentioned that they were jobless during that time, as many couldn’t work in others’ houses or anywhere due to the covid lockdown restrictions. So, all the mothers from these two economic backgrounds agreed to the point that covid had disrupted their child’s overall nutrition and feeding practices. One mother mentioned regarding this as:

“Maybe there’s also some opportunities in our countries, in the govt level or the support we get from the NGOs, but I doubt that how much this are being implemented in this covid situation. As if we consider the current situation, many people are jobless because of the corona; even if they could’ve eaten and survived as much as they could have managed and was

possible, but now the situation isn't permitting them to do so. So, it's really harmful to them as well as for their children" (IDI #6, Mother #5)

Discussion

This study aims to explore mothers' perceptions, attitudes from their knowledge, experience, and practices about children's nutrition in Bangladesh by analyzing the viewpoints and practices of mothers from two different backgrounds. This chapter first describes the issues that emerged during the research and then gave an analysis of the research evidence, which is presented first in this chapter. According to the demographic profile of the study, all of the mothers who participated in this research had at least one child within the age range of 0-3 years. All participant mothers from upper-middle-income backgrounds were well educated and all the mothers from lower-income households weren't much educated.

In this study, it appears that upper middle class highly educated mothers have the right perceptions on the significance of childhood nutrition. They're quite aware and they do well nutritional practices to maintain and ensure their child's proper nutrition from the very early years and try to ensure their children's optimum health and development. Educated mothers know the overall reasons for practicing but most of the non-educated mothers from a lower-income background, according to the study's findings, are less educated/uneducated; who don't have clear perceptions of early childhood nutrition as well as not all of them are aware or have much knowledge and awareness regarding the issue and most of them can't do well practice regarding the issue. The study found that regardless of a mother's career or socio-economic status, they are the primary caregivers for the family's children (whether working or staying at home). The involvement of mothers in their children's feeding practices is greater than that of their husbands/fathers and the involvement of the eldest siblings', as well as that of the relatives, neighbors, and children in the immediate vicinity, are also crucial in this regard, mainly for the lower income group of people, as they're also assisting and assuring in the nutritional development of children.

The findings of the study showed that conventional knowledge of malnutrition is challenged by newer reasons such as integration of technology in our family lives, loss of appetite amongst children, the introduction of unhealthy foods that lack nutritional values but cater to taste buds,

unavailability of mothers' & caregivers to cook/prepare the meal, economic challenges that obstruct getting the necessary food items, psychosocial backgrounds and so on. Many factors influence people's food choices, which even include the properties of foods themselves. According to the literature, there are many other factors such as- nutritional characteristics, price, flavor, variety, and availability, as well as biological, socio-cultural, anthropological, economic, and psychological determinants (Jomori, Proença, & Calvo, 2008); which is consistent with the findings.

The current study suggests that lower-income household mothers face a lot of challenges. Also, they have socio-economic barriers. So due to lack of socio-economic support, residential factors, lack of time and opportunities, cultural barriers all these make them more vulnerable to their situation. Most of them had early marriages and more than one child whereas the upper-income household mothers, have only one child like in their age and they have more clear ideas and they could give their children the full support and time to meet up their child's nutritional demands. The unequal distribution of foods, diet diversity, meal frequency, timeliness- all multiple barriers are affecting the young children of the underprivileged society. As a result, they're deprived of the diets they require at this most crucial time in their life, when more complex neural connections occur and the brain forms at the highest rate. In line with this finding, 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).

Here we can again see the differences between the upper-middle-income household mothers and lower-income household mothers' feeding practices in this study. Upper-middle-income household mothers try to feed their children's meals on time, at least five times every day; even if they're not surrounding their children, they make sure to assign someone responsible in their absence, whom they trust for their child's feeding from time to time. But if we see the condition of lower-income household mothers, as almost every one of them works outside of their home whole day long; they don't have many facilities for maintaining the hygienic way of preparing the meal for their children, not such places to keep their children in their absence like keeping them in a positive, calm, neat and clean environment and ensuring their children's feeding on time to time. Though findings revealed that they assign sometimes their elder children or surrounding relatives or neighbors for the feeding of their younger children while they're at work, but the responsive feeding practices are missing here, as the mothers mentioned that children don't want to eat sometimes from the assigned person except for their mothers and

almost for every day, nobody takes charge of it (the responsive feeding part is missing here). In line with the findings, the literature has showed that, the complementary feeding must possess the following three main characteristics: Timely: Giving foods to all infants should be started from 6 months onwards; Adequate: The complementary foods should be of a nutritional value that can satisfy the growth needs of the child; Appropriate: The foods selected for complementary foods must have variety, be of appropriate texture and in sufficient quantity (Berisha, M. et al., 2017). So, the participant mothers from lower income group come from work and then they have to feed their children in the afternoon or evening. According to the findings of this research, the meal time gap each day for these underprivileged children is huge; as they're eating only in the morning that too a very small amount of something and then only at evening. All these are making the children more vulnerable to early childhood diseases and for their optimal growth and development, hindering their overall development for the future. Research also proved that children growing up in poverty are at heightened risk for poor health (Nancy E. Adler & Candice L. Odgers, 2017).

The study also revealed that these practices also depend on the variables like- education, family income source, from where the raw materials of the foods are coming because the upper-middle-income household mothers can provide their children's dietary ingredients from the best sources possible and they can even seek professional help and follow nutritional guidelines if needed. Most of the upper-middle-income educated mothers could mention about providing formula milk to their children in their physical absence, but the mothers who lived in the slum said they couldn't provide these good breastmilk substitute to their children in their absence due to high price and they said that they cannot monitor their young children's food consumption whole day due to their formal work outside. The lower-income household mothers, who are worried and suffer every single day for their socio-economic condition also mentioned, they cannot provide their children's diet from the best sources possible; rather they buy their infants/children's food ingredients from the local market, where the products are widely available, inexpensive, and easily accessible, yet some are advertised with nutritional claims that are deceptive. According to them, they're not being able to spend a lot of money on foods and whether these raw materials that they buy are safe for their young children or not, they don't know.

In the present study, the women who were educated were much better prepared and undoubtedly followed healthier eating behaviors for their children and perhaps for themselves. Analysis of this study showed that another maternal variable that was strongly connected with

the mothers' perceptions of their children's, as well as their own diets being healthy, was their formal education. These findings could be explained by the fact that those mothers who were less educated, likely to be less knowledgeable regarding proper nutritious diets and more critical of the parameters that define a healthy diet's characteristics. Also, several factors can influence an individual's food choices for herself and her family (Adamo & Brett, 2014). This study's findings also showed, even within the same socio-economic group of mothers, the feeding practices vary. So, although a greater level of education of mothers can lead to a better diet, but not necessarily a positive perception or practice of it.

Due to limited knowledge and reflective practice about the issue, some mothers from both focus group discussions said about their forcefully feeding style for their children. And by force and obligation or improper behaviors of mothers can damage the social behaviors of the child, which are developed and established in this age. According to an American journal, several cases of child death following force-feeding have also been reported globally (AJ OB, 2014). In addition to the negative feelings of anger, fear, disgust, perplexity, and humiliation they generally felt during the forced-feeding moments, children feel nausea and vomiting (Batsell, 2002). The children's nutritious meals should be prepared and presented to them in such a way so they feel interested in these. Encouraging the children for having nutritious meals from the very early years should be promoted. Variation in foods, making food more appealing by storytelling; various and several methods can be adopted. These methods for improving all children's nutritional status regardless of their socio-economic status, gender, religion, etc. demands further exploration. And, also because this is the most crucial time of the developmental stages, quality of interaction of mothers, building a close relationship between the child and mother is extremely important, as the child's physical, mental, and social growth and development in the subsequent months ahead will depend upon on it.

Although all participant mothers from in-depth interview mentioned having a healthy diet, and they know the fact that there's a link between feeding practices and childhood nutrition but they're not much into practices and based on some of the mothers' statements, it was conceivable to recognize that at least almost half of the mothers, their practices are not fully consistent with healthy dietary patterns because of having multiple, interacting barriers.

The number of small meals provided to children between main meals is another crucial aspect in children's nutritional systems. Providing these three small meals or more per day to children alongside the main meals helps to keep them healthy. All mothers from the IDI of this study

could mention this but most of the mothers in the FGD of the lower socio-economic group, couldn't specify about it for their children.

The study also revealed both socio-economic group mothers had a complaint about their children's low consumptions 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 sufficient amounts of fruit or vegetables will appear later in their adolescent behaviors, and increase potential health problems including obesity (Black, 2019; Leal et al. 2017). My discussions with the mothers also revealed that children of both socio-economic group love to have outside ultra-processed, fast/junk foods more than having healthy nutritious foods. This finding suggests young children who eat these foods instead of more nutritious foods are at risk of stunting, micronutrient deficiencies, and overweight and obesity due to the high calorie content and tendency to develop long-term sweet food preferences (Ventura, A., & Mennella, J. 2011). These harmful foods and beverages are also weakening recommended eating patterns, such as the consumption of traditional foods and the ability to prepare meals.

Young-aged children learn about food habits and behaviors from the environment in which they grow up and emulate their parents. One participant mother (educated) had mentioned that she cooks with fewer spices, less salt or sugar for her child which as parents they even take the same food along with her child and she's expecting that her child will also learn to eat gradually by eating together, by observing them. I want to quote a small segment from her in-depth interview that I maintained-

"I think this eating habit/practice is very important that, parents will sit down to eat with their baby, so he/she also understands that this is the meal time/ timing for eating, so I'll also have to eat. So, managing timing and maintaining a routine is very important."

This fact was demonstrated in a study that- Children imitate their parents and view them as role models not only in the type of meals they have, but also in the way they eat their food (Gatus, 2015; Rangelov et al. 2016; Sawicka et al. 2017).

The study also found out children's food consumption, both in terms of variety, quantity and frequency, which are significant determinants in determining children's early childhood malnutrition. The experiences and reactions of mothers play a vital role here in all economies.

This finding is noteworthy because, according to the research, in order to change a behavior, an individual must first recognize that a diet is inadequate and understand the health risks associated with sustaining such a diet (Straub, 2014). Also, the behavioral change of mothers often impacts their emotional and physical availability when it comes to feeding their children as well as supplying their daily nutritional needs. One mother from lower-income background could mention that even if she's sad or depressed, she tries not to express that in front of her children. So, this is very important in which environment the children are living, how they're being treated or growing up in which condition, what kind of foods they're having, and how they're being fed has a great influence on their prime caregivers that is their mother's emotional well-being, which influences children's food habit.

No mother from the lower-income group of this study could mention that they have the opportunities for any free counselling. Health care system can play great role here as they provide the facility and specially at the community levels, the health system provides several contact points to inform, counsel, and support mothers and caregivers on child feeding and care practices.

Health care services are directly or indirectly related to the conditions of the mothers. The social, physical, mental, psychosocial, economic status of mothers depend on their availability of these services. Almost all mothers from focus group discussion and in-depth-interview of upper-middle-income household mothers could mention about keeping the health insurance for their children in this study, whereas most of the mothers from the following slum area didn't even hear about it and couldn't say anything regarding this. The findings of this research also suggest that health care facilities aren't available in every locality, specially for the lower-income group people. So, taking health care facilities depends on the circumstances and conditions of the mothers and the availability of these services. Many policies and programs are already there in Bangladesh for ensure this proper care and nutritional status of infants, one example can be given is- "National Strategy for Infant and Young Child Feeding" that has been developed to lay the road-map for reducing malnutrition through improvements in breastfeeding and complementary feeding—like; breastfeeding up to six months, and giving knowledge about complementary feeding program, which is very crucial for the infants brain development in the early stages. Through the application of MDG, Bangladesh was initially able to improve the infant mortality rate and child's nutritional status of the country and now through the help of local govt clinics all over Bangladesh and with the help of non-govt organizations as well. So even though the service is there, lack of mobility, lack of knowledge,

and because of poverty, this information's are inaccessible. The programs can actually give the proper amount of knowledge and awareness about nutrition and early feeding practices to mothers, which isn't even known by many marginalized, vulnerable, and common people of our country. Hence by introducing and implementing these kinds of awareness programs more, and by ensuring the proper access of these for reaching every child of Bangladesh, the intellectual development of the infants & young children here would be promoted.

The health system has been mostly responsible for a long time for the diets of young children. However, as this analysis demonstrates, caregiver knowledge and abilities are insufficient to modify feeding behaviors and nutritional practices if families lack access to nutritional foods easily for their children to act on the advice, guidance and counseling they receive. Lack of social protection systems So, the governments, development partners, humanitarian organizations and the upper income privileged group people of the society must ensure social protection programs to provide nutritionally adequate food transfers for the young children those who are in need of these and also by ensuring not include of harmful foods and beverages. Commercial impact on complementary feeding should be avoided, particularly the inappropriate marketing of unhealthy foods and beverages that are marketed as suitable and often desired for young children (Rollins et al. 2016). Families should be able to exchange incentives for nutritious and safe foods that are appropriate for young children. Cash transfers should be significant enough to allow underprivileged families to buy nutritional and safe foods for their young children, not just any foods. The counseling services provided for improving child feeding habits must also be sensitive to women's/mothers' social and cultural contexts, as well as the changing demands of modern life.

Key findings:

A thorough review of the result suggested the following key findings:

- Circumstantial analysis shows all mothers are aware of the knowledge of nutrition only in terms of the necessity of their children but not nutrition as a whole.
- Mothers' understanding of the causes of childhood malnutrition is challenged by newer reasons such as the integration of technology in the family lives.

- It was found out that most of the mothers from both socio-economic backgrounds had sound knowledge of the effect of malnutrition which indicates there is proper dissemination of relevant knowledge that has penetrated in all sectors of the economy.
- The choices of food differ in households of different socio-economic backgrounds. The levels of income, educational qualification, culture, tradition, joint or nuclear family setting, religion, geography, availability of caregivers all impact food choices and different feeding practices. As a result, they all ultimately impact children's early childhood nutrition and malnutrition factors.
- Maternal own feeding habits influence the children's habits at home. Due to rapid urbanization and work-life imbalance, parental own feeding habits are inadequately being able to model the behavior of feeding to their children. That might also be a reason for children's apathy for homemade nutritional food intake and more interest in excessive eating of outside junk/fast foods.
- Even within the same socio-economic group of mothers, the feeding practices vary due to several, multiple factors.
- According to all upper-income household mother participants, calm and quiet, peaceful environment is necessary for the children's early diet habits. So, an appropriate environment is very important for every child's diet practices as per their saying.
- There is an overall behavioral change of mothers/caregivers, that often impacts their own emotional and physical availability when it comes to feeding their children as well as supplying the daily nutritional needs of their children.

Conclusion

Adequate nutrition for children aged 0 to 3 years is crucial for the holistic development of children and greater performance in their later life. Between the ages of 0 to 3 years, infants and young children grow rapidly requiring a high nutrient intake to meet their continued growth. This research leads to a better understanding of mother's perceptions and practices toward the diets of their children aged 0 to 3 years among two different socio-economic group of mothers. It's crucial to note that, although the nutritional requirements of each different socio-economic group differ, as the disparities among these mothers' perceptions point to the necessity for a diversified approach to care for their children's nutrition, a healthy diet may be

applied to all socio-economic group of children to mitigate the nutrition gaps among the children. All children should get the equal access of nutritional diets according to their requirement. This study also found out all children in this age range are highly reliant on their mothers' awareness and knowledge, which is highly dependent on the mother's education as well as their socio-economic condition. The abilities of mothers to appropriately determine what constitutes a healthy diet can indeed be vital to the development of interventions aimed at encouraging young children to develop early healthy eating habits. This study found out the information those can also help health professionals in the public health context for counseling people more effectively because they deal with patients' perceptions more rather than with their behaviors.

This study also revealed that the mothers continue to be the primary caregivers for their children in both socio-economic groups. Uneven household chores, enduring societal and cultural norms, paid job outside the home, leave many mothers with little time or liberty to do what they believe is best for their young children. So, to relieve time pressures on mothers and contribute to gender equality, communication efforts should encourage and normalize fathers' participation in food preparation and feeding of young children.

Many parental perceptions about children's diets may not be compatible with scientific criteria, as revealed in a review study (Adamo & Brett, 2014). In Bangladesh, most of the general people don't even know that most of the parts of the brain develops in this infancy stages and giving proper attention, care, food and adequate nutrition is very significant from this infancy stage. Because of this unawareness, many brain parts may not be properly formed or functioned. and in the later life of the infants, and young child, it'll be visible if it gets hampered in this early stage. Hence, studies on this topic are still quite necessary (Adamo & Brett, 2014). And these could be carried out in various ways, not just through quantitative research as to explore maternal perceptions and practices, as well as children's dietary habits and nutritional outcomes, qualitative design appears to be an essential choice here. In reality, all efforts must be oriented toward improving children's diets, primarily because of their impact on growth and development beyond childhood; therefore, we re-emphasize the relevance of this sort of research, because investing in measures aimed at improving children's health is an investment in the overall quality of life of the population. Food systems have to be ensured that provide children with the nutritional diet and safe nutrients what they require to grow, develop, and learn. So, children not only remain alive, but also thrive.

Recommendations

To prevent malnutrition, the study's findings provided some recommendations, such as:

- Mothers and caregivers should have proper knowledge of young child's nutrition and feeding practices and how early years malnutrition can be controlled. As because of work-life balance and lifestyle factors, knowledge is not always efficiently carried into practice, so improving mothers' & caregivers' knowledge of young child feeding and encouraging practices by utilizing social protection programs may really help in this regard.
- Mothers' access to quality counseling on nutritional feeding and care should be incorporated for all socio-economic groups of mothers. In this regard, one socio-economic group mothers can even help the other socioeconomic group mothers' (the privileged one to the underprivileged one). Free nutrition school for all, especially mothers who are uneducated or less knowledgeable regarding the issue, community-based programs, home-based counselling; these can be utilized to deliver quality counselling and support the mothers' who are direly in need of these. All these may also help in the transformation of the perceptions and practices of mothers regarding their children's nutritional habits and can help to prevent early childhood malnutrition.
- Dietary supplements, home fortificants, and fortified complementary foods should be provided to the children who are at risk of micronutrient deficiencies, anemia, growth, and development failure. Due to the covid pandemic, this risk is increasing.
- Awareness builds up programs- such as workshops and training for the mothers and caregivers could be arranged. Proper parenting skills should also be given, as many Bangladeshi people have lack of awareness regarding the child raising issues. Since conception, parenting sessions can be arranged to distribute nutritional information through GOs, NGOs, and other educational institutions.
- Community-based integrated ECD centers should be established in every local area and in these ECD centers the practices of intaking nutritious foods could be promoted.
- The desirability of nutritious foods can be increase by using multiple communication channels to reach caregivers with genuine information and advices on early childhood feeding.

- Ensure young children’s right to nutritious and safe diets as a prime priority in the national development plan and ensure comprehensible policy support and legislation across systems and the sectors in this regard. For this, developing national rules and policies to safeguard young children from the harmful effects of processed and ultra-processed foods and these rules should be implemented strictly.
- Further research is required in this field to understand how systems succeed or fail in improving young children’s diets and how these can mitigate their gap: To analyze the mother's practices, more research with a larger random sample and different population groups is needed in this topic, by using both qualitative and quantitative approaches, because only a few studies have been performed in this regard in Bangladesh. A thorough study might reveal numerous issues as well as policy gaps.

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Appendix A.

Annex-1

In-depth Interview (IDI) Questionnaire

Title: Mothers' Perceptions and Practices on Child's Nutrition

General Information						
Date:		Start Time:			End Time:	
Name of participant	Age	Education	Occupation	Number of Children	Gender of Children	Age of Children
1.						
2.						
3.						
4.						
5.						
6.						

IDI Questionnaire:

1. What do you understand by the term 'Nutrition'? why is it important for their children in their early years?
2. Do you know the causes of 'Malnutrition'? If yes, what are the causes and why do you think that? What problems do you think a malnourished child might have? (effects)
3. Do you think there is any link between feeding practices and childhood nutrition? If yes, how?
4. What kind of food/diet habits do you generally practice (time, variety of food, frequency, identification of caregiver and his/her role, ways of cooking/ preparing food at your home,

environment, source of income)? What is the general practice? What food plan did you choose for your child's early years and why?

5. In one week how much do you generally spend buying food ingredients for your child?
6. How does your child interact with different types of foods at home? Describe your experience. / How does your child respond while he/she sees junk foods vs homemade nutritious food around him/her?
7. How do you manage to provide your child with nutritional foods timely?
8. In your absence who takes care of your child's nutritional demands?
9. What type of home environment do you maintain to help your child's regular nutritional diet?
10. According to you, what are the practices mothers normally do that would accelerate the tendency of childhood malnutrition?
11. Do you feed your child forcefully? If yes, why? If not, why so?
12. How many opportunities do you provide to your child to explore the different types of foods?
13. How do you perceive your role in preventing early childhood malnutrition of your child?
14. So for your child's nutritional demands in health care, how much you're willing to spend?

Appendix B.

Focus Group Discussion Questionnaire for Mothers

Mother's name:

Mother's age:

Mother's educational qualification:

Mother's occupation:

Child's name:

Date of birth:

Age:

Interview date:

Interview starts time:

Interview ends time:

Family type: Single/Joint

Family income:

FGD Questionnaire:

1. What do you know and think about malnutrition? What is the relationship of malnutrition and a child's nutrition (aged 0 to 3 years)?
2. In your opinion, how can a child be affected by malnutrition? what can occur because of a lack of optimal nutrition among children?
3. What are the feeding practices you do to ensure your child's proper nutrition and health? What is your home environment that carries out nutrition practices?
4. What kind of nutritional support do you think as a parent/mother, you should provide to your children in this most vulnerable stage of your children's lives?

5. What information would you like to know more about the early years of malnutrition? Are there any specific groups of people who are struggling to access this information?

6. In your opinion, what community activities do you think are most effective for the awareness and prevention of malnutrition? How should the GOs and NGOs involve your community in the planning of these awareness programs/ activities?

