

CHILDHOOD OBESITY IN EARLY YEARS: PARENTAL PERCEPTIONS IN DHAKA CITY

By
Sadia Sultana
Student ID: 19155001

A thesis submitted to Brac Institute of Educational Development, Brac University 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:

Sadia Sultana
ID:19155001

Approval

The thesis titled “Childhood obesity in early years : Parental exceptions in Dhaka City” submitted by Sadia Sultana, 19155001, of Fall, 2020 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Master of Science in Early Childhood Development on December, 2020.

Examining Committee:

Supervisor:
(Member)

Ms. Ashfi Mehnaz
Faculty Member, ECD Academic Program
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)

Dilruba Sultana,
Lecturer III, 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: Childhood obesity in early years: Parental perceptions in Dhaka

City

Student name: Sadia Sultana

1. Source of population: Parents 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 -Yes
 - 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

Executive Summary

Children who are obese are at a higher risk of developing serious health problems and may suffer from psychological effects. Parents play a key role to control weight-related disease and health effects of children. The study is a descriptive qualitative study conducted on 6 parents (3 mothers and 3 fathers) who were selected by purposive sampling. The purpose of the study is to explore parent's perception (knowledge, attitude and practice regarding food habit, life style, physical activities etc) about childhood obesity in yearly years through research questions. Data was collected through in-depth interviews through phone calls. The data was organized and managed through transcription and analyzed through content analysis- categorization, coding, and organized according to themes and sub-themes.

The study found that educated mothers and fathers had an understanding of childhood obesity and they are aware of the key causes of childhood obesity, such as food habit, lack of physical exercise, lack of opportunities for play, TV/mobile phone addiction. The findings showed mothers and fathers were fairly mindful of the effects of obesity.

The study found that, sedentary lifestyle due to parent's work life imbalance and urbanization children's more inclination to unhealthy food habits and don't get opportunities to play. The study showed that parents have knowledge on how childhood obesity could be avoided but their practices does not fully reflect the knowledge they have in this regard. There is a need for behaviors modification program both in terms of food habits and doing physical exercises and also strong need for policy and initiative for lifestyle reform. Government should take necessary measures to establish play spaces for our possible future citizens and more study in this area is needed.

Keywords: Parental perception, childhood obesity, Overweight

Dedication

To

Dr. Toaha

Acknowledgement

To complete the Master's degree I have received a great deal of support and assistance. At first let's praise and thank Allah, the Almighty, for His rain of blessings throughout my Masters course to complete the degree successfully.

I would like to voice my profound and sincere thankfulness to my research supervisor, Ashfi Mehnaz, Faculty Member, BRAC Institute of Educational Development, BRAC University for providing indispensable guidance throughout this research. Without her foremost inspiration this work would not have been materialized. It was a great privilege and honor to work and study under her guidance.

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I wish to convey my special thanks to the participants of the study who sacrificed their valuable time and cooperated with me. I must express my very deep gratitude to *Nisha Zannat* for her wise counsel and sympathetic ear and relentless support.

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List of Acronyms

BF: Body Fat

BMI: Body Mass Index

CDC: Center of Disease Control

ECD: Early Childhood Development

NCD: Non-communicable Disease

WHO: World Health Organization

Chapter I

Introduction & Background

Introduction

There has been a dramatic increase in the number of overweight children under 5 years of age. (Childhood Overweight Policy Brief, 2014). Children who are overweight or obese are at greater risk of developing severe health issues, including type 2 diabetes, high blood pressure, asthma and respiratory problems, sleep disorders and liver disease and psychological symptoms, such as low self-esteem, depression and social alienation, can also suffer from them. Childhood overweight and obesity often raise the risk of obesity, which is not normal (WHO, 2020). Childhood overweight and obesity often raise the likelihood of obesity, non-communicable disease (NCD), premature mortality and adult impairment. Finally, the economic costs of the escalating issue of childhood overweight and obesity are substantial, both in terms of massive financial burdens on health care facilities and in terms of lost economic efficiency (Overweight & Obesity, 2020).

Childhood obesity is a major public health crisis nationally and internationally (Karnik & Kanekar, 2020). Obesity in children is rising alarmingly and approaching epidemic proportion in many economically developed countries, particularly in USA, Canada, Australia and several European countries. This problem is emerging as a public health crisis in developed countries as well. WHO (2013) finds childhood obesity to be one of the most severe public health problems of the 21st century (Rahman, et al., 2014). In Bangladesh, the context of overweight has been underexplored, more so amongst younger age groups. Understanding the current situation and trends will provide useful

insights into its risk factors and will assist health professionals and policy-makers in decision-making and developing future research agenda century (Rahman, et al., 2014).

Promoting healthier habits is a central factor in the fight against childhood obesity. As with any pediatric chronic disorder, parents play a crucial role in their child's weight-related illness and health outcomes. However, parents of children who are overweight or obese often struggle to correctly assess their child's weight status (Aldolaim, 2019). It is therefore important to investigate and develop the relationship between child weight gain in childhood and parental attitudes and actions towards the weight status of their children (Aldolaim, 2019).

Statement of problem

The Sustainable Development Goals, set by the United Nations in 2015, identify prevention and control of non-communicable diseases as key priorities. According to WHO (2014), the global child obesity goal ensures that the global prevalence of 7% in 2012 does not increase by 11% in 2025 and in addition, the number of overweight children under 5 years of age does not rise from 44 million to 70 million by 2025.

Children with early age obesity are more likely to bring their excess weight to adulthood and increase their risk of the same comorbid conditions that impact adult age with obesity and not only are these children's wellbeing impaired by extra weight, but they are also more likely to suffer from negative social stigma and poor academic performance (Overweight & Obesity, 2020). Obesity is of particular concern among non-communicable disease risk factors (Rahman, et al., 2019).

Obesity is a critical issue for children's health. Childhood obesity has reached epidemic proportions worldwide, both in developed and developing countries. It presents an immediate and serious problem in many countries. Children in low-and middle-income

countries are more prone to insufficient maternal, infant and young child nutrition. At the same time, these children are exposed to high-fat, high-sugar, high-salt, energy-dense, and micronutrient-poor diets, which tend to be lower in cost but also lower in nutritional quality. These dietary habits, coupled with lower levels of physical activity, result in sharp rises in childhood obesity, while undernutrition remains unexplained (WHO, 2020).

Child obesity is becoming a burden on the health sector in Bangladesh, but there is no well-documented policy strategy to prevent it, although there is a strong awareness of the nutrition program and the potential to play in national child policy. A research, led by the Imperial College London and the World Health Organization, published in Lancet in 2017, has shown an apprehension that Bangladesh is currently facing the 'dual burden' of both malnutrition and obesity. The study further claimed that more children and adolescents in Bangladesh are obese now than before, as has been the case in many other developing countries. Risk factors for obesity are multifactorial, such as dietary habits, physical activity, watching television, playing video games, and family history of obesity, socio-economic status, and parental education (Maswood, 2019).

Purpose of the study

Knowing parental perception is important for controlling their children's weight as parents play a vital role in their child's weight related condition and health outcome. Research shows that, a large percentage of parents do not perceive their children to be overweight or obese (Aldolaim, 2019) and it was also found that parental beliefs regarding childhood obesity and parental educational level may influence parents' perceptions of their children's weight (Aldolaim, 2019). Many researchers were able to examine that what parents perceive as barriers to preventing and treating children's

obesity (Abdeyazdan, et al., 2017). Many parents of obese child cannot identify their child weight status, so it is important to examine the relationship between children's weight gain throughout childhood with parents' attitudes and behavior toward the weight status of their children (Aldolaim, 2019).

So, the purpose of the study is to explore parent's perception (knowledge, attitude and practice regarding food habit, life style, physical activities etc) about childhood obesity in yearly years which is a health risk factor. The study will also explore the practices done by parents that could prevent childhood obesity, at the same time, this study will also look into the practices done by parents that could promote or lessen childhood obesity.

Significance & Justification of the study

A common belief is that parental failure to consider childhood overweight is a major public health issue because parents control both what the child eats and the physical activity of the child and parental views of child weight status are a central aspect of many obese intervention and prevention initiatives (Robinson, 2016).

Understanding parent's perception regarding early childhood obesity as a health risk factor is important to prevent and to provide intervention for early childhood obesity. At this study, it will find if there is any knowledge gap about childhood obesity of the parents or not. If there is any gap, we can strengthen this vulnerable sector by advocacy on knowledge and practice about childhood obesity and a demarcated chain system can be employed to keep parents aware of their children's overweight. In Bangladesh study to explore parental perceptions on childhood obesity in yearly years is underexplored (Rahman, et al., 2014) and there are a few studies has been done on this topic and hope that, this study will enrich this sector as well as government and private sector will get

the benefit by collaborate action using the data of this study. New ideas can be established using the findings of this analysis.

Research Topic & Research Questions

The research topic is to Childhood Obesity in Early Years: Parental Perception in Dhaka City

Research question 1: What are the perceptions of parents having children of 3 to 8 years regarding childhood obesity in early years?

Sub research questions 1(a) & 1(b)

- *What is the understanding of parents regarding childhood obesity in early years?*
- *What do parents think about the importance of maintaining healthy weight of their children in early years?*

Research question 2: What are the practices could be done by parents having children of 3 to 8 years that would prevent childhood obesity in early years?

Sub-research question 2(a) & 2(b)

- a) *What are the practices could be done by parents to prevent childhood obesity in yearly years?*
- b) *What are the practices parents do that promote childhood obesity in yearly years?*

Definition of terms:

- **Overweight:** Body mass index (BMI) is a measure used to determine childhood overweight. Overweight is defined as a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex.
- **Parents:** One who begets, gives birth to, or nurtures and raises a child; a father or mother. In this study both fathers and mothers are considered as parents.
- **Perceptions:** The word perception comes from the Latin perception-, perceptio, meaning "receiving, collecting, and action of taking possession, apprehension with the mind or senses." Perception is the process by which stimulation of the senses is translated into meaningful experience (Encyclopedia, 2019).
- **Middle income class:** Banerjee & Duflo (2008) consider those who spend US\$ 2 to US\$10 per capita per day as a part of the Middle class. The Asian Development Bank (Chun 2010) utilize the US\$2 threshold as well. These thresholds are set in global context. For a threshold in national context, renowned Bangladeshi economics Dr. Binayek Sen consider US\$ 2 to US&3 as middle class (JICA, 2016).

Chapter II

Literature Review

Although the definition of obesity and overweight has evolved over time, it can be defined as excess body fat (BF). There is no consensus on the cut-off point for excess fat or obesity in children and adolescents (Dehghan, et al., 2005). A research performed by Williams, et al., 1992) on 3,320 children aged five to eighteen years categorized children as overweight if their body fat content was at least 25% for males and 30% for females. The Center for Disease Control and Prevention in USA described overweight as at or above the 95th percentile body mass index (BMI) for age and "at risk of overweight" as between the 85th and 95th percentile of BMI for age. European researchers scored overweight at or above 85th percent and obesity as at or above 95th percentile of BMI and also estimate that 17 percent of 2- to 19-year-old American children are obese, as measured by their body mass index (BMI) percentile and the rate of childhood obesity has more than tripled in the past 30 years (Shaoo, et al., 2015).

The primary cause of obesity and overweight is the energy disparity between calories consumed and calories spent. Globally, there has been a rise in the consumption of energy-dense foods high in fat and sugar and an increase in physical inactivity due to the increasingly sedentary nature of many types of employment, evolving modes of transport and rising urbanization (WHO, 2020).

According to WHO (2020) overweight and obesity are characterized as irregular or excessive accumulation of fat that may affect health and it is related to more deaths than underweight worldwide. WHO (2020) states that an estimated 38.2 million children under 5 years of age were overweight or obese in 2019. Once considered a high-income country problem, overweight and obesity are on the rise in low-and middle-income

countries, especially in urban settings. In Africa, the number of overweight children under 5 years has risen by almost 24% since 2000 and almost half of children under the age of 5 who were overweight or obese in 2019 were living in Asia (WHO, 2020). Over 340 million children and adolescents aged 5-19 years were overweight or obese in 2016 (WHO, 2020). Many low-and middle-income countries are now faced with a "double burden" of malnutrition. Although these countries continue to address the problems of infectious diseases and under nutrition, they are also experiencing a rapid rise in non-communicable disease risk factors such as obesity and overweight, especially in urban settings (WHO, 2020). A study found that childhood obesity has reached epidemic levels in both developed and developing countries (Shao, et al., 2015).

Overweight and childhood obesity are considered to have a major effect on both physical and psychological health. Overweight and obese children are likely to remain obese to adulthood and are more likely to develop non-communicable diseases such as diabetes and cardiovascular disease at a younger age (Shao, et al., 2015). Health effects also include metabolic conditions such as diabetes mellitus, hypertension, dyslipidemia and non-alcoholic fatty liver disease, and mechanical issues such as obstructive sleep apnea and orthopedic disorders. Psychological and social implications are widespread but are frequently ignored (Lee, 2009). Childhood obesity is associated with severe morbidity, which not only has an immediate effect on the health of obese children, but also dramatically raises the risk of morbidity in adults (Lee, 2009).

To assess whether lifestyle interventions, Martin et al., (2014) narrated, There is an increasing proportion of obesity and obesity in childhood and adolescence. Excessive body fat is likely to continue into adulthood at a young age and is associated with physical and psychosocial co-morbidities, as well as poorer cognitive, academic and later life results.

For the prevention and treatment of child and adolescent obesity, behavioral improvements, including reduced caloric intake, decreased sedentary behavior and increased physical activity, are recommended. Evidence about their effect on school performance and cognitive ability is lacking, considering the vast number of childhood obesity treatment trials. There are a number of methodological problems in current research that influence the consistency of proof. Multi-component physical activity and balanced diet programs could support general school achievement, while a childhood weight control physical activity intervention could benefit the achievement of mathematics, executive function and working memory (Martin et al., 2014).

The prevalence of high levels of childhood obesity in many regions of the world continues to be exposed by recent evidence. This brief describes the most recent analysis on this subject from the perspective of the role played by expectations of parental weight (Marks et al., 2017).

The bigger issue, however, is that if parents fail to understand that their child is potentially overweight, they will be less likely to recognize the benefit of implementing targeted obesity interventions to their family and they concluded that the precise classification by parents of children's weights could help reduce the incidence of childhood obesity, but that genetic arrangements, socio-economic status, social norms and other factors are obviously potential obstacles to effective prevention in this area that need to be understood and resolved if possible (Marks et al., 2017).

Another a cross-sectional study was conducted from April to October 2010 at Aga Khan University Hospital, Karachi, and comprised parents of healthy children aged 5-14 years. And result found that a high proportion of parents in this study incorrectly perceived their child's actual weight status. About 54% of the parents of normal

weighing children underestimated their children's weight, whereas 78% of the parents of overweight children and 81% of the parents of obese children wrongly classified their children's weight status (Ashraf et al., 2017).

Keeping with that, Vaccaro et al., (2019), stated in journal "A public health concern is childhood obesity. Compared to their average body weight peers, children who are obese have more medical issues and cardiovascular risk factors, we found that pubescent children had a higher percentage of obesity compared to adolescents; nevertheless, adolescents had a higher percentage of most risk factors for obesity, including inadequate sleep, high sedentary habits, and low involvement in moderate-to-vigorous physical activity."

A Longitudinal study was conducted from the 1883 participants in the cohort of ELOIN (Region of Madrid, Spain), with physical inspection at ages 4 and 6. The objective was to determine the perceived health status and health-related quality of life of children from the age of 4 to 6 years on the basis of persistence and difference in weight status. Results showed that instances of excess weight or abdominal obesity had odds ratios (ORs) of suboptimal health of 2.41 (95 percent CI 1.21 to 4.80) and 2.99 (95 percent CI 1.31 to 6.84) respectively, compared to children without excess weight or abdominal obesity in both periods. (Pinto et al., 2020).

The prevalence of childhood obesity and obesity worldwide has been growing. The frequency of obese boys and girls in Japan increased from 6.1 percent and 7.1 percent between 1976 and 1980, respectively, to 11.1 percent and 10.2 percent between 1996 and 2000, respectively. Risk factors and markers of cardiovascular disease and metabolic syndrome are associated with obesity. In addition, several studies have shown that these indicators may persist from childhood and adolescence to young

adulthood. Therefore, avoiding childhood obesity and excess weight is very necessary (Takako et al., 2012).

Éadaoin et al., (2019) stated, we studied 20,242 children and adolescents from 6 centers across China. Anthropometry was measured by research nurses. Parents answered questionnaires, including their perception of their child's weight status, and any subsequent weight treatment. Only one in four Chinese children perceived as overweight by their parents received treatment for their weight problem. Given that overweight/obesity in childhood tracks into adulthood and many parents did not intervene despite perceiving an overweight problem in their child, interventions for childhood obesity need to extend beyond parental perception of children's weight status.

Likewise, if a parent may not correctly interpret the overweight or obese status of their child and possible health risk as a result of excess weight, they may be less likely to promote the involvement of their child in healthy behaviors. Quantitative research were included that evaluated parental understanding of the body weight of their child with the child's height and weight measurements (2-11 years of age) within the United States. Studies were removed if the family was planning for or actually undergoing some form of weight loss/management care or intervention. In order to fully engage children who may be at risk for weight-related diseases in interventions aimed at physical inactivity and childhood obesity, efforts are required to enhance the accuracy of the parental perception of the weight of their infant (Tompkins et al., 2015).

Correspondingly To examine the accuracy of parental perceptions of the weight status of their child and also the association between parental perceptions and the prevalence in Mississippi of childhood obesity. More than 2 out of 5 parents misunderstood their child's weight status (k-12). "The largest difference happened with kindergartners, as

only 28.3 percent were actually healthy" by 83.9 percent of parents. Parents who misunderstood the weight of their child were almost 12 times more likely to have an obese child. Only half of the children in this study had a healthy weight (54.5 percent) (colleen et al., 2016).

In Canada the study was to investigate parents of young children for their perceptions on the causes of obesity, the impact of childhood obesity on health, and the barriers to successful prevention of childhood obesity. The analysis was carried out in two stages. Using Q-methodology, 33 parents were divided into two classes reflecting two points of view: "confident in providing healthy nutrition" and "focused on family physical activity." Another study revealed that parents have different focus areas on causing obesity, and vary in concentrating on nutrition and physical activity. Most of the parents were aware of good eating in this sample, and about one third of them believed in the advantages of children's physical activity and did not see being overweight or obese as an obstacle to physical activity. The first group was assured of being able to provide their families with good meals, and the second group was distinguished by an emphasis on physical activity and its role in obesity in childhood. Both parties agreed that exercise and sports are very important to the health status of a child (Danesh et al., 2010).

Parental feeding styles can be one particular mechanism by which parents encourage overeating and therefore overweight in children (Faith & Kerns, 2005). Indeed, common sense indicates that the way parents feed their children should contribute to the child's weight status. Feeding restrictions have consistently been related to differences in child eating habits or weight status (Faith & Kerns, 2005). Another research finding also shows that the energy consumption of the child was positively associated with the child taking food on the advice of the parent. The findings suggest

parental effects on children's eating that may have consequences for the development of dietary habits and overweight in childhood (Koivisto, et al., 1994). A survey was performed in 2019 and the findings of this study show that a significant percentage of parents do not see their children as overweight or obese and parental beliefs about childhood obesity, parental weight status, and parental education can influence parents' perception of their child's weight and the role of father in child health research has been under-represented from the literature synthesis (Aldolaim, 2019). Another research findings shows that mothers with higher BMI tend to higher BMI of their children is contributing to childhood obesity (Nath, et al., 2020).

Social Cognitive Theory notes that any behavioral change arises through mutual interactions between intra-personal, behavioral and environmental factors (Aldolaim, 2019). In this respect, the ability of a parent to participate in activities that prevent his or her child from being obese is influenced by his or her ability to overcome personal and socio-cultural barriers and execute certain behaviors (Aldolaim, 2019). Accordingly, the Health Belief Model (HBM) intervention to avoid, screen and monitor disease is based on the individual's belief. This means that what parents see at work as obstacles to the prevention and treatment of child obesity (Aldolaim, 2019).

Cultural norms such as these may lead parents to remain happy with the weight of their children, or even to want them to be heavier, even if they are at an unhealthful weight (McIntosh, 2015). Other sociological studies have also indicated that among Hispanic families, women may prefer a slim figure for themselves, but a larger one for their children (McIntosh, 2015). According to the report, there are substantial differences in the prevalence of obesity between different racial and ethnic groups. The CDC (Centre for Disease Control and Prevention in USA) records the following rates of obesity prevalence among various youth populations such as Hispanic youth – 22.4%, Non-

Hispanic Black youth – 20.2%, Non-Hispanic White youth – 14.1%, Non-Hispanic Asian youth – 8.6% (McIntosh, 2015). While childhood obesity is on the rise in all ethnic and racial groups, its prevalence is higher in non-white populations (Caprio, et al., 2008). The reasons for differences in prevalence of childhood obesity among groups are complex, possibly involving genetics, physiology, culture, socio-economic status (SES), climate, and interactions between these variables, as well as others not fully recognized. Understanding the impact of these factors on eating habits and physical activity that contribute to obesity will be crucial to the development of public policies and successful clinical approaches to prevent and treat childhood obesity. (Caprio, et al., 2008).

In Bangladesh, a study was conducted in January 1997 at a school and MCH clinic in Dhaka City found that among 316 children aged 2-10 years, the prevalence of obesity ($Wt / Ht > 120$ per cent) was 13% and the study also found that obesity was positively associated with a rise in age and family income (Rahman, et al., 2019). A national cross-sectional epidemiological analysis indicates that 3.5% of children aged 6-15 years, both urban and rural, were obese and 9.5 per cent were overweight (Rahman, et al., 2019). Another research conducted in Bangladesh in 2019 found that 14 per cent of children were overweight or obese and there are knowledge gaps in maternal understanding of childhood obesity and its contributing factors (Hossain, et al., 2019).

A cross-sectional analysis of children aged 5 to 16 years attending the Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka paediatric endocrine clinic and paediatric outpatient department over a span of 18 months. The majority of overweight and obese children had an abnormality of one or two lipid parameters, but most average weight children had one parameter (Hossain et al., 2019).

Chapter III

Methodology

Study design: The analysis follows a qualitative strategy. Qualitative analysis is based on the premise that presenting all phenomena in their context is the best way to understand them. (Agius, 2013). The assortment, study and interpretation of complete description and pictorial data is qualitative research to obtain insights into a particular phenomenon of interest (Gay et al., 2012).

Study setting: Study sites for this study were was Mohakhali and Farmgate. I have chosen these areas for the current study because these areas represent middle class income household.

Study sample: For my research, study sample was the parents having children of 3 to 8 years old. Data on age, education, family type and income of families was also collected.

Sample size: There were 6 participants. Among them 3 were mothers and 3 were be fathers. This 6 parents were asked for in-depth interview.

Sampling method: In this study, sampling technique was purposive. The inclusion criteria was parents having children aged between 3 years to 8 years coming from middle economic background and living in Dhaka city.

Inclusion Criteria:

- Parents having children aged of 3-8 years old
- Parents who live in Dhaka city

Exclusion Criteria:

- Parents from rural area
- Parents who will not participate or continue at any point of time

Research instruments:

In-depth interview questionnaire was used as data collection tools for the study. The guideline was developed by the researcher and will be reviewed by the experts.

Data collection procedure:

After approval from the ethical committee of BRAC University data collection process was started. Before the data collection the In-depth Interview (IDI) questionnaire was developed and reviewed by the experts. After conducting the IDIs with 2 participants (1 mother & 1 father) the researcher revised the questionnaire through required revision for further improvement and to make the data collection more effective.

The researcher conducted 6 IDIs in the Dhaka city at Mohakhali and Farmgate. The length of each IDI will be 45 to 60 minutes. Data from IDIs was collected by the researcher herself. To conduct the IDIs with the parents coming from middle income background the oral consent was taken as because their interview was conducted over phone or through using any digital media. Before conducting the IDI, the researcher clearly introduced and address the objective of the study as well as she built rapport with the participants. The researcher also took permission for audio record. The participants ensured about the confidentiality and anonymity of the information. The participation to the study was voluntary and participants were given option to withdraw from research in any time if they feel uncomfortable. The researcher then asked the specific questions listed in the guidelines. The researcher documented the data

descriptively through field notes, journal and tape recorder. The socio economic background information was collected from the participants. At the wrap up session, researcher was thankful to participants for their time and sharing.

One IDI was conducted in a day. The IDI questionnaire contained open ended questions for parents to ask regarding their perceptions on childhood obesity as well as the practices that could be done in preventing childhood obesity. During the in-depth interview clear and open ended questions was asked. The participants answered in their own words and sensitive and misleading questions was avoided. Their answer was recorded with audiotape and written notes (field notes).

Data management and analysis:

For this study In-depth interviews was conducted and data was managed from the starting of the data collection procedure. During the In-depth interview participant`s comments and reflections was also recorded at the same time. Every day after talking to the participant notes was reorganized with date and time. In terms of transcriptions, without any delay it was put on paper exactly what participants were shared from the tape recorder. After that the entire transcript was organized and then will be reviewed.

For this study, researcher used the approach of content analysis which is the analysis of what is contained in a message, as it will be categorized verbal or behavioral data for the purpose of classification and summarization. At the initial stage of the data analysis, all research questions reviewed again and when data collection was done, transcriptions and notes was read several times to get prime sense of data and in order to ensure that no themes are overlooked. Then categorizing (In-depth interview) was done based on data. Thereafter, patterns in the category was examined to establish themes. After that

data was linked directly with the research and sub research questions. Finally the data was interpreted and presented.

Validity and reliability

To guard the accuracy and credibility of the study, several strategies was followed to ensure validity of this study. For validity of this study appropriate method was maintained based on the research objectives and questions. Questionnaire for in-depth interview was translated into Bangla and checked and reviewed by experts. To ensure credibility, peer debriefing was done with mentor. Member checking was conducted with one research participant. Researcher was read out some data from the transcript to check accuracy and meaning with the selected participant. In order to ensure transferability, detailed descriptive data was collected. For conformability and reflexivity practice reflective journal was also kept

For reliability of the study the IDI guideline was formulated clearly. Easy and clear language was used, checked and reviewed by experts. Based on expert's feedback in-depth-interview and observation guideline was edited several times. Field testing was also conducted with two parents to test the interview questionnaire before the actual data collection.

Ethical issues:

The study was approved by the Ethical approval committee of IED, BRAC University. After having ethical approval from ethical review committee of the institute, then data collection was started. Respondents were briefed properly and motivated to participate. A complete assurance was given to them that all information provided by them would

be kept confidential. Respondents participation was acknowledged with due respect.

Limitations:

Although this study was carried out in small scale for partial fulfilment of Master thesis, every steps of conducting a research was consciously followed. But it has some limitations such as the main limitation of the study was time constrain. Only urban areas were targeted. Small number of participants were considered which could not be the representative sample

Chapter IV

Results & Discussion

The chapter is presented the findings derived from data which is collected from In-Depth-Interview on parental perception on childhood obesity. The main objective of the study is to explore parental perception on childhood obesity. Here the data took the form of thematic approach identifying and analyzing emergent themes and subthemes.

The demographic details of the participants is discussed in the beginning of the chapter and then the two main theme is presented. First the findings are accumulated on parental perception on childhood obesity. Then findings are assembled on parental practice regarding childhood obesity. The research questions assisted the researcher to categorize the theme as well the data collection tools directed the researcher to meet the study objectives.

Parents' Demographic Details

In this study, demographic profile is examined grounded on the age range of parents, educational qualification of parents and their socio-economic condition. The data is collected from six parents by six in-depth interview. The age range of parents is between 29-41 years of age. Educational qualification levels of parents were Master's Degree. All parents were working parents whose were worked on government and non-government organization. All the participants were belonged to the middle class family according to their socio-economic background. To select the participants all the inclusions criteria were followed. All of parents were chosen from three areas (Mohakhali and Farmgate) of Dhaka City. Most of the parents were from nuclear families, few were from extended family.

Theme 1: Parents perception regarding childhood obesity

Sub theme 1: Parental understanding on childhood obesity

All the participants have an understanding about childhood obesity. Most of the mothers said that childhood obesity is having extra weight compared to the age. Most of the father said that childhood obesity is gaining extra weight and having BMI is more than normal BMI. One mother stated that,

“Obesity in children means being overweight than as much as they need to be according to age” (IDI #1: Mother # A, 18.10.2020)

According to one father childhood obesity is,

“If abnormal or excess fat accumulates in the body of the child and it is higher than the normal BMI according to age and height is called child obesity” (IDI #5: Father #Y, 24.10.2020).

In this study it appears that middle class highly educated parents have the right perceptions on childhood obesity.

Sub theme 2: Parental understanding on the importance of maintaining healthy weight in early years

Almost all mother have an idea regarding importance of maintaining healthy weight in early life. They were aware about if the weight of a child cannot be maintained in early life he might have physical problem, developmental delay, attention deficiency, can't play with friends. One mother said as:

“As underweight causes child mental and physical problems, like this being overweight also hamper child's development. So it is very important to keep the weight of the child with the age.” (IDI #1: Mother #A, 18.10.2020).

All fathers had the positive thinking regarding importance of maintaining healthy weight in early life. They said if the weight of a child cannot be maintained in early life he will suffer from various diseases. One father stated as,

“The importance of maintaining a normal weight of a child is immense because if a child becomes obese early in life, he may later develop his own infectious disease or non-communicable disease like diabetes or cardiovascular disease and it will depend on the age at which he developed obesity and how long it lasted” (IDI #4: Father #X, 23.10.2020).

The findings shows that middle class highly educated parents were aware of importance of maintaining healthy weight in early life.

Sub theme 3: Parental understanding on the causes of childhood obesity

Most of the mothers were known about the causes of childhood obesity. They said food habit, taking more junk foods and oily foods, lack of physical movement, lack of play opportunity, addiction to TV/mobile phone are the main causes of childhood obesity.

One mother said as:

“Food habits and lifestyles are responsible for the childhood obesity. Parents are currently employed so they cannot give time to the child. Mobile phones are being handed over to children which is making them mechanically dependent, reducing play opportunity and making them obese” (IDI #3: Mother #C, 21.10.2020).

All fathers had clear knowledge about the causes of childhood obesity. They said life style, food habit, lack of physical movement, lack of play opportunity, addiction to TV/mobile phone are the main causes of childhood obesity. One father said as:

“It can be compared with energy imbalance between how much energy the children take and how much they loss.” He mentioned food habit is

responsible for childhood obesity like taking more sugar containing food and less micronutrient food is one of the causes of obesity. He also said less physical activities, lack of outdoor playing, more engage with TV/mobile, genetic issue are the causes of child obesity” (IDI #2: Mother #B, 19.10.2020)

In this study it appears that middle class highly educated parents mentioned life style, food habit, lack of physical movement, lack of play opportunity, addiction to TV/mobile phone are the main causes of childhood obesity.

Sub theme 4: Parental understanding on the effect of childhood obesity

All mothers knew about the effect of childhood obesity. They mentioned it can lead to a variety of problems such as diabetes, heart problems, mental development retardation, it can make children lazy, which is not good for health. They also said if the parents if obese children are aware of their children obesity and change food habit and give him a chance in the physical moment, then may be in the next children will not obese. One of mother articulated that,

“Obesity is harmful for any age and childishness is definitely harmful for a Children. The energy level of a school child is much lower than the energy level of a three child. Diabetics also may occur. Mental development might be hampered” (IDI #1: Mother # A, 18.10.2020).

On the other hand, all father had spoken out about the effects of childhood obesity. All father thought that, childhood obesity can makes the child lazy and his mental development may be less, can't cope up with friends, different types of physical problems may arise. One father said,

“Obese child might have many health hazards like childhood diabetes, hypertension, fatty liver, asthma, metabolic disorder, anemia etc. He also said they might have low self-esteem, anxiety and depression” (IDI #6: Father #Z, 26.10.2020).

The findings show that, middle class highly educated parents were aware of the effects of obesity and they knew the bad side of it.

Sub theme 5. Parental understanding on link between food habit and childhood obesity

Every mother knows the relationship of obesity with food habit. All are thinks that, there is a connection between eating habits and childhood obesity. Nowadays children do not want to eat vegetables at all. They are fond of Fast foods. They prefer meat than fish or vegetable. One of mother narrated that,

“Of course there is a relationship between eating habits and childhood obesity. She said “Childhood obesity is related to eating habits. It is supposes to the child is given a balanced diet where the junk food and much carbohydrate containing food is given in large quantities, these foods will make the child fat” (IDI #3: Mother #C, 21.10.2020)

Here also, all father talked about the connection of obesity with food habits. They said that physical changes are due to eating habits. And this is how the body accumulates fat. One father expressed his opinion that,

“Of course childhood obesity is associated with food habit. Due to take spicy, oily, less nutrient containing food, fast food child obesity is common now. He also said normally obese parent’s food habit isn’t healthy. It is also a cause of child obesity” (IDI #4: Father #X, 23.10.2020).

They thought that just eating too much food doesn't make you fat like, obesity has something to do with eating habits, such as eating too much fast food will make you fat, but also excessive amounts of supplementary food are responsible for the children's Obesity.

Subtheme 6. Parental understanding on their roles to control their children's childhood obesity:

All mothers had an idea that, how to control their children's childhood obesity. They have beautifully presented from their own point of view that, not only control food habit, proper physical activity will also be required. They said to control childhood obesity, give moderate healthy food, avoid unhealthy junk foods, introduce with regular exercise, provide play opportunities, addiction to TV or mobile should be reduced. One mother said,

“To control their children's childhood obesity the child needs to ensure a balanced diet. Carbohydrates and protein should be given to the child according to the age of the child. The child should be given the opportunity to play sports and walk. The child should get in the habit of walking in the morning and go out with the child on holidays.” (IDI #3: Mother #C, 21.10.2020)

In the same way fathers had ideas about this, one father cited that, balance diet and proper physical activities is important to control childhood obesity. They said to control obesity parents should give enough time to their child to take care of food quality and play opportunity. One father said,

“To prevent childhood obesity parents should give proper time to their child, they should look after on their child's food pattern like they have to give less carbohydrate food and more protein containing food. He also said parents should give the opportunity to play and try to increase their child's physical activities” (IDI #4: Father #X, 23.10.2020).

So it's clear that all father reinforced that to control childhood obesity, parents need to have an idea of the child's weight, to know what foods to feed the child at what age,

and give the child enough time and space to play, make the child physically active or insure the child's physical movement.

Theme 2: Parental practices regarding childhood obesity

Subtheme 1. Daily routine of children

Almost all mother said the same routine of their children. They mention their children wake up in morning, brush teeth, take breakfast, play little bit and take shower and lunch accordingly. Then take rest and after while take snacks and play a little bit. At evening they watch TV/mobile and then take food and go for sleep. One mother said as:

“My daughter wakes up at seven and sometimes wakes up before me and brushes herself. She take breakfast at 9 o'clock and then plays with his grandmother. In mid-morning she take some snacks, his grandmother bath her, give her lunch and put her to sleep. She wakes up in the afternoon, takes some breakfast and goes to the roof. After playing with the kids on the roof and cycling she comes back home and becomes busy with tv/mobile. Then she takes some food and goes for sleep” (IDI #1: Mother #A, 18.10.2020).

Almost all fathers said the same routine of their children. They mention their children wake up in morning, brush teeth, take breakfast, play little bit and take shower and lunch accordingly. Then take rest and after while take snacks and play a little bit. At evening they watch TV/mobile and then take food and go for sleep. One participant said as:

“My baby wakes up in the morning and brushes, then his mother gives him breakfast, then the baby plays a little. Then he has an online class. After finishing the class, he does a little drawing, then he takes a bath,

eats lunch and is put to sleep. He wakes up, takes breakfast in the afternoon, plays a little, then watches cartoons on TV, reads a little, eats dinner at 8 or 9 o'clock at night and is put to sleep” (IDI #5: Father #Y, 24.10.2020).

Subtheme 2. Parental practices to manage childhood obesity in early years

All father tried good practices to control childhood obesity in early years. They said they give balance diet to their child, try to give protein rich and less carbohydrate containing food, they give three main meals and two snacks to their child. They all said they don't prefer forceful feeding to their child. Most of them try to give opportunity for play and walking but as very often they fail to manage time to do it. One father said as:

“I give my baby three main meals and sometimes some snacks also. I usually give him red flour bread, red rice, enough protein and carbohydrates, fruits and eggs and never forced feed. I try to give my child enough time to walk or play. I take him to the park even on holidays as in working day I can't manage time. But at home I tell him to play” (IDI #2: Mother #B, 19.10.2020).

All mother tried good practices to control childhood obesity in early years. They. They all tried to give healthy food like protein rich food, vegetables, egg, milk to their child. All mother said they didn't like forceful feeding. Among all mothers one mother said she gave enough opportunity to her child to play and rest were unable to spend time with child for playing as they were busy with office work. One mother said as:

“Three times main meal and mid-morning and afternoon snacks is given. Rice or bread vegetables, eggs, fish or meat is giver for main meal. I try to give vegetables every day. A cup of milk is given in the mid-morning and in the afternoon noodles/pasta/egg/fruits is given. If

she have a heavy breakfast in the afternoon, she doesn't eat anything else at night. My baby is not fed by force at all. I can't give enough time to my child as I have to busy with my office work" (IDI #3: Mother #C, 21.10.2020).

In this study it appears that middle class highly educated parents tried to control childhood obesity but they find it difficult to engage in playing activities with children due to work imbalance.

Subtheme 3. Parental practices that accelerate childhood obesity in early years

All mothers said that parent's sedentary life style and food habits accelerate childhood obesity. They said if parents don't give balanced diet and children are not given the opportunity for physical activity children become obese. One mother said as:

"The child is not being given as much time as he needs because parents are working. Since parents can't afford to make food for their baby, buying food from outside is totally unhealthy. And the kids are happy to get this food too. Since the parents are tired from coming to the office, they cannot give the child time to play. They give the child a mobile phone and the child is busy on the mobile phone. As a result, the physical movement of children is decreasing" (IDI #1: Mother #A, 18.10.2020).

All fathers were informed that parent's secondary life style and food habits accelerate childhood obesity. They mentioned lack of balance food and outside junk food are given to child by their parents can make the child more healthy. They also said that parents don't give play opportunity to their child so child can't be physically active and becomes obese. One father said as:

"Parents unhealthy food habit and sedentary life style are responsible for child obesity. He also said due to take junk food, less vegetables,

sugar containing food are given by parents, it accelerate childhood obesity. He mentioned parent doesn't give outdoor play opportunities to their child" (IDI #6: Father #Z, 26.10.2020).

Sub theme 4. Challenges parents face to manage childhood obesity

Most of the mothers said they faces some challenges to control childhood obesity. They mentioned urbanization changes the food habit and for urbanization there is no enough play space, as parents are working they can't give enough time to their child. One mother said as:

"For urbanization the kids become familiar with outside unhealthy foods. In urban area there is lack of space for playing. Parents are busy with their works, can't spend time with their children. Children are addicted with mobile phone rather playing" (IDI #3: Mother #A, 21.10.2020).

Most of the fathers mentioned some challenges to control childhood obesity. They said urbanization changes the food habit and for urbanization there is no enough play space, as parents are working they can't give enough time to their child. Among all one father said family member's perception like healthy child is good to look is also a challenge to control childhood obesity. He said as:

"Mother or any other family member of the child, caress the child and give too much food that is not right and some people think an obese child looks good, so they try to make their baby fat" (IDI #5: Father #Y, 24.10.2020).

Subtheme 5. Parental perceptions on what could be done to control childhood obesity

To control childhood obesity most of the mothers said it is important to be aware of child food habit. Protein rich foods should be given and low carbohydrate foods should be given. They also said Vitamin foods should be given and Junk food should be eliminated. One mother said as:

“The child should be given healthy food. Junk food and cold drinks should not be given. Low carbohydrate foods and protein rich foods should be given” (IDI #1: Mother #A, 18.10.2020)

Every mother said children need to be given opportunities to play, children need to go to the park and children need to get up in the morning. Children need to reduce their addiction to TV mobiles.

One father said as:

“The child should be given the opportunity to walk, two days in a week he should be taken out for a walk in the park, the child should be given the opportunity to play” (IDI #2: Mother #B, 19.10.2020).

Almost all fathers haven shown same perceptions on what could be done to control childhood obesity. They said childhood obesity can be controlled by reducing carbohydrate containing food and sugar, providing more protein and vitamins, give opportunities to play and walk, keep them away from using TV and mobile. One father said as:

“To control childhood obesity I need to follow proper diet plan for my child, I need to maintain proper nutrition for him, I need to lead a

healthy life then My child also learn to leads a health life, I need to give my child enough time to play” (IDI #6: Father #Z, 12.10.2020).

Key findings

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

1. The findings show that, mothers and fathers had an idea about childhood obesity and they were aware about importance of maintaining healthy weight in early life. Both parents had better understanding and perceived childhood obesity. The findings show that, mothers and fathers mentioned life style, food habit (by eating excessive junk food), lack of physical movement, lack of play opportunity, addiction to TV/mobile phone are the main causes of childhood obesity. The findings again show that, Mothers and fathers were aware of the effects of obesity and they knew the effects of it
2. All parents reinforced that to control childhood obesity, parents need to have an idea of the child's weight, to know what foods to feed the child at what age, and give the child enough time and space to play, make the child physically active or insure the child's physical movement.
3. Almost all fathers and mothers said the same routine of their children. Both parents were aware of their children's daily routine it is very noticeable that the food quality of the children is well taken care of by both the parents. All parents had a good practices to control childhood obesity in early years. They said they give three main meals and two snacks to their child. They all tried to give healthy food like protein rich food, vegetables, egg, milk to their child. But they find it difficult to engage in playing activities with children due to work imbalance.

4. There was no different opinion of parents on parent's sedentary life style and food habits accelerate childhood obesity. Both of them agreed that lack of balance food and outside junk food are given to child by their parents can make the child more healthy. They also said that parents don't give play opportunity to their child so child can't be physically active and becomes obese.
5. Parents faced various challenges for childhood obesity, one of which is Urbanization. Urbanization changes the food habit and for this cause there is no enough play space, as parents are working they can't give enough time to their child. Among all one father said family member's perception like healthy child is good to look is also a challenge to control childhood obesity.
6. Almost all mothers have shown same as fathers perceptions on what could be done to control childhood obesity. They said childhood obesity can be controlled by reducing carbohydrate containing food and sugar, providing more protein and vitamins, give opportunities to play and walk, keep them away from using TV and mobile.

Discussion

The researcher explored parent's perceptions from their knowledge, experience and practices on childhood obesity. Initially, in the chapter, the interpretation of the findings is presented, which has appeared during the study and provided an analysis of the research evidence.

The study's demographic profile indicates that all parents were well educated. The data findings of the study suggested that middle class educated parents, both mothers and fathers have the perception about childhood obesity, have knowledge and awareness of the importance of maintaining healthy weight in early life. Both parents can better understand and perceived childhood obesity.

The study revealed that according to middle class highly educated parents were mentioned life style, food habit, lack of physical movement, lack of play opportunity, addiction to TV/mobile phone, urbanization are the main causes of childhood obesity. According to WHO, 2020 “the fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended. Globally, there has been an increased intake of energy-dense foods that are high in fat and sugars; and an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization” which the researcher found to match the views of the parents and its impact on later life.

The findings of the study showed that, both mothers and fathers were aware of the effects of childhood obesity and they knew the effects of it. They mentioned it can lead to a variety of problems such as diabetes, heart problems, and mental development retardation. A study was conducted by Shao, et al., (2015) showed the same findings. “Overweight and obese children are likely to remain obese to adulthood and are more

likely to develop non-communicable diseases such as diabetes and cardiovascular disease at a younger age.” It is evident from the study findings that parent’s sedentary life style and food habits accelerate childhood obesity. Both of them were agreed that more balanced food and less outside junk food are given to child might make the child more healthy. They also said that they cannot give play opportunity to their child so child can’t be physically active and ultimately becomes obese. It was also mentioned that they didn't take proper balanced food like vegetables and protein and for that, their children's cholesterol level might increase. Children follow their all the family cultures. If they can provide balanced food and proper lifestyle like regular physical activity, children might be able to gain a proper weight according to their age. and parent also admitted that, for busy lifestyle and job purposes, they cannot give enough time to look after to their children in the home as well as they cannot provide proper time to make their children in the field to play physically.

It was concluded from the study findings every parents said about the relationship of obesity with food habit. All were thought that, there is a connection between eating habits and childhood obesity. Nowadays children do not want to eat vegetables at all. They are fond of Fast foods. They prefer meat than fish or vegetable. All these make the child obese. It might happen due to globalization children become familiar with fast food and these foods are tasty, so they prefer to eat this. Besides the school going children are taking different types of oily, processed food. One is motivated by another to take this. One the other hand according to a study conducted by Naomi Moriyama, 2019 shows “Japanese childhood obesity levels have historically been much lower, and have in fact been declining overall in recent years. They serve more plant-based foods like fruits, vegetables, beans, whole grains, and healthy fats, like heart-healthy omega 3-rich fish, and less processed food with added sugars and salt to their children. This

food pattern is relatively low in calories, high in nutrients, and more efficiently filling by being lower in calorie density or “calories per bite.” This will help minimize the risks of obesity and the hosts of illnesses it triggers, and maximize the probability of a long, healthy life to children”, (Moriyama, 2019).

Data reveals that middle class highly educated parents were well known regarding childhood obesity, its causes and effects but they face various challenges to maintain healthy weight of their children obesity due to their work life imbalance and unplanned urbanization as well. As parents are working they can't give enough time to their child to make healthy food. . Moreover as they have to attend to their job they cannot arrange proper food in their family and for this there is a shifting to their food habits like junk food or energy giving food that might increase their cholesterol. Likewise they can't spend time with children to play and can't make them active in the physical activity. Parents mentioned urbanization as one of the biggest cause for their children's obesity. Urbanization changes the food habit and for this cause there is no enough play space. Due to urbanization there are so many buildings for the accommodation purposes. So there is a lack of play. Parents mentioned that lack of proper playgrounds their children can't go out for outdoor games and become obese.

Researchers found that almost all mothers have shown same as fathers perceptions on what could be done to control childhood obesity. They said childhood obesity can be controlled by reducing carbohydrate containing food and sugar, providing more protein and. They suggested that proper food arrangement might be able to make their children healthy. They suggested that low carbohydrate consumption and low sugar might be helpful for their children's health and they want to prepare foods containing high protein vitamin mineral to maintain a Healthy lifestyle. But there is a shifting of food habit in the world and it is very hard time to arrange proper food going beyond the tide. They

suggested to give opportunities to play and walk, keep them away from using TV and mobile.

Conclusion:

Childhood obesity leads to early sickness and ultimate cause's burden to health sector, economy, and society and on family life. It can be concluded from the study that middle class educated mothers and fathers were aware of causes of childhood obesity and its effects. According to this study it is seen that lack of playground, less physical activity, consumption of junk food, addiction to TV and internet and urbanization are identified the causes of childhood obesity. This is the high time, parents should give more time to their children to prepare healthy food and to give them opportunities for play and physical activities as well as government initiative is needed much for making well planned playground to control childhood obesity.

Recommendation

To prevent obesity among children, we should follow some directions as today's child, tomorrow's citizen. If we cannot maintain their healthy lifestyle, they might suffer from different disease in early life. For this, parents as well as government can play a great role. Here some recommendation how works to be done:

- Parents have the knowledge on how obesity can be controlled. But this knowledge is not always properly transmitting into practices due to work life imbalance, sedentary lifestyle. That's why there is a great need of behavioral change program and campaign. Behavioral change program says about regular physical exercise, food containing less fat more fiber, proper attention to children about Internet or TV addiction, give them space to play physically, and how to balance work life etc. So both the government and privet sector should come forward and arrange different behavioral change program targeting parents of all socioeconomic structure.
- There is a shifting of food habit in the world and it is very hard time to arrange proper food going beyond the tide. But for proper maintenance of health of children, parents should follow healthy food menu and prepare healthy food at home.
- Working parents should balance working time and family time. Organizations should look after on this issue for the sake of better future. Children follows others. As they are highly attached to parents, good lifestyle, healthy eating can motivate them for the lifetime.
- Children should be encouraged to healthy nutritious food from their early age so that it will be accommodated to their life style. Schools and childcare centers

could play a great role here. Our government has already implemented mid day meal at school. Other private organizations can arrange this kind of meal system containing healthy and balanced diet for children.

- Due to unplanned urbanization there is lack of play-ground for the child to play. So government should take proper steps or policy to build planned playground for our future potential citizens. Planned open space can be a resource for future. Open field will help the children to play cheerfully and they would be physically active. Socialization would be strong and leadership capability could be gained beside of good health.
- Further research is required in this field as there is a few research has been conducted in Bangladesh. Government as well as private sector should arrange enough budget to strengthen this sector, to have to research. A good research can bring out many problems and its gap in policy too.

References

- Aldolaim, S. (2019). Parental Perceptions of Childhood Obesity: *Systematic Literature Review*, 2–7. <https://childhood-obesity.imedpub.com/parental-perceptions-of-childhood-obesity-systematic-literature-review.php?aid=24483>
- Ashraf, H., Shamsi, N. I., & Ashraf, R. (2017). Parental perception and childhood obesity: Contributors to incorrect perception. *JPMA. The Journal of the Pakistan Medical Association*, 67(2), 214–219
- Abdeyazdan, Z., Moshgdar, H., Golshiri, P. (2017). *Evaluating the Effect of Lifestyle Education Based on Health Belief Model for Mothers of Obese and Overweight School-age Children on Obesity-Related Behaviors*. (2017, May 2). Retrieved October 18, 2020, from https://www.researchgate.net/publication/318432486_Evaluating_the_Effect_of_Lifestyle_Education_Based_on_Health_Belief_Model_for_Mothers_of_Obese_and_Overweight_School-age_Children_on_Obesity-Related_Behaviors
- Childhood Obesity Facts (Overweight & Obesity)*. (2020, April 19). Retrieved October 18, 2020, from <https://www.cdc.gov/obesity/data/childhood.html>
- Childhood Overweight Policy Brief*. (2014, August 13). Retrieved October 18, 2020, from https://www.who.int/nutrition/topics/globaltargets_overweight_policybrief.pdf
- Childhood obesity*. (n.d.). Retrieved October 18, 2020, from https://en.wikipedia.org/wiki/Childhood_obesity?fbclid=IwAR0lX8L9ODMvEp6sADlc5vMI6MaWpQ_jpFaDPU1COfbrjdvOfb7JSwWle3Y

Commission on Ending Childhood Obesity. (2016, January 25). Retrieved October 18, 2020, from <https://www.who.int/end-childhood-obesity/en/>

Caprio, S., Daniels, S., Drewnowski, A., & Lawrence, A. (2008). *Influence of Race, Ethnicity, and Culture on Childhood Obesity: Implications for Prevention and Treatment*. Retrieved October 22, 2020, from <https://care.diabetesjournals.org/content/31/11/2211>

Dehghan, M., Noori, D., Merchant, A. (2005). Childhood obesity, prevalence and prevention. Retrieved October 22, 2020, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1208949/#:~:text=Although%20definition%20of%20obesity%20and,obesity%20in%20children%20and%20adolescents>

Éadaoin M. Butler, Alisha Suhag, Ye Hong, Li Liang, Chunxiu Gong, Feng Xiong, Feihong Luo, Geli Liu, Shaoke Chen, Rachael W. Taylor, Wayne S. Cutfield, JunFen Fu, and José G.B. Derraik:18 Sep 2019<https://doi.org/10.1089/chi.2018.0338>

Faith, M., & Kerns, J. (2005). *Infant and child feeding practices and childhood overweight: the role of restriction*. Retrieved October 22, 2020, from <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1740-8709.2005.00024.x>

Hossain, M., Siddique, M., Ferdous, S., Faruki, M., & Jahan, R. (2019). *Is Childhood Overweight/Obesity Perceived as a Health Problem by Mothers of Preschool Aged Children in Bangladesh? A Community Level Cross-Sectional Study*. Retrieved October 22, 2020, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6352241/>

- Hossain, M., Begum, S., & Rahman, S. (2019). Fasting lipid in overweight and obese children: A hospital based study. *Bangladesh Medical Research Council Bulletin*, 45(2), 81-85. <https://doi.org/10.3329/bmrcb.v45i2.42535>
- Joan A. Vaccaro, Gustavo G. Zarini, Fatma G. Huffman, "Parental Perceptions of Child's Medical Care and Neighborhood and Child's Behavioral Risk Factors for Obesity in U.S. Children by Body Mass Index Classification", *Journal of Environmental and Public Health*, vol. 2019, Article ID 3737194, 10 pages, 2019. <https://doi.org/10.1155/2019/3737194>
- Karnik, S., & Kanekar, A. (2020). *Childhood Obesity: A Global Public Health Crisis*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3278864>
- Koivisto, U., Fellenius, J., & Sjoden, P. (1994). *Relations between parental mealtime practices and children's food intake*. Retrieved October 22, 2020, from <https://pubmed.ncbi.nlm.nih.gov/7979342/>
- Lee, Y. (2009). *Consequences of childhood obesity, 75–77*. Retrieved October 18, 2020, from <https://pubmed.ncbi.nlm.nih.gov/19221674/>
- Marks R. Childhood obesity and parental weight perceptions: an update. *Adv Obes WeightManagControl*.2017;7(4):334-338.
DOI: 10.15406/aowmc.2017.07.00209
- Moriyama, N. (2019, March 8). Here's Why Japanese Children Are the Healthiest in the World. Retrieved December 27, 2020, from <https://www.thehealthy.com/family/childrens-health/why-japanese-children-are-the-healthiest/>

- Martin, A., Saunders, D. H., Shenkin, S. D., & Sproule, J. (2014). Lifestyle intervention for improving school achievement in overweight or obese children and adolescents. *The Cochrane database of systematic reviews*, (3), CD009728. <https://doi.org/10.1002/14651858.CD009728.pub2>
- Maswood, M. (2019). *Obesity cripples lives of children in Bangladesh*, 2–11. <https://www.newagebd.net/article/92803/obesity-cripples-lives-of-children-in-bangladesh>
- McIntosh, J. (2015b). *How do race and ethnicity influence childhood obesity*, 2–5. <https://www.medicalnewstoday.com/articles/292913>
- Nath, D., Parveen, S., Jahan, F., & Kang, H. (2020). *Mother's Perception on Childhood Obesity in Dhaka, Bangladesh*. Retrieved October 22, 2020, from <http://iosrjournals.org/iosr-jnhs/papers/vol9-issue4/Series-11/F0904114351.pdf>
- Noori Akhtar-Danesh, PhD (Associate Professor)¹, Mahshid Dehghan, PhD (Nutritionist)², Katherine M. Morrison, MD (Pediatrician)³, & Sujeewa Fonseka *Parents' perceptions and attitudes on childhood obesity: A Q-methodology study* doi: 10.1111/j.1745-7599.2010.00584.x
- Obesity and overweight 1 April 2020. (2020, April 1). Retrieved October 18, 2020, from <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight?fbclid=IwAR0-hMzkMfvUOnyLNMuboCZWJIBgbnNboxIRq8-jEUUP0oNW6lm4j1qBiz8>

Obesity. (n.d.). Retrieved October 19, 2020, from https://www.who.int/health-topics/obesity#tab=tab_1

Ortiz-Pinto, M.A., Ortiz-Marrón, H., Rodríguez-Rodríguez, A. *et al.* Parental perception of child health status and quality of life associated with overweight and obesity in early childhood. *Qual Life Res* **29**, 163–170 (2020). <https://doi.org/10.1007/s11136-019-02313-7>

Rahman, S., Islam, T., & Alam, D. (2014). *Obesity and overweight in Bangladeshi children and adolescents: a scoping review*. Retrieved October 22, 2020, from <https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-14-70#:~:text=Recent%20survey%20by%20Bangladesh%20Bureau,children%20and%20adolescents%20%5B24%5D>.

Rahman, S. M. M., Kabir, I., Bhuyan, M. A. H., Akter, B. M. D., & Hossain, S. M. (2019). *Prevalence and Determinants of Childhood Obesity in Dhaka City*. Retrieved October 22, 2020, from https://bmrcbd.org/Bulletin/bulletin_html/450201.html

Reducing free sugars intake in children to reduce the risk of non-communicable diseases. (2019). Retrieved October 19, 2020, from <https://www.who.int/elena/titles/free-sugars-children-ncds/en/>

Sahoo, K., Sahoo, B., Choudhury, A., & Shofi, N. (2015). *Childhood obesity: causes and consequences*. Retrieved October 22, 2020, from <https://pubmed.ncbi.nlm.nih.gov/25949965/>

Tompkins, C.L., Seablom, M. & Brock, D.W. Parental Perception of Child's Body Weight: A Systematic Review. *J Child Fam Stud* **24**, 1384–1391 (2015).
<https://doi.org/10.1007/s10826-014-9945-0>

Takako Shi, Hirotaka Ochiai, Tadahiro Ohtsu, Rimei Nishimura, Takaya Shimizu, Hiromi Hoshino, Naoko Tajima, Akatsuki Kokaze Department of Public Health, Showa University School of Medicine, Tokyo, Japan. *Division of Diabetes, Metabolism and Endocrinology*, Department of Internal Medicine, Jikei University School of Medicine, Tokyo, Japan. **DOI:** 10.4236/health.2012.48081

Annex-1

Parent's Consent Form

Title of the Research:

Childhood Obesity in Early Years : Parental Perceptions in Dhaka City

Purpose of the research:

As a part of my degree requirements from the BRAC Institute of Educational Development- BRAC University, I am doing this study to explore parental perception on childhood obesity in early years in Dhaka city.

Risks and benefits:

There is no risk to you for participating in this study and but directly or indirectly mothers of young children of age 3-8 will be benefited in future by raising awareness regarding childhood obesity in early years.

Privacy, anonymity and confidentiality:

All information collected from you will remain strictly confidential. We would be happy to answer your questions about the study and you are welcome to contact me.

Future use of information:

Some of the information collected from this study may be kept for future use however in such cases information and data supplied to other researchers, will not conflict with or violate the maintenance of privacy, anonymity and confidentiality of information identifying participants in any way.

Right not to participate and withdraw:

Your participation in the study is voluntary, and you are the sole authority to decide for and against your participation in this study. Refusal to take part in the study will involve no penalty. If you agree to my proposal of enrolling yourself in my study, please indicate that by putting your signature the specified space below

Thank you very much for your cooperation

Signature of Investigator

Signature of Participant

Date:

Date:

Annex-2

IDI Questionnaire

Childhood Obesity in Early Years: Parental Perceptions in Dhaka City

Interviewer's Name _____ Date of Interview _____
Parent's Name _____ Age _____ Qualification _____
Child's Name _____ Age _____ Gender _____
Session duration: 45 to 60 minutes.

Parental Perceptions:

1. What do you mean by the term 'Childhood obesity'?
2. What do you think about the importance of maintaining healthy weight of children in early years?
3. Do you know the causes of childhood obesity? If yes, what are the causes and why do you think that?
4. What problems do you think an overweight child might have?
5. Is there any effect of childhood obesity in adulthood? What do you think?
6. Do you think there is any link between food pattern and childhood obesity? If yes, how?
7. According to you, as a parents how childhood obesity can be controlled? What could be done and why?

Parental Practices:

1. According to you, what are the practices parents could do to control childhood obesity?
2. According to you, what are the practices parents do that actually accelerate childhood obesity?
3. What types of food you provide to your child and how frequently? Do you feed your child forcefully? If yes, why? If not, then why?

4. How much opportunities you provide your child to play & physical movement?
5. What is your child's everyday routine? Kindly share.
6. How do you perceive your role in preventing early childhood obesity of your child?

আইডিআই নির্দেশিকা

স্বাক্ষারকার গ্রহনকারীর নাম..... স্বাক্ষাতের তারিখ

পিতা/ মাতার নাম..... বয়স..... শিক্ষাগত যোগ্যতা.....

শিশুর নাম..... বয়স..... লিঙ্গ.....

পিতামাতার উপলব্ধি:

১. শিশুদের স্কুলতা"- বলতে আপনি কি বোঝেন?
২. শিশুদের সু-স্বাস্থ্যের জন্য শৈশবে পরিমিত ওজন ধ'রে রাখা বা রক্ষা করার গুরুত্ব সম্পর্কে আপনার মতামত কি?
৩. শিশুদের স্কুলতার কারণগুলো সম্পর্কে আপনি কি অবগত আছেন? উত্তর হ্যাঁ হলে সেই কারণগুলো উল্লেখপূর্বক আপনার মতামত দিন।
৪. স্কুল বাচ্চাদের কি কি শারিরীক সমস্যা হ'তে পারে বলে আপনি মনে করেন?
৫. শিশুতোষ স্কুলতা কি তরুণ বয়সে কোন প্রভাব রাখতে পারে? আপনার মতামত দিন।
৬. আপনি কি মনে করেন খাদ্যাভাসের সাথে শারিরীক স্কুলতার সম্পর্ক রয়েছে? উত্তর হ্যাঁ হলে আপনার মতামত দিন।
৭. পিতা বা মাতা হিসাবে শিশুদের স্কুলতা কিভাবে নিয়ন্ত্রন করা যায় বলে আপনি মনে করেন? কোন কোন বিষয়ে কেন গুরুত্ব দেওয়া প্রয়োজন?

পিতামাতার চর্চা বা অভ্যাস:

১. সন্তানের স্কুলতা নিয়ন্ত্রনে বাবা মায়ের কি কি করণীয় রয়েছে? আপনার মতামত দিন।
২. সন্তানের স্কুলতার জন্য পিতা মাতার কোন কোন দিক সহায়ক ভূমিকা পালন করে বলে আপনি মনে করেন?

৩. আপনার সন্তানকে আপনি কি ধরণের খাবার পরিবেশন করেন এবং দিনে কতবার?
আপনি কি জোরপূর্বক আপনার সন্তানকে খাওয়ান? উত্তর হ্যাঁ হলে কেন?
উত্তর না হলেও কেন?
৪. খেলাধুলা কিংবা হাঁটাচলা করার জন্য আপনার সন্তানকে কতটা সুযোগ দিন?
৫. আপনার সন্তানের দৈনন্দিন রুটিন কি? অনুগ্রহ করে বর্ণনা করুন।
৬. আপনার সন্তানের শৈশব স্কুলতা নিয়ন্ত্রনে আপনি কি কি পদক্ষেপ গ্রহন করবেন?