



Daffodil
International
University

**IDENTIFICATION OF EATING DISORDERS IN CHILDREN AND
ADOLESCENTS AT COX'S BAZAR AREA**

A PROJECT REPORT

BY

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Submitted to the Department of Nutrition and Food Engineering in the partial fulfillment of B.Sc. in
Nutrition and Food Engineering
Daffodil International University

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DAFFODIL INTERNATIONAL UNIVERSITY

DECEMBER 2024

APPROVAL

This Project titled, "Identification of Eating Disorders in Children and Adolescents at Cox's Bazar Area" submitted by Sharmin Akter, ID: 193-34-215, Department of Nutrition and Food Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents. The Presentation has been held on December 09, 2024

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DECLARATION

I hereby declare that, this project report “Identification of Eating Disorders in Children and Adolescents at Cox’s Bazar Area” has been done by me under the supervision of **Ms. Arifa Sultana, Senior Lecturer**, Department of NFE, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ACKNOWLEDGEMENT

First, I express my heartiest thanks and gratefulness to almighty Allah for His divine blessing makes us possible to complete the final year project successfully.

I really grateful and wish my profound and indebtedness to **Ms. Arifa Sultana, Senior Lecturer**, Department of NFE, Daffodil International University. Deep Knowledge & keen interest of my supervisor in the field of “Eating Disorder” to carry out this project. Her endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

I would like to express my heartiest gratitude to **Dr. Nizam Uddin, Associate Professor and Head**, Department of NFE, for his kind help to finish our project and also to other faculty member and the staff of NFE department of Daffodil International University.

I would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

Adolescents and young adults who are female are more likely to suffer from eating disorders (EDs), which can have a variety of negative health effects. In developing nations, the number of adolescents and youngsters suffering from eating disorders is rising daily. Nevertheless, there is a paucity of investigation has evaluated the risk of eating disorders in this Bangladeshi demographic group. In order to determine the manifestations of eating disorder risk and variables linked to yung pupils, this study was conducted. From November to December 2023, 200 local Bangladeshi schoolchildren and Rohingya youngsters participated in cross-sectional research. Self-reported questionnaires on the sociodemographic traits, eating disorder risk, and nutritional health of research participants were used to gather data. The validated eating attitudes and anthropometric measurement were used to evaluate the respondents' nutritional status and risk of eating disorders, respectively. There were 23.6% of those who were at "eating disorder risk." Children (adjusted odds ratio [AOR] =60.4%), those between the ages of 13 and 18 (AOR = 39.6%), those who are overweight (AOR = 18.9%), and those who are obese (AOR = 6%) all had increased chances of developing an eating disorder in this research. Given that eating disorders were more common in the research, it seems likely that psychological intervention and health awareness campaigns—especially targeted at younger students, female students, and students who are overweight or obese—would be successful in reducing the likelihood of eating disorders.

Keywords: Eating Disorders, Nutrition, Bone Health, Adolescents, Binge eating disorders, Rohingya camp etc.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Among the most prevalent chronic conditions affecting teenagers and young adults is eating disorders (EDs). Adolescent patients and their families suffer greatly from EDs, which are severe, incapacitating conditions that significantly deteriorate physical well-being, life satisfaction, and psychological functioning (Campbell & Peebles, 2014a). we present an overview of the diagnostic criteria, epidemiology, medical consequences, and therapeutic concerns for prevalent EDs that Pediatric and Adolescent Gynecologist (PAG) clinicians may face. Even though PAGs are not authorized to diagnose or treat EDs, they must be able to identify, screen, and refer at risk patients appropriately. (Memon et al., 2012).

Even while eating disorders are more widespread in Western countries, they are also becoming increasingly prevalent in non-Western countries such as South Asia. Evidence revealed that 11.5% of students in South-East Asian countries—from less than 10% in Vietnam, Thailand, Indonesia 13.8% in Malaysia and 20.6% in Myanmar. In Bangladesh, the students showed 37.6% were at risk for an eating problem (Micali, Hagberg, Petersen, & Treasure, 2013). Emerging adulthood, which includes young individuals such as students, is the most vulnerable group to eating disorders in terms of attitudes and practices. Eating disorders are associated with age, gender, increasing pursue to Western civilization, and pertaining to health factors such as BMI (Quick, Byrd-Bredbenner, & NeumarkSztainer, 2013). A previous study of students in Cox's Bazar revealed including age, significant religious commitment, overweight body image, low body (Fitzsimmons-Craft, Karam, Monterubio, Taylor, & Wilfley, 2019).

The researchers aimed to investigate the incidence of eating disorders through Rohingya school kids in Bangladesh since they are the most prevalent susceptible population for disordered eating attitudes and behaviours, and there is a noticeable variance among contexts (Memon AA, Adil SE e R, Siddiqui EU, Naeem SA, Mehmood K 2012, Pengpid S, Peltzer K, Ahsan GU 2015, Balhara YPS, Mathur S, Kataria DK, Kuan PX, Ho HL 2011). However, there is a lack of literature regarding the nutritional association between Rohingya school students and eating disorders. Furthermore, due to socioeconomic and cultural differences, there can be a notable difference in the prevalence and contributing factors of eating disorders between Bangladeshi local schools and Rohingya schools. Furthermore, the shift in nutrition has led to a higher availability of fast food, and increased exposure to Western culture has been linked to alterations in the dietary habits and lifestyle of persons in Bangladesh, perhaps resulting in eating disorders.(Bloem MW, Moench-Pfanner R, Graciano F, De Pee S 2004, Bipasha MS, Goon S 2013)Therefore, we must have a deeper comprehension of the variables linked to eating disorders in school-age children. Consequently, it is important to gain a more comprehensive comprehension of the elements linked to eating disorders in school students in Bangladesh. As a result, aim of this research was puruse to perpetration and potential factors contributing to eating disorders in Rohingya school students in Bangladesh Additionally, by making this community more visible to donors, NGOs, and policymakers, the research may help raise awareness of the primary causes of malnutrition and promote improvements in the health and nutritional status of Rohingya and Bangladeshi citizens in general, as well as those living in the Cox bazar area specifically (Tavolacci et al., 2015). Furthermore, my research may also be an attempt to close the information gap for future researchers and add to the scholarly conversation about nutritional status in the field of nutrition science.

1.2 Background

In underdeveloped nations, children are particularly susceptible and often considered to be in the risk category because 50% of all deaths occur in the first five years of life. Child malnutrition is a serious and pressing issue for everyone. Undernutrition caused by neglect has an impact on a child's growth and health. Today, forced migration is a worldwide concern. Millions of individuals from different Asian and African nations escape their homes and seek safety in other nations, especially those that are neighbors. Every day, hundreds of Rohingyas fleeing recent outbreaks of military atrocities in Myanmar's Rakhine province enter Bangladesh (Wang et al., 2016). As stated by World Food Programme in 2013, refugees frequently do not have access to markets and cannot purchase wholesome food. Most notably, there are remarkably few easily accessible research on the dietary problems faced by refugees (Rauof, Ebrahimi, Jafarabadi, Malek, & Kheiroddin, 2015). Research indicates that children who have high rates of illness and death are the most vulnerable category of migrants and require extra attention. Furthermore, not all aspects of nutritional condition of camp child less than age of five are covered by these publications. To the best of my knowledge, no comprehensive study has been done on the nutritional condition of the Rohingya refugees in the Cox bazar district (Boutelle, Hannan, Fulkerson, Crow, & Stice, 2010). Therefore, the goal of the current study is to understand the nutritional health of Bangladeshi refugee children under the age of five.

Additionally, by making this community more visible to donors, NGOs, and policy makers, the research may help raise awareness of the primary causes of malnutrition and promote improvements in the health and nutritional status of Rohingya refugees in Bangladesh more broadly and in the Cox's Bazar area specifically (Spillebout, Dechelotte, Ladner, & Tavalacci, 2019). Furthermore, my research may also be an attempt to close the information gap for future researchers and add to the scholarly conversation about nutritional status in the field of nutrition science.

1.3. Study Objective

1.3.1. General Objectives

To investigate the frequency and risk factors of Eating Disorders awareness, prevalence and control among children and adolescents.

1.3.2. Specific Objectives

- Encourage healthy eating and attaining goals. Talk about body image issues self- reverence, pathological management, nutrition, and relapse prohibition.
- Healthy body weight in order to lessen the risk to one's physical health and any additional eating disorder symptoms.
- To originate a personalized strategy of treatment based on the procedures that seem to be supporting the eating disorder; highlight the consequences of underweight and malnutrition; increase self-efficacy; incorporate self-monitoring of nutritional intake and related concept and perception; Assign assignments to assist the patient put what they've learnt into practice.

CHAPTER 2

LITERATURE REVIEW

Every age group, gender, sexual orientation, ethnicity, race, socioeconomic background, and body type can have an eating disorder. Because of under recognition, shifting terminology in the DSM-5, and the inclusion of people who fit the criteria for atypical eating disorders, it is challenging to determine prevalence. In a 2011 cross-sectional survey of more than 10,000 nationally representative US adolescents aged 13 to 18, the estimated prevalence rates of AN, BN, and BED were 0.3%, 0.9%, and 1.6%, respectively, with a mean age of onset of 12.5 years (Doyle et al., 2008). An additional research found that 2-4% of people had BED. Both males and girls are more equally affected by BED, the most prevalent eating problem among teenagers. With an incidence of 1-2.5% in children ages 5–12, eating disorders can occur in younger children as well, though they are more frequent in older children and adolescents (Goldschmidt, Wall, Loth, & Neumark-Sztainer, 2015). Adolescents who have underlying medical illnesses (including diabetes, celiac disease, inflammatory bowel disease, and metabolic diseases) that need strict nutritional management may be more susceptible to eating disorders (Elgan & Fridlund, 2006).

23.0% of people were classified as "eating disorder risk" (95% confidence interval [CI]: 18.6 to 27.4). In the current study, there was a higher likelihood of having an eating disorder risk if one was children (adjusted odds ratio [AOR] = 2.4, 95% CI: 1.4 to 4.2), aged between 5 and 13 (AOR = 2.0, 95% CI: 1.2 to 3.6), overweight (AOR = 4.9; 95% CI: 1.6 to 14.9), and obese (AOR = 7.7, 95% CI: 1.9 to 31.4). The increased frequency of eating disorders in the study suggests that eating disorder risk could be effectively prevented by psychological intervention and health awareness programs, especially targeted at younger age groups, child students, and overweight/obesity students at school level.

The majority of AN patients receive care in outpatient facilities. When it comes to the medical supervision and planning of these patients' care, pediatricians are crucial. In addition to overseeing treatment outcomes and coordinating care with colleagues in mental and nutritional health, pediatricians are key players in the assessment, management, and care of both acute and long-term medical issues (Lee & Nieman, 1993). While some pediatricians who specialize in primary care feel comfortable managing treatment, others prefer to send patients to specialists who specialize in treating eating disorders in children. All treatment team members should ideally be cognizant of the special developmental requirements that children and adolescents have.

Youth worldwide are suffering from AN and BN disorder, and others. This narrative review contains the most current research on the frequency of eating disorders among young people (Pengpid & Peltzer, 2018). Current findings: A large number of young individuals in Western nations have reported having an eating disorder. By early adulthood, 5.5-17.9% of young women and 0.6-2.4% of young males had a DSM-5 eating disorder (Pengpid, Peltzer, & Ahsan, 2015) 0.6–11.5% of women and 0.2-0.3% of men reported having other specific feeding or eating disorders; and 0.2-4.7% of women and 0-1.6% of men reported having unspecified feeding or eating disorders. Sexual minorities and gender minorities were especially vulnerable. New research from Latin America, Asia, and Eastern Europe reveals comparable high prevalence. Eating problems have been more common even during the COVID-19 epidemic (Smink, Van Hoeken, & Hoek, 2012).

According to (Petersen and N Micali 2013) Goals Research on the prevalence of eating disorders (EDs) has been limited. There are still numerous unanswered questions about gender-specific illness onset, case detection, and changes in the prevalence of diagnosed disorders in recent years. Understanding the variances in incidence is critical for public health, medical practice, and service delivery. The goal of this study was to determine the yearly incidence of identified eating disorders, including bulimia nervosa (BN) and anorexia nervosa (AN), based on age, gender, and subtypes (Peterson, N Micali 2013).

To look into risk factors for disordered eating in young people who are overweight, a group that is especially vulnerable to these kinds of behaviors. (Andrea B Goldschmidt, Melanie M Wall, Katie A Loth, Dianne Neumark-Sztainer 2015)

The aim of this research was to investigate scoff illness, beliefs, practices among local school and Rohingya students in Bangladesh, given the paucity of literature regarding eating disorders in that nation. Materials and procedures: Randomly selected school students were involved in an anthropometric assessment and a cross-sectional questionnaire survey. The discovery of extremely elevated levels of eating disorder risk necessitates greater awareness and comprehension of eating disorders, in addition to the risk that comes with it factors and interventions, through school students in Bangladesh. (S Pengpid, K Peltzer. GU Ahsan 2015)

Younger patients with eating disorders (under thirteen years old) participate in carousal behaviours accompanied with their disease and a higher likelihood of premorbid psychopathology (such as, inferiority, excessive-compulsive disorder, disquiet). Perhaps men and women are equally afflicted among the youngest individuals with eating problems; the prevalence of females is significantly lower. It is common for patients to lose weight more quickly than in older people. In fact, for younger patients, the implications of losing weight (or failing to gain enough weight) may be far more serious (Bunnell DW, Shenker IR 1990, Peebles R, Wilson JL, Lock JD 2006).

CHAPTER 3

MATERIALS AND METHODS

3.1 Study Setting

Participants in the study chosen from among local students at the Rohingya Refugee Camp of Kutupalong (Cox's Bazar), as well as from the neighborhood where Bangladeshi families live in Cox's Bazar in November and December of 2023, where children from both lower and upper socioeconomic classes were present (Auerbach et al., 2016). As a result, the researcher thought of gathering data in this field.

3.2 Study Design

This was 200-respondent research done using a structured questionnaire and face-to-face interviews among locals and the Rohingya refugee camp in the surrounding region of Cox's Bazar using simple random sampling. Data were obtained from children (5-12) and teenagers (13-18) who were permanently residing in and around refugee camps, as well as both sick and non-diseased youngsters (excluding temporary stay). The data contains all potential outcomes acquired from the questionnaire through direct interviews with respondents who were the children's family members (Ibrahim, Kelly, Adams, & Glazebrook, 2013). Charts of food categories (carbohydrates, protein, fats and oils, fruits and vegetables, dairy products) are used to determine the children's eating patterns.

3.3 Sample Size

I estimated a sample size of 200 for a single percentage test using a 5% margin of error, a 95% confidence interval (1.96), and a 11.5% overall prevalence of eating disorders among local students and Rohingya in Bangladesh (Suhail & Zaib-U-Nisa, 2002). Participants were deemed eligible for this study if they matched the following criteria: (i) they were local Cox's Bazar pupils and (ii) they lived in the Rohingya camp. To choose the participants, I utilised a twostage cluster sampling procedure with equal allocation. We added five more individuals to the estimated sample size in order to increase precision. At that point, the final response rate ($n = 200$) was 100%.

Sample size, $n = z^2 pq / d^2$

Where,

$z=1.96$

Confidence level , $p=95\%$

Expected prevalence, $q=11.5\%$

Margin of error, $d= 5\%$, the total number of samples will be, $n= 167.877 +32.12$

≈ 200

3.4. Data Collection

Prior to data collection, I told all of the students about their aims, and the only one who was interested was chosen as my research subject. To collect data on people's sociodemographic characteristics and eating patterns, trained researchers employed a self-reported, prestructured questionnaire. Our interviewers conducted in-person interviews with the adoptive family members, including the mother, father, and other family members, in order to gather data at random (Şanlıer, Yabancı, & Alyakut, 2008). During the data collection process, the English-language questionnaire was translated into the local tongue. Every completed questionnaire was examined by the researchers to ensure accuracy and completeness.

3.5 Materials

1. Printed questionnaires.
2. Personal Computer; creating questionnaire, data analysis, project report preparation.
3. Self-funded project work.

3.6 Methodology

- Step 1** → Review the literature
- Step 2** → After that prepared questionnaire
- Step 3** → And then collecting Data
- Step 4** → Data cleaning
- Step 5** → Data Entry
- Step 6** → Data Coding
- Step 7** → SPSS
- Step 8** → Analysis the Results
- Step 9** → And then Interpretation

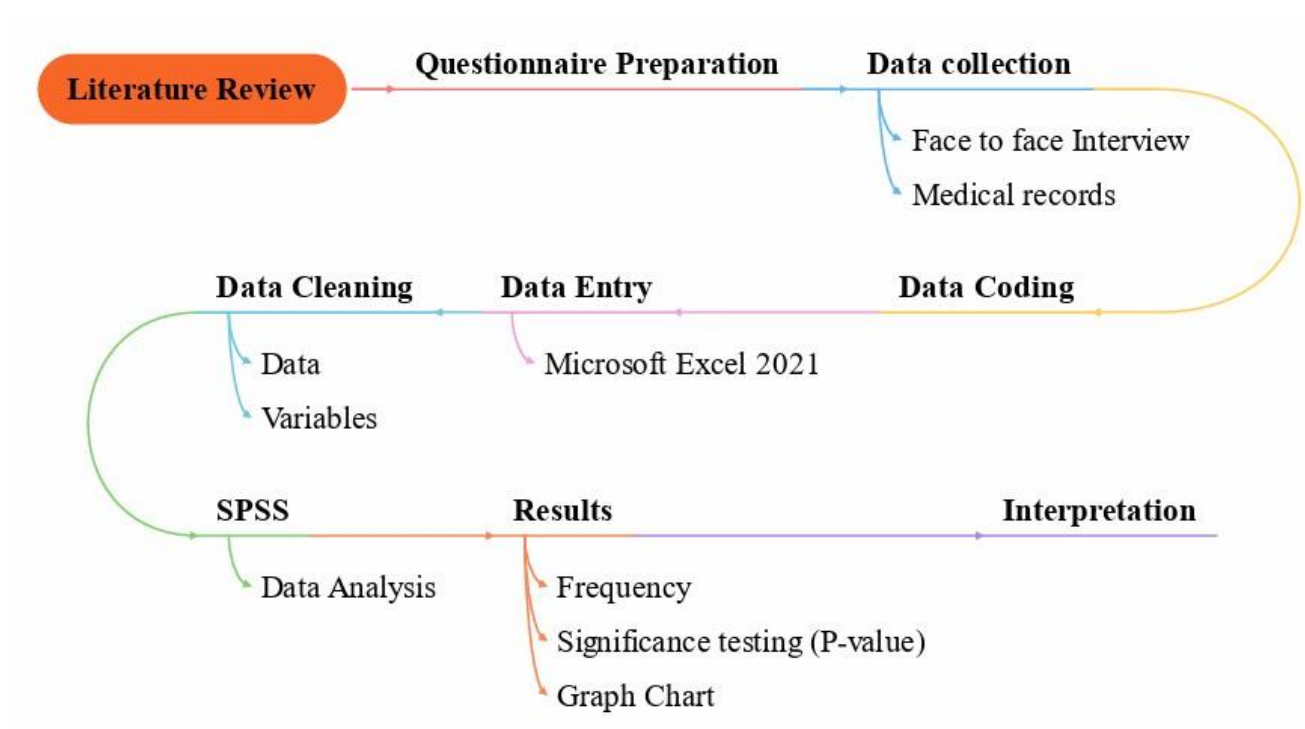


Fig 3.1: Research Methodology

3.7 Ethical Consideration

Each participant was informed about the goal of the research as well as presence before they gave their signed consent to take part in the research.

CHAPTER 4

RESULTS AND DISCUSSION

The respondents' sociodemographic attributes are shown in. Children and adolescents made almost nearly similar shares of all participants (children: 60.4% and adolescents: 39.6%). As the average age of nine years and a majority of Muslim families comprising 90% of the student body, more than half (57.5%) of the pupils were between the ages of five and twelve (Tao, 2010). Of the total number of students, half (50.1%) came from lower-middle-class families, making up the vast majority of the student body (88.5%). Of the total, 19.2%, 34.8%, 20.5%, and 25.5% of the pupils were divided into classes 3 through 6. In relation to the BMI index, about 65% of students had average body weight, 11.5% had overweight, and 23.6% had above the average body weight (Balhara, Yadav, Arya, Mathur, & Kataria, 2012).

Table 4.1: Socio-demographic characteristics of study participants (N=200)

Study variables	Frequency	Percentage
Gender		
Children	140	60.4
Adolescents	60	39.6
Age		
5-12 years	155	57.5
13-18 years	45	42.5
Religion		
Islam	180	89.1
Others (Hindu, buddist)	20	9 .9
Family Status ^a		
Lower class	90	48.6
Lower middle class	40	21.7
Upper middle class	45	24.8
Higher class	1 5	4.9
Study year		
Class 3	44	21.5
Class 4	96	49.2
Class 5	48	22.5
Class 6	12	6 .8
Body Mass Index (BMI)		
Under weight	42	18.9
Normal	137	64.9
Over weight	15	11.5
Obese	6	4.7

Thirty (55.6%) of the 54 eating disorder risk students that were reported were youngsters, and twenty-four (44.4%) were adolescents ($p=0.002$). Only 18 (29.8%) of the 13–18 age group had disordered eating attitudes ($p=0.007$), compared to 70.2% of those aged 5–12 (Connor-Greene, 1988). Of those pupils at risk for eating disorders, normal BMI values (57.1%) had higher risk factors. Six (36.7%) of the kids with abnormal BMIs had eating disorder risk (Ferhi, Dalhoumi, Ghammam, & Mannai, 2023). Restoring children and adolescents to their full healthy weight and growth trajectory, normalizing eating habits and behaviors, and helping them develop positive relationships with food, their body's size, shape, and weight, as well as with themselves, are the ultimate goals of eating disorder treatment.

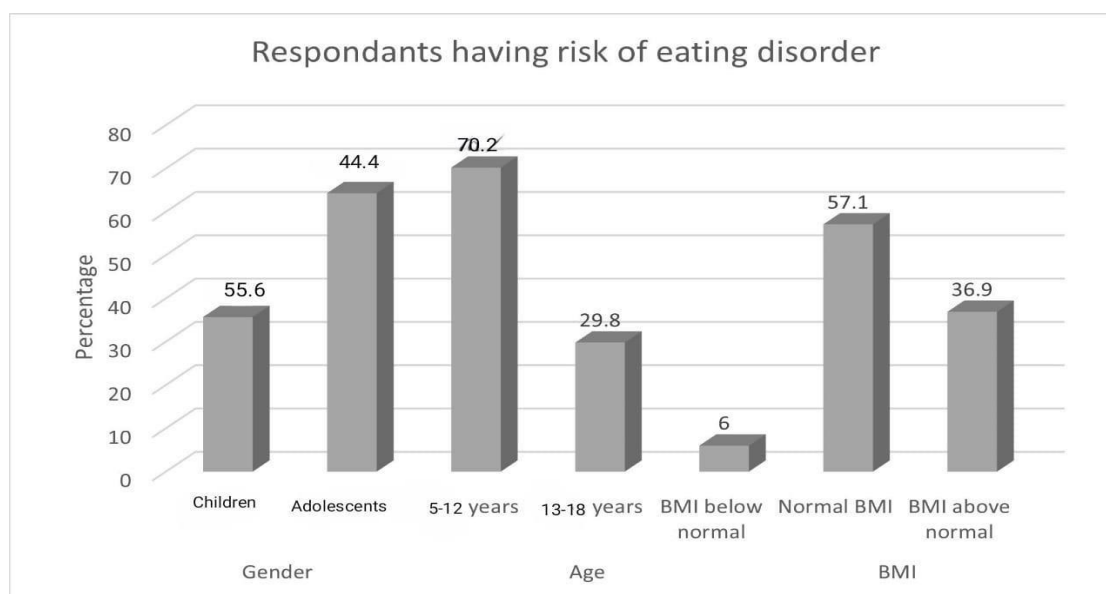


Figure 4.1: Distribution of eating disorder according to age, sex and body mass

Table 4.2: Notable Physical Examination Features in Children and Adolescents with Eating Disorders

Symptoms of malnutrition or insufficient calorie intake:
Variation from the prior growth trajectory as displayed on graphs of height, weight, and BMI
Vital signs that are abnormal:
BP or HR during rest that is low
A fall in blood pressure (>10 mm Hg) or an orthostatic increase in heart rate (>20 beats per minute)
Hypothermia
Anxious or flat impact
Carotenemia (especially in the palms and soles); pallor, dry, sallow skin
Cachexia: reduced muscular mass, subcutaneous fat, and face withering
Lanugo, or dull, thin scalp hair
Left lower quadrant stool bulk
Pubertal development that is delayed or disrupted
Vaginal dryness and small breasts
Small testes
Characteristics of purging:
Vital signs that are abnormal:
A fall in blood pressure (>10 mm Hg) or an orthostatic increase in heart rate (>20 beats per minute)

Dental enamel erosions, palatal scrapes, and angular stomatitis
Enlargement of parotid and submandibular salivary glands.
Tenderness in the epigastrium
Spinal bruising or abrasions (caused by severe activity)
A trait associated with excessive energy consumption:
Using height, weight, and BMI curves, the deviation from the prior growth trajectory
Obesity
Elevated BP or hypertension
Musculoskeletal pain

Table 4.3: Selected Differential Diagnosis for Eating Disorders According to Presentation

Clinical Presentations	Differential Diagnosis
Weight loss	
Gastrointestinal	Irritable bowel syndrome (IBS), Diverticulitis
Infectious	HIV intestinal parasite or chronic infection like TB
Psychiatric	Obsessive compulsive disorder, depression, psychosis or anxiety
Other	Neoplasm
Vomiting	Gastroesophageal reflux disease
Neurologic	Elevated intracranial illness
	Migraine
Other	Dietary sensitivity

4.1 Characteristics

The prevalence of eating disorder was greater among those 5-12 years (57.5%) than among those 13-18 years (42.5%) (p-value 0.007). Children prevalence was 60.4 % and adolescent prevalence was 39.4% (p-value = 0.002) (Garner, Bohr, & Garfinkel, 1982b).

1. First, this graph shows that; I identified the participants' gender. Among the 200 participants, 60.4% (140 children) and 39.6% (60 adolescents).

Gender
200 responses

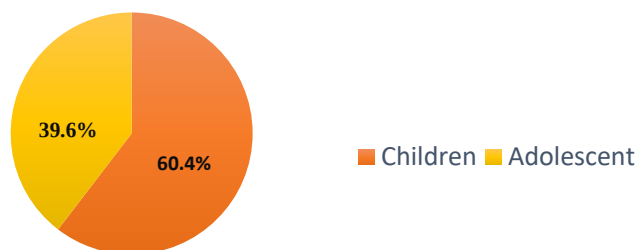


Figure 4.2: - Gender of Participants

2. This graph describes the age of the participants. Find out the age of the participants. I divided into three groups; less than 5, 5-12 years and more than 18 years. Among 200 participants 57.5% which means 155 peoples age (5-12) years and 45 participants which is 42.5%

Age
200 responses

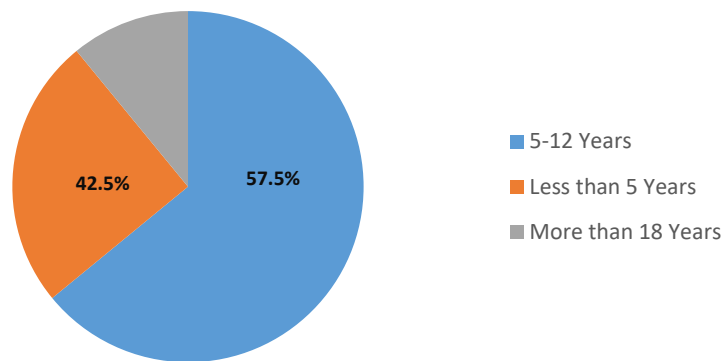


Figure 4.3: - Age of Participants

- This graph shows the participants' family status where I parted into four groups. Find out the family status of the participants. I divided them into four groups. Among the participants the students of the lower class are found total number of 90(48.6%). And the lower middle class 40(21.7%). In the upper middle class 45(24.8%). The last one is higher class of participants 15(4.9%).

Family Status
200 responses

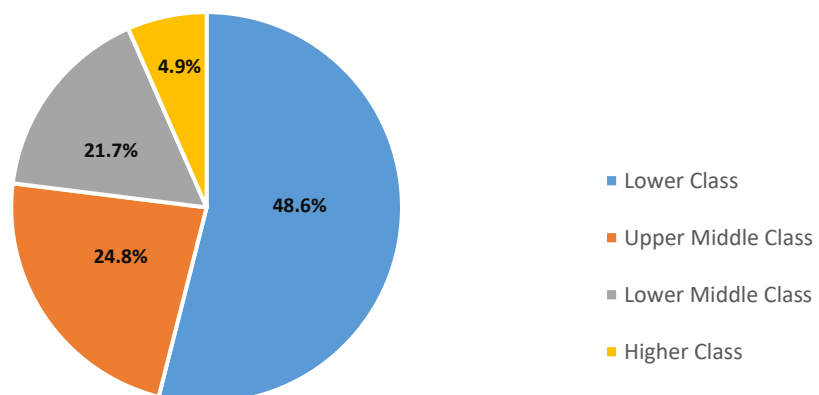


Figure 4.4: - Family Status

- Among the chart of the participants of the BMI where divided into four categories. Where shows that, 44(21.5%), 96(49.2%) and the class five and six are 48(22.5%), 12(6.8%). And also risk of eating disorders are found 12(3.8%), 26(11.5%), 14(3.9%), 3(1.4%). No risk of eating disorders are 32(17.7%), 70(37.7%), 34(18.6%) and 9(5.4%).

Academic Class
200 responses

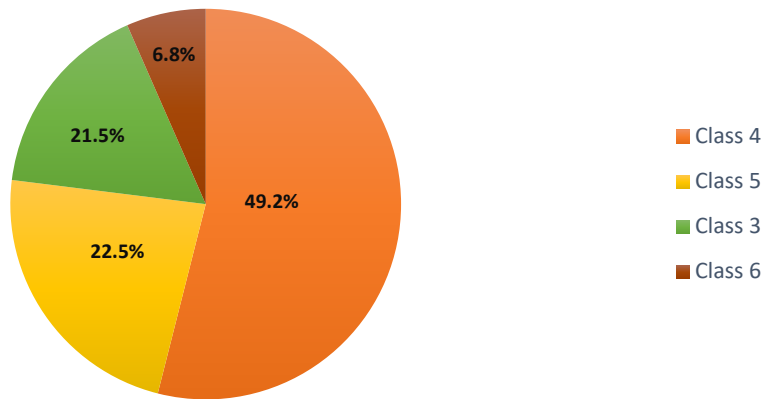


Figure 4.5: - Academic class of Participants

5. Among the participants of BMI where are divided into four categories. Underweight 42(18.9%), Normal 137(64.9%), Over weight 15(11.5%) and the Obese 6(4.7%). Where risk of eating disorders are 5(1.4%), 28(15.5%), 4(2.8%), 2(0.8%) and also no risk of eating disorders are 37(17.5%), 109(49.4%), 11(8.7%), 4(3.9%).

BMI
200 responses

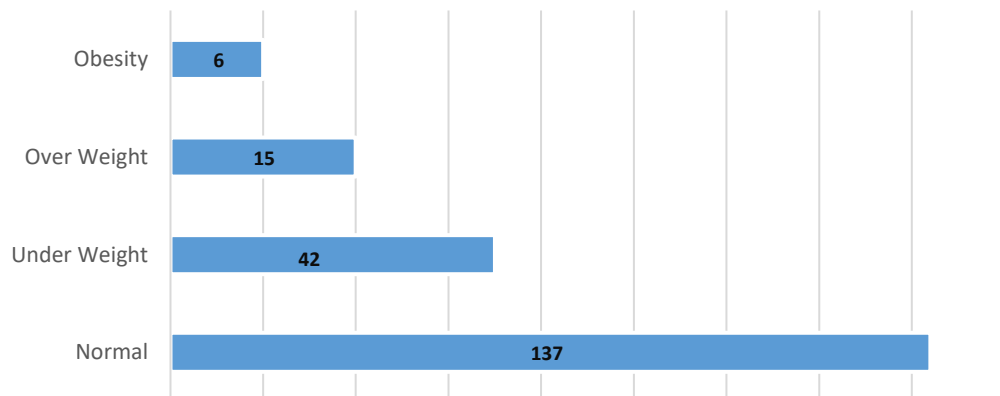


Figure 4.6: - BMI Status

4.2 Discussion

The current study looked on the risk factors among Rohingya and local pupils in Cox's Bazar, Bangladesh. This survey identified the following factors as possible predictors of eating disorder risk: students age (younger adulthood), gender (girls), and body mass index (being overweight or obese) (Becker et al., 2011).

In line with Pakistani schoolchildren, our research showed that 23.6% of the pupils were at risk for eating disorders. This frequency, however, was more than that seen in earlier studies conducted among students in China (3.2%–9.9% in girls and 1.2%–2% in boys), Sarawak (13.7% females, 5.6% males), and India (4%). Bangladesh's economic shift may be the cause of this observed variance. Furthermore, we discovered a lower frequency of eating disorder risk among nearby schoolchildren (37.6%) than in a prior study carried out in Bangladesh (Banna et al., 2023). Given that a greater majority of local school pupils hailed from rich homes than Rohingya, it is possible that this gap stems from their familial backgrounds. Their lifestyle is distinct and more adaptable to western society. Instead, the outcome of the present research showed that majority students were from lower-middle-class families, who may account for this discrepancy (Campbell & Peebles, 2014b). To comprehend the process of eating problem development, more comparative intervention or longitudinal research between these two student groups (local and Rohingya) are strongly advised.

An earlier study found an age correlation between disordered eating attitudes. The results of this study, which corroborate those of other studies, showed that younger pupils were more likely than older students to be at risk for eating disorders (Alhazmi & Johani, 2019). It is true that children are more self-conscious about their weight, body image, and physical attractiveness, which may contribute to unhealthy eating habits. In addition, their drive to be slender made them more likely to adopt unhealthy eating practices (Harrison, Taylor, & Marske, 2006). Despite the fact that eating disorders were more frequent in children, a significant frequency of these diseases was discovered in adolescents, indicating a rise in eating disorders in guys.

According to the present study, younger students—those between the ages of 5 and 12—were shown to be more susceptible to eating disorders than older ones. Previous investigations have reported a similar conclusion. One potential interpretation that children who are learners through greater flexibility in terms of lifestyle and eating choices since they have transitioned from living with their families to living alone (Golden et al., 2016). It was shown that there was a higher likelihood of eating disorders among pupils who were overweight or obese. These results validated the results of prior research. According to our research, the majority of pupils were of a typical body weight, with over 20% having a BMI that was higher than average. (Sepulveda, Carrobbles, & Gandarillas, 2008). Obese and overweight pupils are more probably develop consuming illness in an attempt to maintain a slender body image, which may lead to disordered eating attitudes.

Previous research found that religion was associated with eating issues. The study showed no substantial link between eating problems and religion. We just looked at religion kinds like Hindu, Muslim, and so on, not the level of religiosity involved, which might explain the variance. In addition, this research, like others, found no significant relationship between family status and outcomes (Golden NH, Schneider M, Wood C, 2016).

CHAPTER 5

CONCLUSION

One in four students in this locality and the Rohingya community in Bangladesh reported being at risk for eating disorders. Students who are overweight or obese, as well as children and adolescents, may be at risk of acquiring negative eating attitudes and behaviors. Understanding the beginnings of eating disorders and developing preventative strategies may be facilitated by early detection and screening for certain risk factors. Furthermore, by using the results, health awareness programs may be designed to lower the incidence of eating disorders among Bangladeshi Rohingya pupils. An educational programme aimed at students' eating habits should be created by an NGO organization, with an emphasis value healthily and the effects of consumption disorders.

Therefore, an investigation into psychological interventions that focuses on modifying eating habits and dispositions at the camp it is strongly advised in order to lower the occurrence of consumption disorders in the future. To identify the causative pathways of eating disorder risk, further intervention programmes and long-term cohort studies with sizable, varied samples of Bangladeshi Rohingya students are needed.

This research provides a number of advantages. This was the initial research to examine the incidence and risk factors for eating disorders within a pattern of Rohingya and Cox's Bazar local adolescents from Bangladesh. As a result, baseline data on eating disorders among Rohingya students may be obtained from the current study. The study did not, however, come without restrictions. Because the study was cross-sectional, it was not possible to extrapolate the findings across the entire nation. There existed a potential for research bias during the administration of self-reported surveys.

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APPENDICES

Appendix 1: Questionnaire Determination of Eating Disorder Patients. QUESTIONNAIRE:

1. Information about Patient

a) Name :-

b) Address :-

2. Anthropometric parameters

Age: _____ Sex: M/F Weight: _____ kg Height: _____ BMI: _____

Underweight	Normal
Overweight	Obesity

These questions are about the PAST TWO WEEKS ONLY (14 DAYS). Please read each question carefully and circle the response for each question.		Scoring						
On how many days of the past 14 days...		0	1	2	3	4	5	6
Restraint over eating	Have you been trying to cut down on food to control your weight or shape?	No days	1–2 days	3–6 days	7 days	8–10 days	12– 13 days	Every day
Food avoidance	Have you tried not to eat any foods you like to control your weight and shape?	No days	1–2 days	3–6 days	7 days	8–10 days	12– 13 days	Every day

Preoccupation with food	Has thinking about food or calories made it much harder to concentrate on things you are interested in; for example, reading, watching tv, or doing your homework?	No days	1–2 days	3–6 days	7 days	8–10 days	12– 13 days	Every day
Feelings of fatness	Have you felt fat?	No days	1–2 days	3–6 days	7 days	8–10 days	12– 13 days	Every day
Desire to lose weight	Have you had a very strong wish to lose weight?	No days	1–2 days	3–6 days	7 days	8–10 days	12– 13 days	Every day
Guilt about eating	Over the past 2 weeks/14 days: How often have you felt guilty after eating because of the effect on your shape and weight? (Do not count binges – times when you have eaten a really big amount of food and felt out of control)	None of the times	A few of the times	Less than half the times	Half the times	More than half the times	Most of the time	Every time
Dissatisfaction with weight	Over the past 2 weeks/14 days: How unhappy have you felt about your weight?	0 NOT AT ALL	1	2 SLIGHTLY (A Little Bit Unhappy)	3	4 Moderately (A Lot)	5	6 MARKEDLY (Very, Very Much)

Discomfort seeing body	Over the past 2 weeks/14 days How uncomfortable have you felt seeing your body: for example, in the mirror, in shop windows, when you undress or when you have a bath or shower?	0 NOT AT ALL	1	2 SLIGHT LY (A Little Bit Unhapp y)	3	4 Moderately (A Lot)	5	6 MARKEDLY (Very, Very Much)
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Appendix 02: Synopsis

Daffodil International University

Faculty Of Health & Life Sciences (FHLS)

Daffodil Smart City, Birulia, Savar, Dhaka – 1216, Bangladesh

Student's Name: Sharmin Akter

ID: 193-34-215

1. Title: Identification of Eating Disorders In Children And Adolescents At Cox's Bazar Area

2. Introduction

Among the most prevalent chronic conditions affecting teenagers and young adults is eating disorders (EDs). Adolescent patients and their families suffer greatly from EDs, which are severe, incapacitating conditions that significantly deteriorate physical well-being, life satisfaction, and psychological functioning (Campbell & Peebles, 2014a). we present an overview of the diagnostic criteria, epidemiology, medical consequences, and therapeutic concerns for prevalent EDs that Pediatric and Adolescent Gynecologist (PAG) clinicians may face. Even though PAGs are not authorized to diagnose or treat EDs, they must be able to identify, screen, and refer at risk patients appropriately. (Memon et al., 2012). Even while eating disorders are more widespread in Western countries, they are also becoming increasingly prevalent in non-Western countries such as South Asia. Evidence revealed that 11.5% of students in South-East Asian countries—from less than 10% in Vietnam, Thailand, Indonesia 13.8% in Malaysia and 20.6% in Myanmar. In Bangladesh, the students showed 37.6% were at risk for an eating problem (Micali, Hagberg, Petersen, & Treasure, 2013). Emerging adulthood, which includes young individuals such as students, is the most vulnerable group to eating disorders in terms of attitudes and practices. Eating disorders are associated with age, gender, increasing pursue to Western civilization, and pertaining to health factors such as BMI (Quick, Byrd-Bredbenner, & NeumarkSztainer, 2013). A previous study of students in Cox's Bazar revealed including age, significant religious commitment, overweight body image, low body (Fitzsimmons-Craft, Karam, Monterubio, Taylor, & Wilfley, 2019).

In underdeveloped nations, children are particularly susceptible and often considered to be in the risk category because 50% of all deaths occur in the first five years of life. Child malnutrition is a serious and pressing issue for everyone. Undernutrition caused by neglect has an impact on a child's growth and health. Today, forced migration is a worldwide concern. Millions of individuals from different Asian and African nations escape their homes and seek safety in other nations, especially those that are neighbors. Every day, hundreds of Rohingyas fleeing recent outbreaks of military atrocities in Myanmar's Rakhine province enter Bangladesh (Wang et al., 2016).

Rationale of the Study:

Rohingya refugees, especially children, are a vulnerable population, often facing malnutrition, poor health outcomes, and a lack of access to nutritious food due to forced displacement and living in refugee camps. Understanding their nutritional health is critical to addressing the broader public health challenges they face. In essence, the rationale for this study is to gain a deeper understanding of the factors contributing to eating disorders and malnutrition in Rohingya schoolchildren, ultimately aiming to improve health outcomes and inform public health interventions in refugee communities.

3. Study Objective

General Objectives

To investigate the frequency and risk factors of Eating Disorders awareness, prevalence and control among children and adolescents. To originate a personalized strategy of treatment based on the procedures that seem to be supporting the eating disorder; highlight the consequences of underweight and malnutrition; increase self-efficacy; incorporate self-monitoring of nutritional intake and related concept and perception; Assign assignments to assist the patient put what they've learnt into practice.

Specific Objectives

- Encourage healthy eating and attaining goals. Talk about body image issues self- reverence, pathological management, nutrition, and relapse prohibition.
- Healthy body weight in order to lessen the risk to one's physical health and any additional eating disorder symptoms.

4. Methodology

✓ Descriptive cross-sectional study will conduct to assess the demographic characteristics, nutritional status, and overall quality of life (QOL) of patients undergoing BIRDEM Hospital.

✓ Data will be collected through structured surveys, focus group interviews, and using a purpos designed questionnaire.

✓ Descriptive and inferential statistics will be used for data analysis, and thematic analysis will apply to qualitative data.

✓ Ethical guidelines will follow, and informed consent was obtained from all participants.

Sample Size

I estimated a sample size of 200 for a single percentage test using a 5% margin of error, a 95% confidence interval (1.96), and a 11.5% overall prevalence of eating disorders among local students and Rohingya in Bangladesh (Suhail & Zaib-U-Nisa, 2002). Participants were deemed eligible for this study if they matched the following criteria: (i) they were local Cox's Bazar pupils and (ii) they lived in the Rohingya camp. To choose the participants, I utilised a twostage cluster sampling procedure with equal allocation. We added five more individuals to the estimated sample size in order to increase precision. At that point, the final response rate ($n = 200$) was 100%.

Sample size, $n = z^2 pq / d^2$

Where,

$z = 1.96$

Confidence level , $p = 95\%$

Expected prevalence, $q = 11.5\%$

Margin of error, $d = 5\%$, the total number of samples will be, $n = 167.877 + 32.12$

≈ 200

5. Expected Outcome

The expected outcome of this study is to gain a detailed understanding of the relationship between various factors such as demographic characteristics, nutritional status, and the overall quality of life (QOL) of long-term hemodialysis patients. This research aims to identify specific issues that may affect patients' quality of life.

6. Socio Economic Impact

The respondents' sociodemographic attributes are shown in. Children and adolescents made almost nearly similar shares of all participants (children: 60.4% and adolescents: 39.6%). As the average age of nine years and a majority of Muslim families comprising 90% of the student body, more than half (57.5%) of the pupils were between the ages of five and twelve (Tao, 2010). Of the total number of students, half (50.1%) came from lower-middle-class families, making up the vast majority of the student body (88.5%). Of the total, 19.2%, 34.8%, 20.5%, and 25.5% of the pupils were divided into classes 3 through 6. In relation to the BMI index, about 65% of students had average body weight, 11.5% had overweight, and 23.6% had above the average body weight (Balhara, Yadav, Arya, Mathur, & Kataria, 2012).

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Sharmim Akter

Signature of the Student

Sultana

(Approval)

Signature of the Supervisor

IDENTIFICATION OF EATING DISORDERS IN CHILDREN AND ADOLESCENTS AT COX'S BAZAR AREA

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