Title: Association of childhood feeding practices and occurrence of Early Childhood Caries: A Cross Sectional Study among children under 5 years of age across two urban slum areas of Dhaka city

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List of Acronyms

ECC: Early Childhood Caries

SES: Socioeconomic status

DMFT: Decayed, missing, and filled teeth

JPGSPH: James P Grant School of Public Health

Abstract

Introduction

Early Childhood Caries (ECC) is the occurrence of a carious lesion in a primary tooth in children less than 71 months. It is a significant dental problem that has negative effects on the growth and development of children affected. The objective of this study was to explore the association between early childhood feeding practices and the occurrence of dental caries in children under the age of 5 living in the selected slums of Dhaka city.

Method

ECC and risk factors were examined using data from 402 children (between ages of 6 months and less than 5 years old) recruited via systematic random sampling and cross-sectional explorative study design in Dhaka's Dholpur and Korail slums. The age, sex, socioeconomic position, oral hygiene practices, childhood-feeding practices, mother's knowledge of oral health, and oral health seeking practices of children were collected from their mothers through a guided questionnaire tool. In addition, the oral hygiene and caries status of children were evaluated using the Decayed, missing, and filled teeth (DMFT) index. Using chi-square and logistic regression analysis, risk variables related with ECC were identified.

Findings

Fifty-five children (14 %) children had ECC. There was association between ECC and the child's age and consumption of sugary foods. Compared to 0-11-month-olds, 48-59-month-olds had 25 times more dental caries. Children who don't eat sugary foods are less likely to have dental caries, while those who do are three times as likely.

Conclusion

ECC is low in the population under study, but increasing mothers' oral health knowledge may lead to better oral hygiene behaviors and reduced sugary snack intake. It would be helpful to undertake more study to evaluate ECC risk factors to recommend appropriate strategies based on risk factors and dissemination of information / build awareness to reduce the occurrence.

Introduction

Background

A healthy oral environment in infancy is crucial for lifelong dental health (Park & Choi, 2022). Early childhood caries (ECC) is one of the most frequent dental diseases in infancy that causes discomfort, pain, and nutritional imbalance, ultimately resulting in a reduction in the child's quality of life (Park & Choi, 2022). ECC is the presence of one or more missing, decaying, or filled primary teeth in children less than 71 months (5 years) (Anil & Anand, 2017).

However, some studies have shown that diet and eating habits have a significant influence in the transmission and progression of caries (Anil & Anand, 2017). In addition, it has shown that ECC is caused by several key variables, including a high sugar diet, poor dental hygiene, inadequate fluoride exposure, and enamel abnormalities (Anil & Anand, 2017). Children with caries spend more time away from school than in it, and they do not actively participate in outdoor activities due to pain caused by caries (Folayan et al., 2015). Unfortunately, caries has a significant negative influence on the quality of life of children, leading them to experience discomfort, early tooth loss, malnutrition, and delayed growth and development (Folayan et al., 2015).

Socioeconomic position, family characteristics, and the amount of parental oral health care awareness have been investigated as factors linked with ECC (Park & Choi, 2022). In addition to sugar intake, frequency of consumption of ultra-processed foods, manner of feeding, and feeding frequency, feeding practices have a significant impact on the incidence of ECC (Park & Choi, 2022). The outcomes gained, however, have not been consistent across investigations; for instance, numerous studies on the effects of breastfeeding on ECC have revealed inconsistent results (Park & Choi, 2022). While some research found that ECC was more prevalent in breastfed infants, others found no significant difference between the breastfed and formula-fed infants (Park & Choi, 2022). A recent systematic analysis on the relationship between breastfeeding and ECC concluded that a conclusive conclusion could not be established due to the substantial discrepancy in results across the known research (Park & Choi, 2022).

Some recent studies have identified a correlation between breastfeeding and early childhood caries (Devenish et al., 2020). There appears to be a preventive benefit of breastfeeding in the first 6–12 months of life compared to not breastfeeding, however there is a higher prevalence of ECC when nursing is continued after the first year (Devenish et al., 2020). The age at which breastfeeding begins to have a negative impact on dental health is unknown, with research employing a range of cutoffs (Devenish et al., 2020). In addition, a correlation has been established between night time nursing and an increased risk of ECC (Devenish et al., 2020). Few studies have studied this association, and the majority of those that have received low marks for research design (Devenish et al., 2020). In general, the data to far has been inconsistent, and the reviews recommend for more, higher-quality research that accounts for

key confounding variables and covariates, such as the consumption of sugary foods and beverages (Devenish et al., 2020).

In 2010, caries was the most widespread public health condition worldwide, while caries affecting primary teeth was the tenth most prevalent disease (Folayan et al., 2015). Preschoolers' caries-affected primary teeth have been a prominent concern in the field of child care (Folayan et al., 2015). ECC is more prevalent in socially disadvantaged individuals, which may be attributable to low socioeconomic level, social marginalization, and culture disparities in oral health attitudes and behaviors (Anil & Anand, 2017). ECC is a severe oral health issue, particularly in underprivileged groups in developing and industrialized nations where malnutrition is prevalent (Anil & Anand, 2017). In both industrialized and developing nations, dental caries is on the rise (Sultana et al., 2022). Caries prevalence has been estimated to be up to 12% in affluent nations, compared to up to 70% in less developed nations, particularly among underprivileged groups (Sultana et al., 2022). In several industrialized nations, such as the United Arab Emirates (83.0%), Greece (64.0%), Brazil (45.8%), Israel (64.7%), China (85.0%), South Africa (49%), and Great Britain (39.4%), there has also been evidence of a significant frequency of caries in youngsters (Sultana et al., 2022). Bangladesh, a developing country, faces many challenges in delivering oral health needs (Haque et al., 2016). There is a big gap in oral health related knowledge and behavior among this country’s population (Haque et al., 2016).

Several studies have identified the characteristics that substantially influence health-seeking behavior during sickness episodes, as well as the use of official or informal oral healthcare facilities and self/home care treatments by those seeking oral health care (Uguru et al., 2021). The choice to seek treatment through a specific method or from a particular provider is impacted by a number of characteristics, including socioeconomic status (SES), gender, age, severity and kind of sickness, access to services, and perceived service quality (Uguru et al., 2021). It may be necessary to seek advice from friends and family members, evaluate potential risks and advantages, and forego other forms of consumption that may be paid with funds used to purchase dental health care (Uguru et al., 2021). Thus, it appears that the demand for oral healthcare services is closely tied to the pursuit of oral healthcare (Uguru et al., 2021). Thus, the desire for oral healthcare services is frequently correlated with an individual's decision about which service to utilize, as well as when and where to utilize healthcare services (Uguru et al., 2021).

Inappropriate health seeking behavior have been connected to lower oral health outcomes, higher morbidity and mortality, and poorer oral health statistics, according to studies examining oral health-seeking habits (Uguru et al., 2021). In addition, these studies demonstrate that not all community members, particularly those residing in rural regions or belonging to lower socioeconomic status (SES) groups, get oral health education or appropriate oral health-promoting interventions (Uguru et al., 2021). Consequently, it is up to the individual to obtain adequate oral health treatment (Uguru et al., 2021). The bulk of the Bangladeshi population dwells in rural regions, and 40% of households are comprised of children (Haque et

al., 2016). Due to inaccessibility, budgetary restrictions, and the stagnation of public oral health care services, these children are particularly susceptible to dental problems (Haque et al., 2016). The country has extremely few dental care facilities and a high ratio of population to dentists (100,000: 2) (Haque et al., 2016). Oral health literacy is minimal and mostly self-taught, and unskilled and unlicensed healthcare practitioners frequently administer treatments under prehistoric and unsafe settings (Batra et al., 2019). Additionally, there is a paucity of basic dental care products, such as fluoride-containing toothpaste, and traditional techniques to oral care continue to be utilized (Batra et al., 2019). Hence, in order to better comprehend the factors of demand for dental caries treatment services, it would be advantageous to get greater insight into the oral health-seeking behavior of respondents (Uguru et al., 2021).

Dental caries' prevalence and risk factors are of great interest; however, Bangladesh has few data on these topics e.g. relation with weight, gingivitis for young patients (Sultana et al., 2022). The incidence of oral disorders was the subject of a brief survey, although the risk factors for pediatric dental caries are yet unknown (Sultana et al., 2022). Dental decay is a widespread oro-dental issue in Bangladesh (Sultana et al., 2022).

Gap in the literature

An agreement has not been formed on the variables linked with ECC, and this may be related to the difficulty of acquiring high-quality oral health data from young children. In Bangladesh, more than 40% of young children under five have tooth decay (Sultana et al., 2022). Moreover, based on the literature review done it seems Bangladesh also has relatively more data on dental caries in school settings and fewer data on these topics in slum settings, especially for children younger than 5 years old.

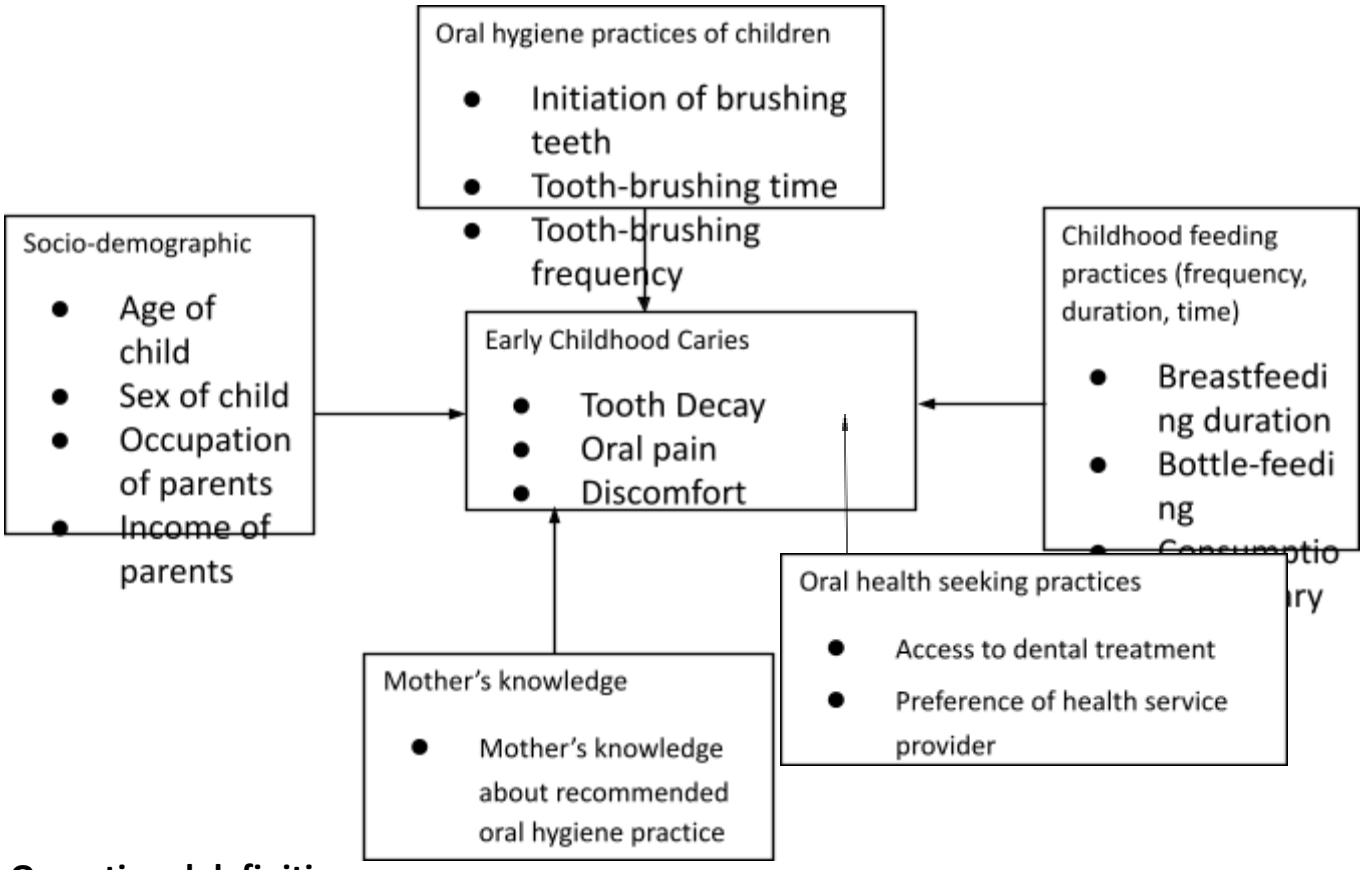
Justification

Oral health is crucial to both general health and quality of life. The information vacuum on caries status of children in slums will be filled by the findings from this study, which may influence the future development of an effective intervention. It is important that children living in slums have improved dental health care, and this meets the objective of leaving no one behind.

Conceptual Framework *- Adapted from (Devenish et al., 2020)*

The figure below illustrates the several variables that may lead to the onset of early childhood caries. The elements are childhood eating patterns, sociodemographic features, children's oral hygiene practices, mother's understanding of children's oral hygiene practices, and oral health seeking behavior. Each of the aforementioned causes may contribute equally to the onset of caries. Tooth decay, oral pain or discomfort, which are all symptoms of early childhood caries, are caused by critical variables including the age or sex of the child, brushing habits, breastfeeding timings, mother's perception of oral hygiene practice, and access or preference for dental treatment when necessary.

Fig. Conceptual Framework



Operational definitions

- Early Childhood Caries **-** Presence of one or more missing, decaying, or filled primary teeth in children less than 71 months (5 years) (Anil & Anand, 2017).
- Childhood feeding practices – Frequency, duration and time of the following: Breastfeeding, Bottle-feeding & Consumption of sugary food.
- Oral hygiene practices – Tooth-Brushing time and frequency of the children
- Oral health seeking practices – Treatment choices of the children i.e., what they do or where they go to receive dental treatment or related advice

Research Question

1. **General:** Is there any association of childhood feeding practices and occurrence of dental caries, including the underlying factors?
2. **Specific:** i) What are the socio-demographic factors associated with dental caries among under 5 children in urban slums of Dhaka city? ii) What is the occurrence of dental caries under 5 children of urban slums in Dhaka city? iii) What are the oral hygiene practices among under 5 children in urban slums of Dhaka city? iv) What is the oral hygiene related knowledge of mothers of under 5 children in urban slums of

Dhaka city? v) What are the oral health seeking practices (treatment choices) of under 5 children of urban slums in Dhaka city?

Objective:

1. General: To explore the association of early childhood feeding practices and occurrence of dental caries among children under 5 years of age in urban slums of Dhaka city
2. Specific: i) To identify the socio-demographic factors associated with dental caries among under 5 children in urban slums of Dhaka city ii) To evaluate the occurrence of dental caries under 5 children of urban slums in Dhaka city iii) To determine the oral hygiene practices among under 5 children in urban slums of Dhaka city iv) To assess the oral hygiene related knowledge of mothers of under 5 children in urban slums of Dhaka city v) To understand the oral health seeking practices (treatment choices) of under 5 children in urban slums of Dhaka city

Methodology

Study Design: Cross-sectional explorative study design with a quantitative approach. The cross-sectional design was chosen because it is convenient for assessing prevalence and examining relationships. In addition, given the timeline for data collection, the research could be completed reasonably quickly and, in a cost, effective manner.

Study Site & Population: The Dholpur slum in Sayedabad (southern part of Dhaka city under Dhaka South City Corporation) and Korail slum in Gulshan (in Dhaka North City Corporation) were purposefully chosen to be geographically representative of the city of Dhaka. In two selected slums of Dhaka, the study was conducted among mothers with children aged above 6 months to under 5 years. These slums can be taken as representative of other slums in Dhaka city in terms of household structure, the general environment, religion, and culture; the population of these slums is diverse in terms of place of origin; and the area selected was large enough to recruit enough research participants for the study (Uzma et al., 1999).

Sampling Technique: The sample size was calculated using the formula $n = Z^2 \times p\,(1 - p)/d^2$, where n = number of children, Z = 1.96 (standard normal variant at 95% CI), d = 5% (absolute error or precision), and p = 50%, the estimated prevalence (Sultana et al., 2022). Thus, an estimated sample size of 384 mothers was derived. Through systematic random sampling the mothers were selected who meet the inclusion criteria. First, after visiting the slums, we identified a landmark (the Awami League office in Dholpur and The Ershad School field in Korail) and then, using our inclusion criteria, we searched for five women from five homes in each slum. Then, we picked one home at random, and from there, we questioned every third household, resulting in 440 interviews with mothers. Hence, a total of 440 mothers were interviewed or assessed during data collection, of whom 402 were included (Dholpur: 189,

Korail: 213) based on the inclusion/exclusion criteria. The inclusion criterion was any mother in the slums with one or more children less than five years of age. The mothers of children less than six months old (tooth eruption time) or child with no teeth was excluded from the study. In addition, due to the convenience of the data collection process and the time limits, participants who were physically or mentally impaired or who are severely ill was also excluded from the study.

Study tools: After conducting a comprehensive examination of the relevant literature and also based on the conceptual framework (including the listed variables), a questionnaire was developed for the data collection in Bangla language. Independent and dependent variable components were included in the tool. There were five independent variables namely – Childhood feeding practices (e.g., breastfeeding, bottle feeding), Socio-demographic characteristics (e.g., child age, sex), Oral hygiene practices of children (e.g., brushing frequency, materials used for brushing), Oral hygiene knowledge of mothers (e.g., perception of dental treatment) and Oral health seeking behavior and practice (e.g., preference and visit of health service provider for dental treatment). The dependent variable was Early Childhood Caries. The study tool was shared to the faculty for review and after resolving the feedback, it was finalized. Prior to data collection, pre-test of the study tool was done in the Sat Tala slum in Mohakhali on 21 November 2022. On the basis of the demonstration, a couple of the questions' order was altered to make them more chronological.

Data collection procedure: Children had a simple dental checkup assessed by a single, well-trained dentist (i.e., the researcher) following standard procedure who asked the child to open his or her mouth in order to observe the teeth. The interview of the mother was first conducted followed by the oral checkup of the child. For mothers with more than one child, both children were assessed to see if they matched the inclusion requirements. The oral exam was safe for kids and only involved a simple torch light for basic examination. The interviews and oral checkup were conducted during the day time (9:00am-5:00pm). The decayed, missing, and filled (DMFT) index was used to measure the status of caries in the primary teeth in early childhood. Missing or filled teeth only count toward the overall DMFT score if they are missing or filled because of caries. If dmft score is over null, it means child have caries, while a score of null means they do not have caries. Mothers of the children were also interviewed to complete the guided questionnaire. The researcher provided the data collectors with intensive training in conducting interviews and obtaining reliable measurements.

Data analysis plan: After gathering data using Google Forms, we entered it into a Microsoft Excel spreadsheet. We examined the data for any missing responses and irregularities. We initially coded the variables using the Excel file, and then imported the Excel file into STATA 17 for analysis. Checking the variable names and labels. Then, we examined the data for missing values, but none were found. To assist extended analysis, variables were labelled, their values

were recoded, and they were categorized. Descriptive analysis was used to establish the occurrence of ECC in the sample population for each age, sex, and socioeconomic strata. The chi-square test was used to investigate relationships between the ECC and (i) age, (ii) sex, (iii) socioeconomic status, (iv) oral hygiene status (presence of caries or not), (v) child-feeding practices, (vi) the child's oral health seeking practices, (vii) the mother's oral health knowledge. Adjusted and unadjusted logistic regression was used to determine the relationship between dependent and independent variables. STATA (version 17) was utilized for data processing and statistical analysis.

Ethical Consideration – Ethical approval for conducting the study was obtained from the Institutional Review Board of BRAC James P Grant School of Public Health (JPGSPH). Informed voluntary written consent was obtained from the mothers. All responders were told the study's risk and benefits and the consent paper was read out. The participants' confidentiality and anonymity were protected and were provided with a data collector's contact information for future queries. During data collection, the data collectors answered all of the participants' queries about the study.

Findings

The total number of mothers interviewed were 440 among which 402 were included based on the inclusion / exclusion criteria.

Socio-Economic/Demographic Characteristics of Mothers

Socio-Demographic profile of respondent mothers and children assessed shows (Table 1) that 51.24 percent of the respondents' children were male and 48.76 percent were female. The majority of mothers (49.5 percent) had finished primary education, whereas 27.36 percent of the children were between the ages of 12–23 months and 24–35 months. The majority of mothers (79.85 percent) were housewives, while 20 percent were employed. The number of Dholpur respondents was 189, whereas the number of Korail respondents was 213.

TABLE 1: Socio-Economic/Demographic Characteristics of Respondents

Variables	Dholpur N (%)	Korail N (%)	Total N (%)
Marital status			
Married	184 (97.35)	205 (96.24)	389 (96.77)
Others (Separated, Divorced, Refused to answer)	5 (2.65)	8 (3.76)	13 (3.23)
Religion			
Muslim	177 (93.65)	208 (97.65)	385 (95.77)
Hindu	8 (4.23)	5 (2.35)	13 (2.33)
Christian	4 (2.12)	0 (0.00)	4 (1.00)
Mothers' education level			

Never went to school	29 (15.34)	29 (13.62)	58 (14.43)
Pre-Primary	38 (20.11)	42 (19.72)	80 (19.90)
Primary Completed	98 (51.85)	101 (47.42)	199 (49.50)
Secondary Completed	15 (7.94)	20 (9.39)	35 (8.71)
Higher secondary and above	9 (4.76)	21 (9.86)	30 (7.46)
Husbands' education level			
Never went to school	31 (16.40)	37 (17.37)	68 (16.92)
Pre-Primary	17 (8.99)	20 (9.39)	37 (9.20)
Primary Completed	95 (50.26)	107 (50.23)	202 (50.25)
Secondary Completed	11 (5.82)	15 (7.04)	26 (6.47)
Higher secondary and above	35 (18.52)	34 (15.96)	69 (17.16)
Mother's occupation			
Homemaker	144 (76.19)	177 (83.10)	321 (79.85)
Working[1]	45 (23.81)	36 (16.90)	81 (20.15)
Husband's occupation[2]			
Service	71 (37.57)	70 (32.86)	141 (35.07)
Skilled Worker	40 (21.16)	59 (27.70)	99 (24.63)
Unskilled worker	61 (32.28)	43 (20.19)	104 (25.87)
Small Trade	10 (5.29)	32 (15.02)	42 (10.45)
Others	7 (3.70)	9 (4.23)	16 (3.98)
Total monthly household income			
Less than 10,000	32 (16.93)	31 (14.55)	63 (15.67)
10,000 to <15,000	53 (28.04)	55 (25.82)	108 (26.87)
15,000 to <20,000	60 (31.75)	58 (27.23)	118 (29.35)
20,000 to <25,000	26 (13.76)	30 (14.08)	56 (13.93)
25,000 or more	18 (9.52)	39 (18.31)	57 (14.18)
Child sex			
Female	95 (50.26)	101 (47.42)	196 (48.76)
Male	94 (49.74)	112 (52.58)	206 (51.24)
Child age (months)			
0-11	23 (12.17)	26 (12.21)	49 (12.19)
12-23	48 (25.40)	62 (29.11)	110 (27.36)
24-35	51 (26.98)	59 (27.70)	110 (27.36)
36-47	28 (14.81)	38 (17.84)	66 (16.42)
48-59	39 (20.63)	28 (13.15)	67 (16.67)

Childhood Feeding Practices

Childhood feeding practices (Table 2) displays the childhood feeding practices, in which 52.99 percent of respondents breastfed their child during night and 37.06 percent ceased breastfeeding between the ages of 2-3 years. 14.93 percent of respondents also gave their child processed milk in a bottle. In terms of their child's consumption of sugary foods (e.g.,

[1] Petty business, Employee, Garment's worker, NGO worker, Teacher, House-maid, Skilled (Sewing, Embroidery, Cook), Unskilled – Day laborer

[2] Service (Garments, Security), Skilled (Plumber, Mechanic, Electrician, Hair Dresser, Blacksmith, Goldsmith, Cook, Driver), Unskilled (Rickshaw/Van/Wheelbarrow/Baby taxi puller, Unskilled day laborer, Hawker), Small trade (Petty business man, Sales man), Others (Don't know, no work, living abroad)

chocolates), 72.89 percent of mothers responded positively, with 45.27 percent of children consuming sugar more than twice per week.

TABLE 2: Childhood Feeding Practices

Variables	Total N (%)
Breastfeeding at night	
Yes	213 (52.99%)
No	189 (47.01%)
Stop breastfeeding (age)	
Less than a year	37 (9.20%)
Between 2-3 years	149 (37.06%)
Between 3-4 years	11 (2.74%)
Between 4-5 years	2 (0.50%)
N/A	203 (50.50%)
Bottle-feed milk (processed)	
Yes	60 (14.93%)
No	342 (85.07%)
Bottle-feed milk at night	
Yes	51 (12.69%)
No	351 (87.31%)
Add sugar during feeding milk	
Yes	76 (18.91%)
No	326 (81.09%)
Water intake after feeding	
Yes	95 (23.63%)
No	307 (76.37%)
Other sugary food consumption[3]	
Yes	293 (72.89%)
No	109 (27.11%)
Frequency of taking other sugary foods	
Once a week	53 (13.18%)
Twice a week	66 (16.42%)
More than two times a week	182 (45.27%)
None	101 (25.12%)

Oral Hygiene Practices of Children

Oral hygiene practices show (Table 3) the children's oral hygiene practices. 65.17 percent of children brush their teeth, with 41.4 percent of them beginning before the age of 2 years. The majority of children cleaned their teeth using a toothbrush and toothpaste (61.19 percent) while 53.48 percent of children cleaned their teeth at least once every day.

[3] Desserts (Shemai, Payesh), Beverages, Chocolates

TABLE 3: Oral Hygiene Practices of Children

Variables	Total N (%)
Child brush his/her teeth	
Yes	262 (65.17%)
No	140 (34.83%)
Start brushing teeth (age)	
Less than 2 years	165 (41.04%)
2-3 years	91 (21.64%)
3-4 years	6 (1.49%)
No (does not brush teeth)	140 (34.83%)
Material used for child brushing	
Toothbrush & Toothpaste	246 (61.19%)
Nothing	130 (32.34%)
Others[4]	26 (6.47%)
Child brushing after feeding	
Yes	56 (13.93%)
No	346 (86.07%)
Frequency of child brushing	
Once/day	215 (53.48%)
Twice/day	39 (9.70%)
Thrice/day	8 (1.99%)
None	140 (34.83%)
Rinse child oral cavity after feeding	
Yes	129 (32.09%)
No	273 (67.91%)

Mother's Knowledge About Recommended Oral Hygiene Practice

Mother's knowledge outlines (Table 4) the mother's knowledge of suggested oral hygiene practices. 75.37 percent of respondents had a toothbrush and toothpaste preference for their child's oral hygiene. Regarding perceptions of dental care, 94.53 percent of respondents were aware of its importance, and 85.38 percent visited the dentist as the best source for dental care.

TABLE 4: Mother's Knowledge About Recommended Oral Hygiene Practice

Variables	Total N (%)
Preference of material to clean child teeth	
Toothbrush and Toothpaste	303 (75.37%)
Water	37 (9.20%)
Charcoal and Toothpowder	27 (6.72%)
Toothbrush (without toothpaste)	23 (5.72%)

[4] Ash, Charcoal, Salt, Toothpowder, Water

Others[5]	12 (2.99%)
Awareness on benefit of rinsing mouth	
Yes	326 (81.09%)
No	76 (18.91%)
Perception of importance of dental treatment	
Yes	380 (94.53%)
No	22 (5.47%)
Perception of receiving best dental treatment	
Dentist	343 (85.32%)
Pharmacist	36 (8.96%)
Others[6]	11 (2.74%)
Don't know	12 (2.99%)

Oral Health Seeking Practices

Oral Health seeking practices (Table 5) contains the respondents' dental health care seeking behaviors. 92.79 percent of respondents indicated that their child has never experienced dental issues. For dental care, 96.02 percent of respondents indicated that did not visit for treatment from anywhere; however, 91.29 percent of respondents indicated that they are willing to visit a dentist in case needed a dental care.

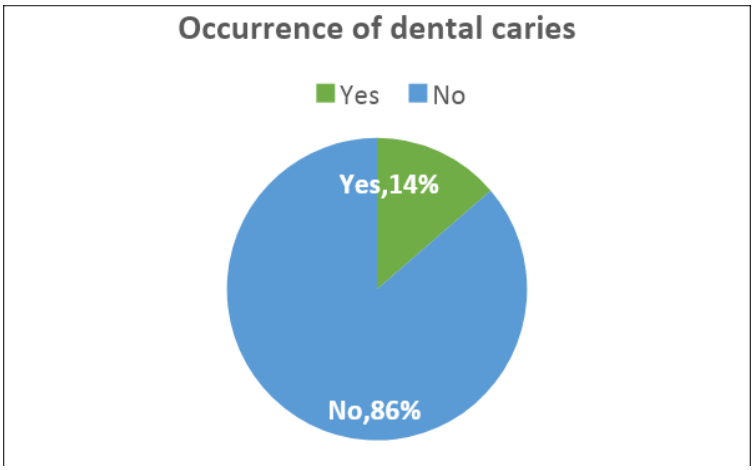
TABLE 5: Oral Health Seeking Practices

Variables	Total N (%)
Past dental problem	
Yes	29 (7.21%)
No	373 (92.79%)
Frequency of having dental problems	
Once/year	25 (6.22%)
Twice/year	1 (0.25%)
More than twice/year	3 (0.75%)
Never	373 (92.79%)
Visit for dental treatment	
Dentist	8 (1.99%)
Pharmacist	6 (1.49%)
Health facilities	1 (0.25%)
Kobiraj	1 (0.25%)
No where	386 (96.02%)
Future preference for dental treatment	
Dentist	367 (91.29%)
Pharmacist	25 (6.22%)
Health facilities	9 (2.24%)
Nurse	1 (0.25%)

[5] Ash, Herbal Stick, Salt
[6] MBBS doctor, Nurse

Occurrence of Dental Caries

The decayed, missing, and filled (DMFT) index was used to measure the status of caries in the primary teeth in early childhood. Missing or filled teeth only count toward the overall DMFT score if they are missing or filled because of caries. If dmft score is over null, it means child have caries, while a score of null means they do not have caries. The proportion of occurrence of dental caries is displayed in Graph 1 below. Of the 402 children evaluated, 55 were found to have a DMFT score of 1 or above, representing a 14 percent occurrence rate.



Graph 1: Proportion of Occurrence of Dental Caries

Association for Early Childhood Caries (I)

Association for Early Childhood Caries (Table 6) was established by the Chi-Square test. The percentage of children aged 48-59 months was the highest among participants with dmft score of 1 or more, at 41.8 percent, followed by those aged 24-35 months (29.1 percent) and 36-47 months (21.8 percent). 67 percent of those with a dmft score of 1 or above consumed sugary foods more than twice per week.

TABLE 6: Chi-Square Test Determining Association for Early Childhood Caries

Variable	Total (N=402)	DMFT 0 (N=347)	DMFT 1 or more (N=55)	p-value
Religion				
Muslim	385 (95.8%)	332 (95.7%)	53 (96.4%)	0.66
Hindu	13 (3.2%)	12 (3.5%)	1 (1.8%)	
Christian	4 (1.0%)	3 (0.9%)	1 (1.8%)	
Mothers' education level				
Pre-primary or none	138 (34.3%)	113 (32.6%)	25 (45.5%)	0.11
Primary completed	199 (49.5%)	174 (50.1%)	25 (45.5%)	
Secondary completed & above	65 (16.2%)	60 (17.3%)	5 (9.1%)	

Marital status				
Married	389 (96.8%)	337 (97.1%)	52 (94.5%)	0.32
Others	13 (3.2%)	10 (2.9%)	3 (5.5%)	
Mother's occupation				
Homemaker	321 (79.9%)	280 (80.7%)	41 (74.5%)	0.29
Working	81 (20.1%)	67 (19.3%)	14 (25.5%)	
Husband's level of education				
Pre-primary or none	156 (38.8%)	135 (38.9%)	21 (38.2%)	
Primary completed	188 (46.8%)	160 (46.1%)	28 (50.9%)	0.85
Secondary completed & above	58 (14.4%)	52 (15.0%)	6 (10.9%)	
Husband's occupation				
Service	141 (35.1%)	126 (36.3%)	15 (27.3%)	
Skilled worker	99 (24.6%)	88 (25.4%)	11 (20.0%)	
Unskilled worker	104 (25.9%)	86 (24.8%)	18 (32.7%)	0.29
Small trade	42 (10.4%)	33 (9.5%)	9 (16.4%)	
Others	16 (4.0%)	14 (4.0%)	2 (3.6%)	
Age of children				
0-11	49 (12.2%)	48 (13.8%)	1 (1.8%)	
12-23	110 (27.4%)	107 (30.8%)	3 (5.5%)	
24-35	110 (27.4%)	94 (27.1%)	16 (29.1%)	**<0.001**
36-47	66 (16.4%)	54 (15.6%)	12 (21.8%)	
48-59	67 (16.7%)	44 (12.7%)	23 (41.8%)	
Child sex				
Female	196 (48.8%)	173 (49.9%)	23 (41.8%)	0.27
Male	206 (51.2%)	174 (50.1%)	32 (58.2%)	
Child taking any other sugary foods				
No	109 (27.1%)	102 (29.4%)	7 (12.7%)	**0.01**
Yes	293 (72.9%)	245 (70.6%)	48 (87.3%)	
Frequency of taking sugary foods				
More than 2 times a week	182 (45.3%)	145 (41.8%)	37 (67.3%)	
None	101 (25.1%)	95 (27.4%)	6 (10.9%)	**<0.001**
Once a week	53 (13.2%)	44 (12.7%)	9 (16.4%)	
Twice a week	66 (16.4%)	63 (18.2%)	3 (5.5%)	
Bottle feeding milk				
No	342 (85.1%)	296 (85.3%)	46 (83.6%)	0.75
Yes	60 (14.9%)	51 (14.7%)	9 (16.4%)	
Bottle feeding milk at night				
No	351 (87.3%)	304 (87.6%)	47 (85.5%)	0.66
Yes	51 (12.7%)	43 (12.4%)	8 (14.5%)	
Aware rinsing the mouth beneficial to prevent dental caries				
No	76 (18.9%)	61 (17.6%)	15 (27.3%)	0.088
Yes	326 (81.1%)	286 (82.4%)	40 (72.7%)	
Preference to clean child's teeth				

Toothbrush & Toothpaste	303 (75.4%)	259 (74.6%)	44 (80.0%)	0.14
Water	37 (9.2%)	34 (9.8%)	3 (5.5%)	
Charcoal & Toothpowder	27 (6.7%)	24 (6.9%)	3 (5.5%)	
Toothbrush	23 (5.7%)	22 (6.3%)	1 (1.8%)	
Other	12 (3.0%)	8 (2.3%)	4 (7.3%)	
Perception for best dental treatment				0.41
Dentist	343 (85.3%)	300 (86.5%)	43 (78.2%)	
Pharmacist	36 (9.0%)	29 (8.4%)	7 (12.7%)	
Others	11 (2.7%)	9 (2.6%)	2 (3.6%)	
Don't know	12 (3.0%)	9 (2.6%)	3 (5.5%)	
Child brush teeth after feeding				0.33
No	346 (86.1%)	301 (86.7%)	45 (81.8%)	
Yes	56 (13.9%)	46 (13.3%)	10 (18.2%)	
Rinse child's oral cavity after feeding				0.61
No	273 (67.9%)	234 (67.4%)	39 (70.9%)	
Yes	129 (32.1%)	113 (32.6%)	16 (29.1%)	

Logistic regression analysis (Table 7) used to determine the ECC risk indicators. A logistic regression analysis revealed that older children (48-59 months) were more likely to develop dental caries. In addition, children who consumed sugary foods regularly (more than 2 times a week) were also more likely to develop dental caries.

TABLE 7: Association for Early Childhood Caries (II)

Variables	Unadjusted				Adjusted			
	Odds ratio	P>z	[95% conf.	interval]	Odds ratio	P>z	[95% conf.	interval]
Mothers' education level								
Pre-primary or none	1.00(Ref)							
Primary completed	0.649	0.16	0.355	1.186	0.699	0.389	0.310	1.576
Secondary completed & above	0.376	0.058	0.137	1.034	0.401	0.163	0.111	1.445
Mother's occupation								
Homemaker	1.00(Ref)							
Working	1.427	0.293	0.735	2.768	0.997	0.996	0.411	2.420
Husband's occupation								
Service	1.00(Ref)							
Skilled worker	1.050	0.908	0.460	2.394	1.006	0.99	0.352	2.874

Unskilled worker	1.758	0.134	0.840	3.677	1.603	0.358	0.585	4.389
Small trade	2.290	0.074	0.921	5.696	2.879	0.067	0.927	8.937
Others	1.200	0.821	0.248	5.798	0.686	0.747	0.069	6.767
Child sex								
Female	1.00(Ref)							
Male	1.383	0.269	0.777	2.459	1.441	0.345	0.674	3.077
Child age								
0-11	1.00(Ref)							
12-23	1.345	0.799	0.136	13.271	0.441	0.521	0.036	5.352
24-35	8.170	0.045	1.051	63.464	2.593	0.442	0.227	29.526
36-47	10.667	0.025	1.336	85.101	2.419	0.485	0.203	28.832
48-59	25.090	0.002	3.251	193.63	5.354	0.198	0.415	68.930
Breastfeeding at night								
No	1.00(Ref)							
Yes	0.282	0	0.150	0.530	2.990	0.243	0.475	18.819
Stop breastfeeding								
Between 2-3 years	1.00(Ref)							
Between 3-4 years	0.302	0.262	0.037	2.444	0.135	0.093	0.013	1.395
Between 4-5 years	3.027	0.438	0.184	49.610	2.134	0.796	0.006	668.38
Less than a year	0.366	0.075	0.121	1.104	1.172	0.825	0.286	4.796
N/A	0.190	0	0.095	0.379	0.288	0.214	0.040	2.045
Child taking any other sugary foods								
No	1.00(Ref)							
Yes	2.854	0.013	1.249	6.520	0.181	0.135	0.019	1.703
Frequency of taking other sugary foods								
More than 2 times a week	1.00(Ref)							
None	0.247	0.002	0.100	0.609	0.070	0.027	0.006	0.743
Once a week	0.801	0.589	0.359	1.788	1.139	0.808	0.398	3.261

Twice a week	0.186	0.007	0.055	0.627	0.183	0.017	0.045	0.740

Discussion

Main Findings

This cross-sectional study describes, there was an occurrence of early childhood caries in 14 percent of the children living in both of the urban slums. Findings reveal that the two most important factors for developing early childhood caries are the age of the children and the frequency of sugary foods that they consume on a regular basis. The results of the chi-square test indicated that the aforementioned variables (child age, frequency of sugary food intake) had a statistically significant ($p<0.05$) connection with early childhood caries. The results of the regression analysis bring attention once again to the fact that older children and those who eat sugary meals, are at an increased risk of developing dental caries. When compared to children aged 0-11 months, those between the ages of 48 and 59 months had a 25 times greater likelihood of having dental caries. Children who do not consume sugary foods are less likely to get dental caries than children who do consume sugary foods. This risk is increased by a factor of three for children who consume sugary meals. Even though there was no statistical significance with the prevalence of caries, it was noteworthy to observe that only 1.99 percent of children attended the dentist for treatment, despite the fact that 91.29 percent believed the dentist to be the most effective way of therapy.

Reference to Literature and Comparison

When compared to the prevalence of ECC in other populations, such as the United States (28%), the United Kingdom (32% for children aged 3-4), Poland (56.2%), Canada (50%-80% for high-risk populations), and Europe (Africa, Asia, the Middle East, and North America) (70% for socially disadvantaged groups), the percentage occurrence of ECC in this study population is low (Folayan et al., 2015). The results of similar research done around the world have not been the same from one study to the next (Devenish et al., 2020). Therefore, several of the characteristics, such as sugar consumption and age of children, which had been mentioned in the literature to have some level of association with early childhood caries have been determined to be significant in this study (Folayan et al., 2015), (Park & Choi, 2022).

However, in this particular study, variables like as socioeconomic status, family characteristics, mother oral health care knowledge, breastfeeding, and other similar practices did not appear to have any connection with early childhood caries. According to previous studies (Uguru et al., 2021), the decision to seek treatment through a particular technique or from a particular provider is influenced by a variety of factors as mentioned above, including socioeconomic status (SES), gender, age, disease severity and kind, access to services, and perceived service quality. It was seen important to seek counsel from friends and family, assess potential risks and

benefits, and forgo other types of consumption that could be paid for with monies used to purchase oral health care (Uguru et al., 2021). Even though there was no statistical significance between health seeking behavior and the occurrence of dental caries in this study, it was observed that a proportion of respondents sought dental care from non-traditional practitioners, such as pharmacists, or did not seek care at all similar to findings in (Soltani et al., 2018), (Devenish et al., 2020), (Uguru et al., 2021).

Implications

In the urban slums that were the focus of this investigation, very little is understood about the factors that may have contributed to the low occurrence of ECC in this study. Studies on this subject were conducted with school-aged children in the majority of other nations' research (Folayan et al., 2015). Therefore, it would be helpful to carry out more research with the objective of determining the factors that contribute to the low occurrence of ECC that was found in the study population. This would provide valuable guidance for policymakers to develop caries-prevention strategies that need to be reinforced in the population under investigation. In addition to this, it may be a sourced of knowledge to the international community in gaining knowledge on elements that may lower the likelihood of ECC. As it has also been determined that older children are more prone to dental caries it may be important to conduct screening programmes adopting appropriate approaches for behavior change through dentists and raising awareness by public health professionals in this community, which has a low occurrence of ECC but a high risk for inappropriate treatment of caries by informal providers and, as a result, a higher risk for the development of its sequelae. For this demographic, not only is it vital to swiftly detect ECC, but it is also crucial to promptly discover methods that children with ECC may get treatment. This is because the amount of untreated caries may grow quite high if it is not addressed. The likelihood of the patient getting more caries lesions is decreased when the lesion is diagnosed and treated as quickly as possible. Previous research has shown that the risk of developing new caries lesions in children who already have caries lesions that have not been treated is five times higher than the risk of developing new caries lesions in children who do not have caries. The low occurrence of ECC in the study population should not prevent efforts from being made toward the early diagnosis and treatment of ECC in the study population.

Limitations

All techniques of dietary evaluation, notwithstanding efforts to reduce the amount of reporting bias that occurs, may usually have inherent e.g., with regard to the precision and accuracy of their results. In instance, the use of proxy reporting from the mothers may be prone to social desirability bias and may not completely reflect the food landscape experienced by the child as the mother and child in reality may have separate perceptions in reality. In order to participate in the study, respondents were required to recollect the past feeding patterns for their child, including the length of time they had breastfed their child. There is a possibility that the validity

and dependability of these recall statistics are not completely correct. As a result of the fact that at the time of the study there were no documents or records accessible on families that had children less than five years old, the data collectors were required to walk from house to house in order to map out houses that were suitable for the study category. This meant that a very large number of houses needed to be surveyed before the appropriate number of people could be included in the sample, which may not directly be a limitation but could be further explored to be strengthened in future studies.

Conclusion and Recommendations

The findings of the current study indicated that older children had a greater risk of developing early childhood caries. Specifically, when compared to children aged 0-11 months, those who were between the ages of 48 and 59 months had a 25 times greater likelihood of having dental caries than the younger children. Children who do not consume sugary foods were at a lower risk of developing dental caries in comparison to children who do consume sugary foods, and the risk of developing dental caries was raised by a factor of three for children who consume sugary meals. Through the occurrence of ECC in the community under investigation was minimal; nonetheless, initiatives that increase the oral health awareness of mothers would be necessary to improve oral hygiene habits and lower consumption of sugary snacks for the children. It would be beneficial to conduct further research with the primary objective of evaluating risk factors for ECC in the study population in order to gain an understanding of the reasons for the low occurrence of ECC, as well as to compare these two urban slums to other slums located throughout the country. Appropriate strategies based on the identified risk factors and dissemination of information could play a role in reducing dental caries in children.

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ANNEX

Association of childhood feeding practices and occurrence of Early Childhood Caries: A Cross Sectional Study among children under 5 years of age across two urban slum areas of Dhaka city

Annex 1: Questionnaire

Part-A: General information

Sl. no	Question	Response	
1	Interviewer's name: সাক্ষাৎকার গ্রহনকারীর নাম		
2	Interviewer's Id: সাক্ষাৎকার গ্রহনকারীর আইডি		
3	Household Id: খানার আইডি		
4	Date of the interview সাক্ষাৎকার গ্রহনের তারিখ		

		|___|___|/|___|___|/2022 DD(দিন) MM (মাস) YR (বছর)	
5	Interview start time (in 24-hours format) সাক্ষাৎকার শুরুর সময় (২৪ ঘন্টা ফরম্যাটে)	|____|____|: |____|____| Hour(ঘন্টা) Minute(মিনিট)	
6	Who is the head of your household? আপনার খানার প্রধান কে?		
7	What is the name of the head of the household? আপনার খানা প্রধানের নাম কি?		
8	What is your (mother's) name? আপনার নাম (মা) কি?		
9	Mother's Id মায়ের আইডি		
10	What is your (mother's) d**ate of birth?** আপনার জন্মসাল কি?	|____|____|/ |____|____|/ |____|____| DD(দিন) MM (মাস) YR (বছর)	
11	Age of mother মায়ের বয়স		

		|____|____| : |____|____| Years(বছর) Months(মাস)	
12	How many members live in your household? আপনার খানার সদস্য সংখ্যা কত?		
13	How many children do you have under five years of age? কতজন বাচ্চার বয়স পাঁচ বছরের নীচে?		
14	Name of the children under five years of age: পাঁচ বছরের নীচের বয়সি বাচ্চাদের নামঃ	a. _____ b. _____ c. _____ d. _____	
15	Id of the children under five years of age: পাঁচ বছরের নীচের বয়সি বাচ্চাদের আইডিঃ	e. _____ f. _____ g. _____ h. _____	

16	Date of birth of your children under five years of age: পাঁচ বছরের নীচের বয়সি বাচ্চাদের জন্মসালঃ	i. |___|___|/|___|___|/2022 DD (দিন) MM (মাস) Year (বছর) j. |___|___|/|___|___|/2022 DD (দিন) MM (মাস) Year (বছর) k. |___|___|/|___|___|/2022 DD (দিন) MM (মাস) Year (বছর) l. |___|___|/|___|___|/2022 DD (দিন) MM (মাস) Year (বছর)	
17	Age of your under-five children পাঁচ বছরের নীচের বয়সি বাচ্চাদের বয়সঃ	m. |____|____| : |____|____| Years (বছর) Months (মাস) n. |____|____| : |____|____| Years (বছর) Months (মাস) o. |____|____| : |____|____| Years (বছর) Months (মাস) p. |____|____| : |____|____| Years (বছর) Months (মাস)	
18	For how many years have you been living in this slum? কত বছর যাবত আপনি এই বস্তিতে বাস করছেন?		
19	Address and contact number of the participant:		

	যোগাযোগের ঠিকানা ও ফোন নম্বরঃ		
20	Slum name: বস্তির নাম	1. Korail (কড়াইল) 2. Bhashantek (ভাসানটেক) 3. Mohammadpur (মোহাম্মদপুর)	

Part-B: Socio-demographic and economic

Serial no.	Questions	Response	Code
1	What is your **marital status**? আপনার বৈবাহিক অবস্থা কি?	4. Married (বিবাহিত) 5. Widowed (বিধবা) 6. Separated (পৃথক) 7. Divorced (তালাকপ্রাপ্ত) 8. Refused to answer (উত্তর দিতে অসম্মতি)	mstat
2	What is your **religion**? আপনার ধর্ম কি?	9. Muslim (মুসলিম) 10. Hindu (হিন্দু) 11. Christian (খৃস্টান) 12. Buddhist (বৌদ্ধ) 13. Others (specify) অন্যান্য (দয়া করে নির্দিষ্ট করুন)	religion
3	What is your highest **completed level of education?**	14. Class 1 (প্রথম শ্রেনী)	medu

	আপনি সর্বোচ্চ কতদূর পর্যন্ত লেখাপড়া করেছেন?	15. Class 2 (দ্বিতীয় শ্রেনী) 16. Class 3 (তৃতীয় শ্রেনী) 17. Class 4 (চতুর্থ শ্রেনী) 18. Class 5 (পঞ্চম শ্রেনী) 19. Class 6 (ষষ্ঠ শ্রেনী) 20. Class 7 (সপ্তম শ্রেনী) 21. Class 8 (অষ্টম শ্রেনী) 22. Class 9 (নবম শ্রেনী) 23. Class 10 (দশম শ্রেনী) 24. SSC/Dakhil (এস.এস.সি/দাখিল) 25. HSC/Alim (এইচ.এস.সি/আলিম) 26. Diploma/ vocational (ডিপ্লোমা/ভোকেশনাল) 27. BA/ BSc/BCom/Fazil/graduate/ BA (honours) (বি.এ/বি.এসসি/ বি.কম/স্নাতক/ বি.এ স্নাতক) 28. MA/Phd/Kamil (এম.এ/পিএইচডি/ কামিল) 29. Hafezi/Qawmi/ Kharizi (হাফেজি/কওমি/ খারিজি) 30. N/A, because never went to	

		school (প্রযোজ্য নয়, কারন কখনও স্কুলে যাওয়া হয়নি) 31. N/A, because went to school but hasn't passed any class (প্রযোজ্য নয়, কারন কখনও স্কুলে যাওয়া হয়ছে কিন্তু কোন শ্রেণীতে উর্ত্তীন্ন হওয়া হয়নি) 32. Don't know (জানিনা)	
4	What is your **husband's completed level of education?** আপনি স্বামী সর্বোচ্চ কতদূর পর্যন্ত লেখাপড়া করেছেন?	33. Class 1 (প্রথম শ্রেনী) 34. Class 2 (দ্বিতীয় শ্রেনী) 35. Class 3 (তৃতীয় শ্রেনী) 36. Class 4 (চতুর্থ শ্রেনী) 37. Class 5 (পঞ্চম শ্রেনী) 38. Class 6 (ষষ্ঠ শ্রেনী) 39. Class 7 (সপ্তম শ্রেনী) 40. Class 8 (অষ্টম শ্রেনী) 41. Class 9 (নবম শ্রেনী) 42. Class 10 (দশম শ্রেনী) 43. SSC/Dakhil (এস.এস.সি/দাখিল) 44. HSC/Alim (এইচ.এস.সি/আলিম)	hedu

		45. Diploma/ vocational (ডিপ্লোমা/ভোকেশনাল) 46. BA/ BSc/BCom/Fazil/graduate/ BA (honours) (বি.এ/বি.এসসি/ বি.কম/স্নাতক/ বি.এ স্নাতক) 47. MA/Phd/Kamil (এম.এ/পিএইচডি/ কামিল) 48. Hafezi/Qawmi/ Kharizi (হাফেজি/কওমি/ খারিজি) 49. N/A, because never went to school (প্রযোজ্য নয়, কারন কখনও স্কুলে যাওয়া হয়নি) 50. N/A, because went to school but hasn't passed any class (প্রযোজ্য নয়, কারন স্কুলে যাওয়া হয়ছে কিন্তু কোন শ্রেণীতে উর্ত্তীন্ন হওয়া হয়নি) 51. Don't know (জানিনা)	
5	What is your main **occupation for the last six months**? বিগত ছয়মাস যাবত আপনার প্রধান পেশা কি ছিল?	52. Unskilled (অদক্ষ কর্মী) (Day laborer) (দিনমজুর) 53. Skilled (দক্ষ কর্মী) (Sewing, embroidery, cook) (সেলাই,	moc

		নকশার কাজ, বাবুর্চি) 54. Garments worker (গার্মেন্টস কর্মী) 55. Employee (চাকুরীজীবি) 56. Professionals (পেশাজীবি) (Doctor, Engineer, Nurse, Advocate) (ডাক্তার, ইঞ্জিনিয়ার, নার্স, উকিল) 57. Businessman (ব্যবসায়ী) 58. Petty businessman (ক্ষুদ্র ব্যবসায়ী) 59. Housemaid (গৃহকর্মী) 60. Do not earn (কোন রোজগার নেই) 61. Homemaker (গৃহব্যবস্থাপক) 62. Student (ছাত্র) 63. Don't know (জানিনা) 64. Others (specify below) অন্যান্য (দয়া করে নির্দিষ্ট করুন)___	
6	What is your husband's main **occupation for the last six months**? বিগত ছয়মাস যাবত আপনার স্বামীর প্রধান পেশা কি ছিল?	65. Unskilled (অদক্ষ কর্মী) (day laborer) (দিনমজুর) 66. Skilled (দক্ষ কর্মী) (Plumber, mechanic, electrician, hairdresser,	hoc

		blacksmith, goldsmith, cook) (প্লাম্বার, মেকানিক, ইলেক্ট্রিসিয়ান, নাপিত, কামার, স্বর্ণকর্মী, বাবুর্চি) 67. Rickshaw puller/ van/Wheelbarrow/Baby taxi/ Boatman (রিক্সা, ভ্যান, বেবীটেক্সী, ঠেলাগাড়ী চালক, মাঝি) 68. Security guard (নিরাপত্তা কর্মী) 69. Garments worker (গার্মেন্টস কর্মী) 70. Employee (চাকুরীজীবি) 71. Professionals (পেশাজীবি) (Doctor, Engineer, Nurse, Advocate) (ডাক্তার, ইঞ্জিনিয়ার, নার্স, উকিল) 72. Businessman (ব্যবসায়ী) 73. Petty businessman (ক্ষুদ্র ব্যবসায়ী) 74. Housemaid (গৃহকর্মী) 75. Do not earn (কোন রোজগার নেই) 76. Hawker (ফেরিওয়ালা) 77. Homemaker (গৃহব্যবস্থাপক)	

		78. Student (ছাত্র) 79. Don't know (জানিনা) 80. Others (specify below) অন্যান্য (দয়া করে নির্দিষ্ট করুন) ___	
7	What is your monthly average household income for the last six months? বিগত ছয়মাসে আপনার খানার মাসিক গড় আয় কত ছিল?		
8	What is your monthly average income for the last six months? বিগত ছয়মাসে আপনার মাসিক গড় আয় কত ছিল?		
9	Who take financial **decisions** in your family? আপনার পরিবারে অর্থনৈতিক সিদ্ধান্ত কে নেয়?	81. Herself (আমি নিজে) 82. Husband (স্বামী) 83. Both husband and wife (আমি এবং আমার স্বামী দুজনই) 84. Others, please specify (অন্যান্য, দয়া করে নির্দিষ্ট করুন)	
10	Who take healthcare **decisions** in your family? আপনার পরিবারে স্বাস্থ্যগত ব্যপারে সিদ্ধান্ত কে নেয়?	85. Herself (আমি নিজে) 86. Husband (স্বামী) 87. Both husband and wife (আমি এবং আমার স্বামী দুজনই) 88. Others, please specify	

		(অন্যান্য, দয়া করে নির্দিষ্ট করুন)	

Childhood Feeding Practices		
12.	Do you breastfeed your child? (If no, skip to 14) আপনি কি আপনার সন্তানকে বুকের দুধ খাওয়ান?	Yes (হ্যাঁ) No (না)
13.	Do you breastfeed your child at night? আপনি কি আপনার সন্তানকে রাতের বেলা বুকের দুধ খাওয়ান?	Yes (হ্যাঁ) No (না)
14.	Which age did you stop breastfeeding your child? কোন বয়সে আপনি আপনার সন্তানকে বুকের দুধ খাওয়ানো বন্ধ করেছেন?	Less than a year (এক বছরেরও কম) Between 2-3 years (2-3 বছরের মধ্যে) Between 3-4 years (3-4 বছরের মধ্যে) Between 4-5 years (4-5 বছরের মধ্যে)
15.	Do you bottle feed milk to your child? (If no, skip to 19) আপনি কি আপনার সন্তানকে বোতলের দুধ/ ফিডারে দুধ খাওয়ান?	Yes (হ্যাঁ) No (না)
16.	Do your child bottle feed milk at night? আপনার শিশু কি রাতে বেলা বোতলের দুধ/ ফিডারে দুধ খাওয়ান?	Yes (হ্যাঁ) No (না)
17.	Do you feed water in a bottle after feeding milk to your child at night? রাতে বাচ্চাকে দুধ খাওয়ানোর পর বোতলে / ফিডারে পানি খাওয়ান?	Yes (হ্যাঁ) No (না)

18.	Do you add sugar in a bottle during feeding milk to your child? আপনি কি আপনার সন্তানকে বোতলে / ফিডারে দুধ খাওয়ানোর সময় চিনি দিয়ে খাওয়ান?	Yes (হ্যাঁ) No (না)
19.	Does your child intake any other sugary food? (e.g., beverages, candies/chocolates, sweets) আপনার শিশু কি অন্য কোন চিনিযুক্ত খাবার খায়? (যেমন, পানীয়, ক্যান্ডি/চকলেট, মিষ্টি)	Yes (হ্যাঁ) No (না)
20.	How often does the child intake sugary foods? শিশু কত ঘন ঘন চিনিযুক্ত অথবা মিষ্টিজাতিও খাবার খায়?	Once/week (সপ্তাহে একবার) Twice/week (সপ্তাহে দুই বার) More than twice a week (সপ্তাহে দুবারের বেশি)
Oral Hygiene Practices (Child aged above 6 months)		
21.	Does your child brush his/her teeth? (If no, skip to 26) আপনার শিশু কি দাঁত ব্রাশ করে?	Yes (হ্যাঁ) No (না)
22.	Which age did your child start brushing teeth? আপনার সন্তান কোন বয়সে দাঁত ব্রাশ করা শুরু করেছে?	Less than 2 years (2 বছরেরও কম) 2-3 years (2-3 বছর) 3-4 years (3-4 বছর) 4-5 years (4-5 বছর)
23.	What do you use to brush your child's teeth? আপনি আপনার সন্তানের দাঁত ব্রাশ করতে কি ব্যবহার করেন?	Water (পানি) Salt (লবণ) Toothbrush (টুথব্রাশ) Toothbrush and paste (টুথব্রাশ এবং পেস্ট) Toothpowder (টুথপাউডার) Charcoal (কাঠকয়লা) Herbal stick (ভেষজ কাঠি) Other (অন্যান্য)
24.	Does your child brush his/her teeth after feeding? আপনার শিশু কি খাওয়ার পর তার দাঁত ব্রাশ করে?	Yes (হ্যাঁ) No (না)

25.	How many times does your child brush his or her teeth daily? আপনার শিশু প্রতিদিন কতবার দাঁত ব্রাশ করে?	Once (একবার) Twice (দুইবার) Three times (তিনবার) None (কোনোটা না)
26.	Do you rinse your child's oral cavity after feeding? আপনি কি খাওয়ানোর পরে আপনার সন্তানের মুখ ধুয়ে ফেলে অথবা কুল্কুচি করে?	Yes (হ্যাঁ) No (না)
Mother's knowledge about Oral Hygiene Practices		
27.	Do you know that the frequency of sugar consumption has a role in dental caries? আপনি কি জানেন যে চিনিযুক্ত অথবা মিষ্টি জাতিও খাবার খেলে দাঁতে গর্ত / ক্ষয় / পোকা হওয়ার প্রবনতা বেড়ে যেতে থাকে?	Yes (হ্যাঁ) **No (না)**
28.	What do you think is good to clean your child's teeth? আপনার সন্তানের দাঁত পরিষ্কার করার জন্য কোনটি ভালো বলে মনে করেন?	Water (পানি) Salt (লবণ) Toothbrush (টুথব্রাশ) Toothbrush and paste (টুথব্রাশ এবং পেস্ট) Toothpowder (টুথপাউডার) Charcoal (কাঠকয়লা) Herbal stick (ভেষজ কাঠি) Other (অন্যান্য)
29.	Are you aware that rinsing the mouth with water after intake of food may be beneficial to prevent dental caries? আপনি কি জানেন যে খাবার খাওয়ার পরে পানি দিয়ে মুখ ধুয়ে ফেলা হলে দাঁতের গর্ত / ক্ষয় / পোকা হওয়ার প্রবনতা কমে?	Yes (হ্যাঁ) No (না)
30.	Do you rinse your mouth with water after intake of food?	Yes (হ্যাঁ) No (না)

	আপনি কি খাবার খাওয়ার পর পানি দিয়ে মুখ ধুয়ে ফেলেন?	
31.	Do you think dental treatment is important? আপনি কি মনে করেন দাঁতের চিকিৎসা গুরুত্বপূর্ণ?	Yes (হ্যাঁ) No (না)
32.	Who do you suggest is the best to receive dental treatment from? কার কাছ থেকে দাঁতের চিকিৎসা নেওয়া ভালো বলে আপনি মনে করেন?	Dentist (ডেন্টিস্ট) Nurses (নার্স) Pharmacist (ফার্মাসিস্ট) Kabiraj (কবিরাজ) Health facilities (স্বাস্থ্য কেন্দ্র) Others (অন্যান্য)
Occurrence of Dental Caries and Health seeking Practices		
33.	Did your child have any dental problem before? (If no, skip to 36) আপনার সন্তানের কি আগে কোনো দাঁতের সমস্যা ছিল?	Yes (হ্যাঁ) No (না)
34.	How many times he/she had such dental problems? কতবার তার দাঁতের সমস্যা ছিল?	Once/year (বছরে একবার) Twice/year (দুবার বছরে) More than twice/year (বছরে দুবারের বেশি)
35.	Where did you go for dental treatment? দাঁতের চিকিৎসার জন্য কোথায় গিয়েছিলেন?	Dentist (ডেন্টিস্ট) Nurses (নার্স) Pharmacist (ফার্মাসিস্ট) Kabiraj (কবিরাজ) Health facilities (স্বাস্থ্য কেন্দ্র) Others (অন্যান্য)
36.	Where will you go for dental treatment if you have a problem in the future? ভবিষ্যতে কোন সমস্যা হলে দাঁতের চিকিৎসার জন্য কোথায় যাবেন?	Dentist (ডেন্টিস্ট) Nurses (নার্স) Pharmacist (ফার্মাসিস্ট) Kabiraj (কবিরাজ) Health facilities (স্বাস্থ্য কেন্দ্র) Others (অন্যান্য)
37.	Clinical observation of oral cavity / presence of dental caries (outcome variable)	Dmft 0 Dmft 1 (1 or more decay)

	মুখ গহ্বরের ক্লিনিকাল পর্যবেক্ষণ	

Annex 2: Codebook

****Labelling Do File****

label var Intv_name "Interviewer name"

label var Intv_date "Interview date"

label var Intv_time "Interview starting time"

```
label var hhid "Household Id"
label var hh_head "Household head"
label var name_hhhead "Name of household head"
label var mname "Mother's name"
label var mdob "Mother's date of birth"
label var mage "Mothers age in years"
label var hhmem "Total household member"
label var tchild "Total number of children"
label var tchild_5 "Total number of under-five children"
label var cname "Child's name"
label var cdob "Child's date of birth"
label var cage "Age of child in months"
label var yofliving "Slum living duration in years"
label var area_name "Name of living slum"
label var total_hhmem "Number of household member"
label var mstat "Marital status"
label var rel "Religion"
label var m_edu "Mother's education level"
label var hus_edu "Husbands education level"
label var m_occ "Mothers occupation"
label var hus_occ "Husband's occupation"
label var hh_income "Monthly household income"
label var m_income "Monthly mothers income"
label var fn_demak "Financial decision maker"
label var c_id "Child's Id"
label var m_id "Mother's Id"
label var c_sex "child sex"

***Child Feeding Practices***
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label var brf_night "Breastfeed at night"

label var stop_brf "Stop breastfeeding"

label var bot_fd "Bottle feed milk "

label var bot_fd_nt "Bottle feed milk at night"

label var sug_fd "Add sugar during feeding milk"

label var wtr_fd " Feed water after feeding milk to child "

label var oth_sgr " Child intake any other sugary food"

label var freq_sgr "Frequency intake sugary foods"

Mother's Knowledge about oral hygiene practice

label var awr_cln "Aware rinsing the mouth beneficial to prevent dental caries"

label var prf_cln "Preference to clean child's teeth"

label var cln_aft_food "Rinse mouth with water after intake of food"

label var per_trt "Perception on importance of dental treatment"

label var per_bt_trt "Perception for best dental treatment"

Child oral hygiene practice

label var brsh_tth "Child brush his/her teeth"

label var str_brsh_tth "Age child start brushing teeth"

label var mat_brsh_tth "Material used brush child's teeth"

label var brsh_aft_fd "Child brush teeth after feeding"

label var freq_brsh "Frequency of child brushing"

label var cln_aft_cfd " Rinse child's oral cavity after feeding"

Oral health seeking practices

```
label var pst_dprb "Past dental problem"

label var freq_dprb "Frequency of dental problems"

label var vis_dprb "Visit for dental treatment"

label var pref_dtrt "Preference for dental treatment in the future"



***Clinical Observation of Dental Caries***


label var occ_dc "Occurence of dental caries"

encode occ_dc, gen(occ_dc1)

recode occ_dc1 (1=0 "DMFT0") (2=1 "DMFT1 or more"), gen(occ_dc2)

label var occ_dc2 "occurrence of dental caries"


*******Preference of clean*****


encode prf_cln, gen(prf_cln1)

recode prf_cln1 (7=1 "Toothbrush & Toothpaste") (9=2 "Water") (2 8=3 "Charcoal & Toothpowder") (6=4
"Toothbrush") (1 3 4 5=5 "Other"), gen(prf_cln2)



***Material used to brush child's teeth***


tab mat_brsh_tth

encode mat_brsh_tth, gen(mat_brsh_tth1)

br mat_brsh_tth1

recode mat_brsh_tth1 (6=1 "Toothbrush & Toothpaste") (3=2 "Nothing") (1 2 4 5 7=3 "Others"), gen(
mat_brsh_tth2)
```

****Perception for best dental treatment***

encode per_bt_trt, gen(per_bt_trt1)

recode per_bt_trt1 (1=1 "Dentist") (6=2 "Pharmacist") (3 4 5=3 "Others") (2=4 "Don't know"), gen(per_bt_trt2)

Labelling after recoding

la var per_bt_trt2 "Perception for best dental treatment"

la var mat_brsh_tth2 "Material used to brush child's teeth "

la var prf_cln2 "Preference to clean child's teeth "

Age Catagory

recode cage (0/11=1) (12/23=2) (24/35=3) (36/47=4) (48/59=5), gen(cage1)

la de cage1 1"0-11" 2"12-23" 3"24-35" 4"36-47" 5"48-59"

la val cage1 cage1

la var cage1 "Age of children"

Mother's occupation Catagory

encode m_occ, gen(m_ocu)

recode m_ocu (4=1 "Homemaker") (1 2 3 5 6 7 8 9 10 11 12=2 "Working"), gen(m_ocu1)

la var m_ocu1 "Mother's occupation"

*** Husband's Occupation Catagory***

encode hus_occ, gen(h_ocu)

recode h_ocu (6 21 22=1 "Service") (5 18 23=2 "Skilled worker") (19 25=3 "Unskilled worker") (2 20 21 =4 "Small trade") (1 3 4 7 8 9 10 11 12 13 14 15 16 17 24=5 "Others"), gen(h_ocu1)

la var h_ocu1 "Husband's occupation"

Mother's Education Catagory

encode m_edu, gen(medu)

recode medu (2 4 5 6 13 16=1 "pre-primary or none") (3 7 8 9 10 11=2 "Primary completed") (1 12 14 15 17=4 "Secondary completed & above"), gen(medu1)

la var medu1 "Mothers education level"

Husband's Education Catagory

encode hus_edu, gen(hedu)

recode hedu (3 5 6 7 14 17=1 "Pre-primary or none") (4 8 9 10 11 12=2 "Primary completed") (1 2 13 15 16 18 19=3 "Secondary completed & above"), gen(hedu1)

la var hedu1 "Husband's level of education"

***** Monthly Household Income Category*****

gen hh1_income=1 if hh_income<10000

recode hh_income (0/9999=1 "less than 10000") (10000/14999=2 "10000 to <15000") (15000/19999=3 "15000 to <20000") (20000/75000=4 "20000 or more"), gen (hh1_income)

la var hh1_income "Monthly household income"

Religion

encode rel, gen(rel1)

```
recode rel1 (3=1 "Muslim") (2=2 "Hindu") (1=3 "Christian"), gen(rel2)
la var rel2 "Religion"

***Marital Status***

encode mstat, gen(mstat1)
recode mstat1 (3=1 "Married") (1 2 4=2 "Others"), gen(mstat2)
la var mstat2 "Marital status


***mothers age***
recode mage (15/19=1) (20/29=2) (30/39=3) (40/54=4), gen(mage1)
la val mage1 mage1
la var mage1 "Mothers age"


***encode variables***
encode c_sex, gen (c_sex1)
encode brf_night, gen(brf_night1)
encode stop_brf, gen(stop_brf1)
encode bot_fd, gen(bot_fd1)
encode bot_fd_nt, gen(bot_fd_nt1)
encode sug_fd, gen(sug_fd1)
encode oth_sgr, gen(oth_sgr1)
encode freq_sgr, gen(freq_sgr1)
encode awr_cln, gen(awr_cln1)
encode brsh_tth, gen(brsh_tth1)
encode str_brsh_tth, gen(str_brsh_tth1)
encode brsh_aft_fd, gen(brsh_aft_fd1)
```

```
encode freq_brsh, gen(freq_brsh1)
encode cln_aft_cfd, gen(cln_aft_cfd1)
encode pst_dprb, gen(pst_dprb1)
encode freq_dprb, gen(freq_dprb1)
encode vis_dprb, gen(vis_dprb1)
encode pref_dtrt, gen(pref_dtrt1)

***Area*** area difference***
encode area_name, gen(area)
tab mstat2 area, col
tab rel2 area, col
tab medu1 area, col
tab m_ocu1 area, col
tab hedu1 area, col
tab h_ocu1 area, col
tab cage1 area, col
tab c_sex area, col
tab hh1_income area, col


tab brf_night
tab stop_brf
tab m_ocu1
tab h_ocu1
tab hh1_income
tab cage1
tab c_sex
tab bot_fd
tab bot_fd_nt
```

```
tab sug_fd

tab wtr_fd

tab oth_sgr

tab freq_sgr

tab brsh_tth

tab str_brsh_tth

tab mat_brsh_tth2

tab brsh_aft_fd

tab freq_brsh

tab cln_aft_cfd

tab prf_cln2

tab awr_cln

tab cln_aft_food

tab per_trt

tab per_bt_trt2

tab pst_dprb

tab freq_dprb

tab vis_dprb

tab pref_dtrt


***chi2 test***


tab rel2 occ_dc, col chi2

tab medu1 occ_dc, col chi2

tab hedu1 occ_dc, col chi2

tab m_ocu1 occ_dc, col chi2

tab h_ocu1 occ_dc, col chi2

tab hh1_income occ_dc, col chi2

tab cage1 occ_dc, col chi2
```

```
tab c_sex occ_dc, col chi2


tab brf_night occ_dc, col chi2
tab stop_brf occ_dc, col chi2
tab bot_fd occ_dc, col chi2
tab bot_fd_nt occ_dc, col chi2
tab sug_fd occ_dc, col chi2
tab wtr_fd occ_dc, col chi2
tab oth_sgr occ_dc, col chi2
tab freq_sgr occ_dc, col chi2


tab prf_cln2 occ_dc, col chi2
tab awr_cln occ_dc, col chi2
tab cln_aft_food occ_dc, col chi2
tab per_trt occ_dc, col chi2
tab per_bt_trt2 occ_dc, col chi2


tab brsh_tth occ_dc, col chi2
tab str_brsh_tth occ_dc, col chi2
tab mat_brsh_tth2 occ_dc, col chi2
tab brsh_aft_fd occ_dc, col chi2
tab freq_brsh occ_dc, col chi2
tab cln_aft_cfd occ_dc, col chi2


tab pst_dprb occ_dc, col chi2
```

```
tab freq_dprb occ_dc, col chi2

tab vis_dprb occ_dc, col chi2

tab pref_dtrt occ_dc, col chi2
```

Chi2 test

```
table1_mc, by(occ_dc2) vars( rel2 cat %4.1f \ medu1 cat %4.1f \ mstat2 cat %4.1f \ m_ocu1 cat %4.1f \ hedu1 cat %4.1f \ h_ocu1 cat %4.1f \ cage1 cat %4.1f \ c_sex1 cat %4.1f \ oth_sgr1 cat %4.1f \ freq_sgr1 cat %4.1f \ brf_night1 cat %4.1f \ stop_brf1 cat %4.1f \ mat_brsh_tth2 cat %4.1f \ bot_fd1 cat %4.1f \ bot_fd_nt1 cat %4.1f \ awr_cln1 cat %4.1f \ prf_cln2 cat %4.1f \ per_bt_trt2 cat %4.1f \ brsh_tth1 cat %4.1f \ str_brsh_tth1 cat %4.1f \ brsh_aft_fd1 cat %4.1f \ freq_brsh1 cat %4.1f \ cln_aft_cfd1 cat %4.1f \ pst_dprb1 cat %4.1f \ freq_dprb1 cat %4.1f \ vis_dprb1 cat %4.1f \ pref_dtrt1 cat %4.1f) nospace onecol total(before) saving("table 1.xlsx", replace)
```

****logistic regression****

```
logistic occ_dc2 i.rel2

logistic occ_dc2 ib1.rel2

logistic occ_dc2 ib2.rel2

logistic occ_dc2 i.medu1

logistic occ_dc2 i.m_ocu1

logistic occ_dc2 i.h_ocu1

logistic occ_dc2 i.c_sex1

logistic occ_dc2 i.cage1

logistic occ_dc2 i.brf_night1

logistic occ_dc2 i.stop_brf1

logistic occ_dc2 i.oth_sgr1
```

logistic occ_dc2 i.freq_sgr1

logistic occ_dc2 i.brsh_tth1

logistic occ_dc2 i.str_brsh_tth1

logistic occ_dc2 i.freq_brsh1

logistic occ_dc2 i.mat_brsh_tth2

logistic occ_dc2 i.pst_dprb1

logistic occ_dc2 i.freq_dprb1

logistic occ_dc2 i.vis_dprb1

logistic occ_dc2 i.cage1 i.brf_night1 i.stop_brf1 i.oth_sgr1 i.freq_sgr1 i.brsh_tth1 i.str_brsh_tth1 i.freq_brsh1 i.mat_brsh_tth2 i.pst_dprb1

logistic occ_dc2 ib2.rel2 i.medu1 i.m_ocu1 i.h_ocu1 i.c_sex1 i.cage1 i.brf_night1 i.stop_brf1 i.oth_sgr1 i.freq_sgr1 i.brsh_tth1 i.str_brsh_tth1 i.freq_brsh1 i.mat_brsh_tth2 i.pst_dprb1

Annex 3: Consent form

Informed Consent Form

সম্মতি পত্র

গবেষণার শিরোনাম:

শিশুর খাদ্য অভ্যাস এবং দাতের ক্ষয় জনিত সমস্যা হওয়ার প্রবনতা সম্পর্কে গবেষণা

গবেষকদের নাম:

ডাঃ সাদিয়া আফরিন ফাল্গুনী

সংগঠন:

ব্র্যাক জেমস পি গ্রান্ট স্কুল অফ পাবলিক হেলথ।

গবেষণার উদ্দেশ্য:

আমরা জেমস পি গ্রান্ট স্কুল অফ পাবলিক হেলথ, ব্র্যাক ইউনিভার্সিটির এম.পি.এইচ প্রোগ্রামের ১৮ তম ব্যাচ এর ছাত্র। এমপিএইচ একাডেমিক পাঠ্যক্রমের একটি অংশ হিসাবে, আমরা একটি দলগত গবেষণা পরিচালনা করছি যা "সমষ্টিগত শিক্ষা প্রকল্প" নামে পরিচিত এবং আমরা পুষ্টিগত বিষয় নিয়ে গবেষণা করব।

এই গবেষণার উদ্দেশ্য হল আপনার সন্তানের খাওয়ানোর অভ্যাস এবং প্রাথমিক শৈশবকালীন দাতের ক্ষয় সংঘটনের সম্পর্ক নির্ধারণ করা। আমি মৌখিক স্বাস্থ্যের অবস্থার সাথে আপনার সন্তানের মৌখিক স্বাস্থ্যবিধি অনুশীলন এবং স্বাস্থ্যসেবা নিতে কোথায় যান জানার চেষ্টা করব ।

কেন আপনাকে অংশগ্রহণ করতে বলা হয়েছে?

আমরা বস্তিতে (কড়াইল, ভাসানটেক ও মোহাম্মদপুর) বসবাসরত সকল শূন্য থেকে পাঁচ বছর বয়সি বাচ্চার (ছয় মাসের নিচে বা দাঁত নেই ছাড়া) মায়েদের এই গবেষণায় অংশগ্রহনের জন্য অনুরোধ করছি।

এই গবেষণায় আপনাকে কি করতে বলা হবে?

আপনি সম্মত হলে আমরা এগিয়ে যাওয়ার আগে আপনার অনুমতি নিতে চাই। আমরা আপনাকে কিছু প্রশ্ন জিজ্ঞাসা করব এবং আপনার এবং আপনার পাঁচ বছরের কম বয়সী শিশুর শারীরিক পরিমাপ নিব (আপনার সন্তানের মুখ গহবর পরিদর্শন)। সাক্ষাত্কারটি প্রায় 30 মিনিট সময় নেবে।

ঝুঁকি:

যেহেতু এটি একটি অনুসন্ধানমূলক গবেষণা, তাই এই গবেষণায় অংশগ্রহণকারীদের জন্য কোন সম্ভাব্য ঝুঁকি থাকবে না। আমরা কোভিড-১৯ সম্পর্কিত সমস্ত সুরক্ষামূলক ব্যবস্থা কঠোরভাবে বজায় রাখব। আমরা নিজেরা মাস্ক পরব এবং আমাদের গবেষণায় অংশগ্রহনকারীদের কেও পরিধানের জন্য মাস্ক দিব। প্রতিটি পরিমাপ নেয়ার আগে ও পরে আমরা আমাদের হাত ও পরিমাপের যন্ত্রগুলোকে হেক্সিসল দিয়ে ভালভাবে জীবানুমুক্ত করে নিব এবং নিরাপদ দূরত্ব বজায় রাখব।

সুবিধা:

এই গবেষণা থেকে প্রাপ্ত আপনার মূল্যবান তথ্য এই বস্তিতে বর্তমান পুষ্টির অবস্থা সম্পর্কে একটি সংক্ষিপ্ত বিবরণ পেতে আমাদের জন্য অত্যন্ত গুরুত্বপূর্ণ হবে। আমরা এটি প্রমাণ হিসাবে রাখব এবং ভবিষ্যতে এই এলাকার মানুষের আরও সুবিধার জন্য প্রয়োজন হলে এটি ব্যবহার করব।

ক্ষতিপূরণ:

এই গবেষণায় আপনার অংশগ্রহণের জন্য কোন আর্থিক বাধ্যবাধকতা নেই।

গোপনীয়তা, নাম প্রকাশ না করা এবং গোপনীয়তা:

আপনার প্রতিক্রিয়াগুলি গোপনীয় এবং বেনামী থাকবে এবং শুধুমাত্র গবেষণার উদ্দেশ্যে ব্যবহার করা হবে। গবেষণা থেকে সংগৃহীত তথ্য গবেষক দল সম্পূর্ন গোপন রাখবে। সমস্ত নথি সাবধানে সংরক্ষণ করা হবে এবং যারা এই গবেষণার সাথে ঘনিষ্ঠভাবে জড়িত তাদের বাইরের লোকেদের সাথে ভাগ করা হবে না। এই গবেষণা থেকে প্রাপ্ত তথ্য আপনার নাম এবং পরিচয় ছাড়াই সংক্ষিপ্ত আকারে ব্যবহার করা হতে পারে।

অংশগ্রহণ ও প্রত্যাহার না করার অধিকার:

আপনার অংশগ্রহণ সম্পূর্ণ স্বেচ্ছায় হবে। আপনি চাইলে যেকোন মুহূর্তে ইন্টারভিউ/আলোচনা থেকে নিজেকে প্রত্যাহার করতে পারেন, এমনকি সম্মতিতে স্বাক্ষর করার পরেও বা ইন্টারভিউ শুরু করার পরেও। তাছাড়া, আপনি এমন কোনো প্রশ্নের উত্তর দিতে বাধ্য নন যা আপনাকে অস্বস্তি বোধ করাবে। আমাদের প্রশ্নের উত্তর দেওয়ার কোন সীমাবদ্ধতা এবং ঝুঁকি নেই। আমরা আপনার সিদ্ধান্ত মেনে চলব এবং আপনার উদ্বেগের প্রশংসা করব।

এই গবেষণা সম্পর্কে সাধারণ প্রশ্নের জন্য:

আপনার অধিকার ও সুরক্ষার জন্য আরও তথ্য পেতে নিম্নোক্ত ঠিকানায় যোগাযোগ করুনঃ

আজওয়াদ বাড়ি, ব্র্যাক জেমস পি গ্র্যান্ট স্কুল অফ পাবলিক হেলথ, ব্র্যাক বিশ্ববিদ্যালয়, ৭ম তলা, মেডোনা টাওয়ার, ২৮ মহাখালি বানিজ্যিক এলাকা, বীর উত্তম এ কে খন্দকার রোড, ঢাকা-১২১৩, বাংলাদেশ, মোবাইলঃ +৮৮০১৭১৭৩১১৯২০ ।

আমাদের অধ্যয়ন সম্পর্কে আপনার আরও প্রশ্ন এবং প্রয়োজনীয় ব্যাখ্যার জন্য আপনি নিম্নলিখিত মনোনীত যোগাযোগ নম্বরে আমাদের সাথে যোগাযোগ করতে পারেন:

সাদিয়া আফরিন ফাল্গুনী, ব্র্যাক জেমস পি গ্র্যান্ট স্কুল অফ পাবলিক হেলথ, ব্র্যাক বিশ্ববিদ্যালয়, ৭ম তলা, মেডোনা টাওয়ার, ২৮ মহাখালি বানিজ্যিক এলাকা, বীর উত্তম এ কে খন্দকার রোড, ঢাকা-১২১৩, বাংলাদেশ, মোবাইলঃ +৮৮০১৬৭৬০৩০৮০০ ।

আপনি যদি আমাদের গবেষণায় অংশগ্রহণ করতে চান এবং উপরের সমস্ত পয়েন্টে সম্মত হন, তাহলে অনুগ্রহ করে নীচের নির্দিষ্ট জায়গায় আপনার স্বাক্ষর বা আপনার বাম থাম্বপ্রিন্ট রাখুন:

আমি পূর্বোক্ত তথ্য পড়েছি, বা এটি আমাকে পড়ে শোনানো হয়েছে। আমাকে গবেষণার বিষবস্তু সম্পর্কে প্রশ্ন করার সুযোগ দেয়া হয়েছিল এবং প্রশ্নের জবাবে আমি সন্তুষ্ট। আমি এই গবেষণায় অংশগ্রহণকারী হতে স্বেচ্ছায় সম্মতি দিচ্ছি।

অংশগ্রহণকারী	ইন্টারভিউয়ার
নাম: স্বাক্ষর/থাম্বপ্রিন্ট: তারিখ:	নাম: স্বাক্ষর: তারিখ:

Annex 4: Timeline

Activity	**Timeline**
Draft concept note for review	Nov 6, 2022
Final concept note submission	Nov 12, 2022
Draft tools and consent form	Nov 14, 2022
Tools pretest and finalization	Nov 21, 2022
Submission of final tools and consent form for review	Nov 23, 2022
Data collection	Nov 24, 2022 – Dec 10, 2022

Data analysis	Dec 10 – Dec 17, 2022
Draft Report Submission for review	Jan 4, 2023
Final Submission of Report	Jan 11, 2023