

# Elements Influences to the Life Style among Parents with Asthma Patients in Bangladesh: A descriptive exploratory study.

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## Abstract

**Background:** In Bangladesh, Asthma is one of the leading causes of death and disability. About 11.6 million people suffer from asthma related symptoms in Bangladesh (Mamun et al., 2016) whereas 15 to 20 million people are asthmatics in India (Burke et al., 2003). However, there are about 3 million asthmatics in Japan. Mortality among Bangladeshi asthmatic children is significantly higher (7.3%) than the adults (5.3%). Significant disease burden from asthma include clinical, economic and humanistic phenomena among its sufferers and their mothers (Ismaila, Sayani, & Marin, 2013). The burden of this disease to governments, health care system, families, Parents and patients is increasing worldwide (Gopal & Rai, 2016). Maternal stress can be defined as excess anxiety and tension specifically related to the role of a parent and to parent-child interactions (Rio, 2010; Sales, Fivush, & Teague, 2008). **Objective:** To identify the elements influence related to quality of life among mothers of children with Asthma in Bangladesh. **Methodology:** A descriptive exploratory study design was used to assess the relationship between elements influence related life style among parents with asthma patients in Bangladesh. The populations of the study were all mothers of asthmatic child from outpatient department in National Institute of Diseases of the Chest & Hospital, Dhaka, Bangladesh.

A total 132 mothers were considered as eligible subjects who agreed to complete questionnaire of this study. A 3 set of structure interview questionnaire were used for the present study. Data were collected from July, 2010 to January, 2021. The collected data were analyzed using SPSS version 23 and the editing and cleaning of data were performed as well. **Results:** The study was a descriptive exploratory study in nature hat was carried out from July, 2020 to January, 2021 at outpatient department in National Institute of Diseases of the Chest & Hospital, Dhaka, Bangladesh. The study aimed to assess the relationship between factors related to the life style among parents with Asthma patients in Bangladesh. A total number of 132 mothers of asthmatic children participated in the present study. Result of the present study indicates that mothers of children with asthma had higher level of maternal stress and poor life style. The findings of this study may provide information for the pediatric nurses in decreasing maternal stress. Nurses can incorporate healthy behaviors into their everyday discussions about well-being with patients and their families. **Conclusion:** The study was a descriptive exploratory study in nature hat was carried out from July, 2020 to January, 2021 at outpatient department in National Institute of Diseases of the Chest & Hospital, Dhaka, Bangladesh. The study aimed to assess the relationship between factors related to life style among parents with Asthma patients in Bangladesh. A total number of 132 mothers of asthmatic children participated in the present study. Result of the present study indicates that mothers of children with asthma had higher level of maternal stress and poor life style. The findings of this study may provide information for the pediatric nurses in decreasing maternal stress. Nurses can incorporate healthy behaviors into their everyday discussions about well-being with patients and their families.

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## I. INTRODUCTION

### 1. Background

According to World Health Organization (WHO, 2013) asthma is the most common chronic disease of childhood and in the latter part of the 20th century, reached epidemic proportions. Globally, estimated 235 million people are currently suffering from asthma & approximately 383000 deaths occurred due to asthma in 2015 (WHO, 2016). The prevalence of asthma has increased in recent decades and is today one of the leading chronic diseases in the world, affecting children of all ages, social classes, and ethnic groups (Perosa, Amato, Rugolo, Ferrar, & Oliveira, 2013). In Bangladesh, Asthma is one of the leading causes of death and disability. About 11.6 million people suffer from asthma related symptoms in Bangladesh (Mamun et al., 2016) whereas

15 to 20 million people are asthmatics in India (Burke et al., 2003). However, there are about 3 million asthmatics in Japan. Mortality among Bangladeshi asthmatic children is significantly higher (7.3%) than the adults (5.3%). Significant disease burden from asthma include clinical, economic and humanistic phenomena among its sufferers and their mothers (Ismaila, Sayani, & Marin, 2013). The burden of this disease to governments, health care system, families, Parents and patients is increasing worldwide (Gopal & Rai, 2016).

Maternal stress can be defined as excess anxiety and tension specifically related to the role of a parent and to parent-child interactions (Rio, 2010; Sales, Fivush, & Teague, 2008). Asthma like other chronic diseases is a stressful condition not only for the children but also for parents. The family's way of coping influences the child's adherence to treatment (Gopal & Rai, 2016) and has a critical role in the quality of life of the child. Mothers of children with asthma exhibit a great amount of stress which may include stress related to the child's characteristics, particularly physical problem and long term care with environment. The skills of the family to adapt the multiple demands of a child with a chronic illness do not only depend on the severity of the condition, but on the mother's ability to assess and react to stressors (Sales, Fivush, & Teague, 2008). Mothers can influence children's social, emotional, and academic adjustment; efforts have been made to determine factors that affect parenting behavior (GINA, 2014).

Life style is defined as the perception that individuals have their position in life, in the context of the culture and system of values in which they live and in relation to their objectives, expectations, standards, and concerns (Gopal & Rai, 2016). It is an essential component in the assessment of the patient's health status, his response to treatment, and progression of the condition (Rio, 2005). The first attempts to assess quality of life of children were taken from parent's perception by considering the children's enabling to assess their gains and losses (Rio, 2005). Quality of life in healthcare represents the patients' perception regarding their disease, symptoms, and functional, psychological, and social status (Ungar, Mirabelli, Cousins, & Boydell, 2006).

There were some studies focused on maternal stress of children with asthma. However, little attention was given to explore the relationship between life style and maternal stress of mothers among asthma children. It was necessary to know about the factors related to life style among mothers of asthma children in Bangladesh. In addition, there was no previous similar nursing research in Bangladesh. Therefore, the researcher is interested to study this phenomenon. It is expected that mothers of asthmatic children who also led better quality of life and their children who have sound physical condition as well as reduced stress. The findings of the study that provide information to nurses in decreasing maternal stress of mothers of children with asthma.

## **2. Objectives**

### **General Objective**

To identify the elements influence related to the life style among parents with Asthma patients in Bangladesh.

### **Specific Objectives**

1. To describe demographic and disease related characteristics among mothers of children with Asthma
2. To describe maternal stress and maternal life style among mothers of children with Asthma
3. To examine the relationship between demographic and disease related characteristics, maternal stress and maternal life style among mothers of children with Asthma

## **II. LITERATURE REVIEW**

The purpose of this literature review is to look at research related to elements influencing the life style among parents with asthma patients in Bangladesh. A literature review was conducted by using the Google scholar & Pub Med. Hand searches also were undertaken to relevant journals identified by the electronic search. This chapter includes- current situation of Asthma (concept, incidence, impact, disease severity), maternal stress, maternal quality of life, studies related to maternal stress and maternal quality of life.

### **1. Current Situation of Asthma patients**

A study from icddr,b reported that 16.1% prevalence of wheezing in last 12 months among children of 60 to 71 months. Another study in urban and rural schools of Dhaka district showed 9.1% prevalence of wheezing among children of 6-7 years and 6.1% among children of 13-14 years (Walker et al., 2008). The first national survey on asthma prevalence (NAPS-1999) in Bangladesh reported that more than 5% of the total populations (7.5%) of 1-5 year old children were suffering from asthma. The report also indicated that the prevalence was higher in children of low-income, poorly educated rural and sub-urban groups compared to those from urban families. A more recent study revealed 3% greater prevalence of childhood asthma in coastal region compared to that of Dhaka city. Asthma prevalence increase from 7.3percent in 2001 to 8.4percent in 2010, when 25.7 million people had asthma for the period 2008-2010 in the United States.

The prevalence of asthma among Bangladeshi children like India and Pakistan remains lower than the developed countries. Mortality among Bangladeshi children is significantly higher (7.3%) than the adults (5.3%)

(Hassan, Luthful, & Mahmud, 2016). Asthma related emergency department (ED) visits and hospitalizations are also more common among children than adults (Mullen, 2005). In 2004, children accounted for over 754000 ED visits, 198000 hospitalizations, 7 million outpatient visits, and 12.8 million missed school days due to asthma (CDC, 2006). According to the Centers for Disease Control and Prevention's National Health Interview Surveys, some 9% of US children below 18 years of age had asthma in 2001, compared with just 3.6% in 1980. According to the CDC, more than 22 million Americans, including 6.5 million children under 18, suffer with asthma today. Allergens are strongly linked to asthma and to other respiratory diseases such as chronic sinusitis, middle ear infections, and nasal polyps. Most interestingly, a recent analysis of people with asthma showed that those who had both allergies and asthma were much more likely to have night time awakening due to asthma, miss work because of asthma, and require more powerful medications to control their symptoms (Kambli, 2012).

Asthma is a heterogeneous chronic inflammatory disease characterized by recurrent episodes of wheezing, dyspnoea, chest tightness, and cough that are very common in children and adolescents (Pneumol, 2012). Asthma is a chronic inflammatory disease of the lower airways of the lungs in which various triggers cause narrowing which leads to difficulty of breathing. These changes commonly occur in response to changes in the environment including weather, allergens, foods, or respiratory infections (cold) (GINA, 2014). Asthma has a multifactorial etiology characterized by the diversity of symptoms and the most common manifestation is the recurrent respiratory problem (Ismaila, Sayani, & Marin, 2013). The clinical burden is associated with the high rates of healthcare resource utilization among asthma patients during hospitalizations, emergency department, physician visits, and prescription medication use. Children with recurrent cough, wheezing, chest tightness or shortness of breath may have one or more forms of asthma (Ismaila, Sayani, & Marin, 2013). Children have smaller airways than adults which makes asthma more serious for them. Both symptoms and airflow limitations characteristically vary over time and intensity. These variations are triggered by influencing elements such as exercise, allergen or irritant exposure, but may be minimized with treatment (Boulet, 2015).

Asthma impacts on the child, caregiver and society to varying degrees. Some miss school, not being able to participate in certain activities or work due to their asthma or in order to care for a child with asthma such as impairment on physical, psychological or social wellbeing, and tend to be more pronounced when the sufferer has severe or poorly controlled asthma (Ahmed, Ulonnam, & Mohammed, 2011). In asthma patients, self care management is crucial for disease control which has a positive impact on patient quality of life (Elbur et al., 2017). For the economic burden with financial impact, nearly 56 billion dollars are used up per year, representing lost wages, medical costs, missed work and school, and early death resulting from asthma (Ismaila, Sayani, & Marin, 2013). The consequence of asthma not only causes physical, but it also causes a strong emotional impact, associated with school absenteeism, social constraints, stress, affective disorder, depression, insomnia, and negative social perceptions, which end up changing the quality of life of children and their families (Sales, Fivush, & Teague, 2008).

Asthma severity can affect the life style of asthmatic children and their family members. Life style appears to be directly related to asthma control and asthma severity in children and adolescent, being better when asthma is well controlled and asthma severity is lower (Matsunaga et al., 2015). Traditionally, asthma severity has been divided into three categories: mild, moderate, and severe (Walker et al., 2008). According to (Sales et al., 2008) severity of asthma and recent family stressors showed that mothers who used more active ways of coping to solve problems had children with lower anxiety and better quality of life than avoidance strategies. Severity of illness was associated with poorer quality of life in related factors tend to lay additional physical, psychological, social and environmental burden on the family significantly reducing their quality of life (Walker et al., 2008). Asthma interventions help families focusing on gaining and maintaining low asthma severity levels to enjoy an optimal quality of life. Health care providers should try to assess the children quality of life at each asthma care visit independently of the parents (Walker et al., 2008). According to Sawyer, Spurrier, and Martin (2001), assessment of severity is generally based on various biomedical indicators, such as bronchial responsiveness and airway inflammation. Like other chronic illness, asthma can bring many new stressors into a family's life. Researchers have started to focus on the different impacts maternal stress has on children with asthma (Carson & Schauer, 1992; Chiou & Hsieh, 2008). The nature of stress has changed in recent times from an acute warning signal to a chronic strain on physiological adaptation. In Bangladesh, few studies have been conducted to estimate the burden of childhood asthma.

## **2. Maternal Life Style of Children with Asthma**

Life style is determined by individual perceptions of life positions within the context of culture, in a system of value where one lives and in the association of ideals, expectations, standards and concerns and transformations in response to disease. Quality of life in children is receiving increasing recognition as an important health outcome (Walker et al., 2008). Key individual factors associated with decreased life style in mothers corresponded to socio-demographic factors, and the personal coping skills of the mothers. These

included: Belonging to a socio-demographic group considered "high- risk" for health disparities. The examples provided in the literature included young maternal age, low-income, and certain places of residence (Cerdan, 2012; Osman, 2001). Coping mechanisms includes; specifically denial versus acceptance of their responsibilities associated with managing their child's asthma (Silva, 2015), Confidence and self-efficacy in managing their child's asthma (Carpenter, 2013; Clark, & Chalmers, 2003; Kieckhefer & Ratcliffe, 2000).

Grootenhuis et al. (2007) stated that health related quality of life refers to the specific impact of illness, injury, or medical treatment on an individual's quality of life. Varni et al. (2007) reported that children who had moderate to severe persistent asthma had lower overall quality of life, and lower physical health, psychosocial health, emotional functioning, social functioning and school functioning, compared to children with mild asthma. The key external factors associated with low mothers quality of life corresponded to those elements causing increased caregiver burden, which subsequently led to decreased quality of life. These included: Having a child with a more severe form of asthma, and the increased demands this has on the mothers (Cerdan, 2012); Having a child with poorly-controlled asthma, and managing acute asthma exacerbations (Bellin, 2013 & Silva, 2015; Walker, 2008); Having a young child with asthma, specifically preschool-aged, and the associated higher dependency on the mothers (Clark & Chalmers, 2003; Silva, 2015); Having a child with a new diagnose of asthma, and the associated discomfort and uncertainty in recognizing and responding to symptoms (Trzcieniecka-Green, 2015).

### **3. Maternal Stress of Children with Asthma**

Maternal stress has numerous effects on children, such as a negative impact on mother-child relationships, children's competence, and maternal warmth (Roberts, 1989). Wood, Miller, and Lehman (2015) reported that family and caregiver's stress are associated with pediatric asthma outcomes. Parenting stress has also been associated with poor maternal psychological adjustment, perceived loss of control, less optimal parenting, higher levels of family conflict, and poorer family functioning outcomes (Asencio, 2003; Macias, Clifford, & Saylor, 2001; McMahon, Gibson, & Leslie, 2003; Streisand, Kazak, & Tercyak, 2003). When the children have asthma, parents undergo stressful condition while taking care of children. Parents, especially mothers have to manage many daily activities to take care of children. They may undergo sleep deprivation when they first know that their children are suffering from asthma. Poor perception of asthma symptoms increases stress for parents, especially of mothers.

According to Dellve (2006) mothers and fathers experience different types of stress. Mothers were more likely to have overall high maternal stress, and physical and emotional strain, whereas fathers showed high stress as a result of feeling incompetent. Chiou and Hsieh (2008) found that higher levels of caregiver-perceived stress were associated with increased risk of repeated wheeze in infants. It is concluded that stress could significantly contribute to childhood respiratory illness & levels of emotional competence. A study of Carson and Schauer (1992) found that the mothers of children with asthma tended to be overprotective, overindulgent, and rejecting that created more stress than mothers of children without asthma.

### **4. Study Related to Maternal Stress and Life Style**

Children with asthma and their mothers examined the relationship between mothers and children's reports life style and the relationship of several elements such as asthma severity, missed day of work, and asthma education on their quality of life (Walker et al., 2008). Mothers with higher education have more knowledge about asthma and its evolution is done when symptoms appear, and how to prevent crisis, minimizing the damage to the quality of life of the child (Stephan & Costa, 2009). Maternal stress has also been shown to be correlated with demographic variables (Saitso, Salmeta-Aro, Nurmi, & Halmesm, 2008). Therefore, it could be argued that these variables may influence maternal stress which in turn influences quality of life of mothers with asthma children. Low socioeconomic level is a potential risk factor when the community had an adequate structure of health care, had little influence on the incidence and severity of disease (Sarria et al., 2010). According to Gopal and Rai (2016) high quality of life could inhibit the maternal stress and low quality of life could facilitate the maternal stress in mothers of children with asthma. Result of the study indicates that parents of children with asthma had higher level of maternal stress and poor quality of life. According to Dellve, (2006) a fathers' level of stress in parenting a child with a chronic medical issue is limited typically to the area of perceived incompetence, while mothers experienced multiple stressors that permeated their daily life. Interventions had a positive impact in decreasing the level of stress in fathers, but only assisted in relieving the mothers' level of stress in the area of physical strain. Thus, the impact of stress in parents of children with chronic illness appears to be felt more significantly by mothers rather than fathers.

### **III. METHODS OF THE STUDY**

This chapter describes the methodology used to examine the elements influence related to life style among parents with asthma patients in Bangladesh. It consists of a description of the research design, population and setting, sample and sampling techniques, instrumentation- validity and reliability of instrument, ethical consideration- exclusion & inclusion criteria, data collection methods, and data analysis.

#### **1. Study Design**

A descriptive exploratory study design was used to assess the relationship between elements influence related life style among parents with asthma patients in Bangladesh.

#### **2. Study Participants**

The populations of the study were all mothers of asthmatic child from outpatient department in National Institute of Diseases of the Chest & Hospital, Dhaka, Bangladesh. The study populations were provided necessary information which was essential to find out the answer to the research questions of this study. In Bangladesh, there are sixty four districts. This hospital is situated in the capital city of Bangladesh. The researcher chose this setting for the present study due to availability of the study participants. The participants of this study were estimated by using G- power analysis software (3.1.9.2). The sample size was calculated by an accepted minimum level of significant ( $\alpha$ ) 0.05, an expected power of 0.80 and an estimated population effect size of 0.25 as the medium effect size used in the nursing studies. Sample size was 120 and included the attrition rate 10% of total sample size 132 of mothers (Faul, Erdfelder, Buchner, & Lang, 2009). A convenience sampling technique was used to select the study participants. The inclusion criteria for selecting eligible subject are: confirmed diagnosis of asthma, children with asthma aged 1-14 years and their mothers, free from any other chronic diseases, children with asthma in outpatient department visit in a selected hospital, and who were cognitive intact. The exclusion criteria are: Patients with other diagnosis, and mothers who refused to participate in the study were excluded from this study.

#### **3. Instruments**

A 3 set of structure interview questionnaire were used for the present study. Its included (1) Demographic Data Questionnaire (DDQ), (2) Maternal Stress Scale Questionnaire (MSSQ), and (3) Maternal Quality of Life Questionnaires (MQoLQ). The validity of the instruments was assessed by three experts. The experts verified each questionnaire for its appropriateness in academic and health field.

Demographic Data Questionnaire (DDQ): The Socio-demographic characteristics questionnaire consists of mothers- age, religion, occupation, income, educational level, family type, family members, residence, and living status and for children-age, sex. It consists of 11 items questionnaire (9 items for mothers and 2 items for children) and disease related 9 items questionnaire regarding children with asthma related information.

Maternal Stress Scale Questionnaire (MSSQ): Maternal stress was measured by the maternal stress scale. It was developed by researcher based on literature reviewed. Maternal stress scale consists of 15 items. A 5 - point likert type scale regarding from 1 being "not at all" and 5 being "extremely". The maximum score is 75 and higher score indicate higher maternal stress. The reliability of correlation coefficient of the maternal Stress Scale was .77 Cronbach's alpha of this study.

Maternal Life Style Questionnaire (MLSQ): Maternal life style was measured by the maternal quality of life scale. It was developed by the researcher. Maternal life style scale consists of 15 items. A 5-point likert type scale ranging from 1 being "strongly agree" and 5 being "strongly disagree". The maximum total score for the maternal quality of life is 75 and higher score reflect a poor quality of life. The reliability of correlation coefficient of the maternal quality of life was .74 Cronbach's alpha of this study.

The researcher explained the study's objective, benefit, confidentiality and method of data collection to the authority and study participants. It was explained that study participants role that be as volunteer and they can withdraw these focus the study any time they wish. Subjects' autonomy and confidentiality was strictly maintained. The researcher received written permission for data collection from the authority and verbally from participants from the respective hospital in Bangladesh. Participation was voluntary and anonymity was guaranteed. 132 mothers were considered as eligible subjects who agreed to complete questionnaire of this study. The data were kept in a locked cabinet.

#### **4. Data Collection**

After obtaining permission from the hospital authority, the purpose of the study was explained to the participants. The researcher took verbal and written consent from the subjects who agreed to participate in this study and then data were collected through face to face interview by using structured questionnaire. Data were collected from July, 2010 to January, 2021.

**5. Data Analysis**

The collected data were analyzed using SPSS version 23 and the editing and cleaning of data were performed as well. Data were analyzed using descriptive and inferential statistics. Descriptive statistics such as mean, frequency, percentage, range, and standard deviation were used to describe the demographic and disease related characteristics of the study subject and study variables. T-test, ANOVA and Pearson's product moment correlation (r) test were used to examine the relationship between characteristics of mothers and their children's, maternal stress & quality of life among mothers of children with asthma.

**IV. RESULTS**

This descriptive exploratory research aimed to identify the elements influence related to life style among parents with asthma patients in Bangladesh. Participants included 132 mothers whose children's are of 1-14 years old from outpatient department in National Institute of Diseases of the Chest & Hospital (NIDCH), Dhaka, Bangladesh from July 2020 to January 2021. The study results were presented in four parts as follows

**Demographic Characteristics and Disease Related Characteristics of Mothers and their Children with Asthma**

**Table 1** showed the demographic and disease related characteristics of mothers and their children. The mothers' mean age was 28.98(SD=6.00) years ranged (19-48). Mother's educational level of 45.5% was up to primary school, and of occupation 72.0 % mothers were housewife, and 84.1% were Muslim. Family income mean was 16049.24(SD=8988.51) ranged (2500–70000). The majority (87.9%) live in nuclear family. Number of family members mean was 4.70(SD=1.49). Living status (65.2%) were urban, types of residence 36.4% live in building. Children's age mean was 5.77(SD=3.97) years ranged (1-14), children's more than 56.1% were male and disease related characteristics of children's average duration of illness (asthma) mean was 4.20 (SD=3.40), the average duration of treatment mean was 4.03(SD=3.35). In case of Children's types of treatment, more than 62.1% were nebulization, had no family history of treatment 66.7%, history of allergy 54.5% were dust. The mean time was 2.49 (SD=2.85) for the last 2 weeks children's had wheezed. The mean time was 1.98 (SD=2.08) for the last 6 months mother had took their children's to the emergency room. The mean time was 0.21 (SD=0.46) for the last 6 months mothers had been hospitalized due to their children's with asthma. The mean time was 2.20 (SD=3.56) for the last 2 weeks mothers had been nights awakened due to their children's with asthma.

**Table1. Demographic and Disease Related Characteristics of Mothers and their Children (N = 132)**

Items	Categories	n	%	M (SD)
Mothers				
Age				28.98 (6.00)
Education level				
	Primary school	60	45.5	
	Secondary school	40	30.3	
	Others	32	24.2	
Occupation				
	Housewife	95	72.0	
	Others	37	28.0	
Religion				
	Muslim	111	84.1	
	Others	21	15.9	
Family income				16049.24(8988.51)
Types of family				
	Nuclear	116	87.9	
	Joint family	16	12.1	
Number of family members				4.70 (1.49)
Living Status				
	Rural	46	34.8	
	Urban	86	65.2	
Types of residence				
<b>Table 1(cont')</b>				
Items	Categories	n	%	M (SD)
	Katcha	39	29.5	
	Building	48	36.4	
	Half building	45	34.1	

Children			
Age in years			5.77(3.97)
Sex			
	Male	74	56.1
	Female	58	43.9
Duration of illness(asthma)			4.20(3.40)
Duration of treatment			4.03(3.35)
Types of treatment			
	Medication	50	37.9
	Nebulization	82	62.1
Family history of treatment			
	Yes	44	33.3
	No	88	66.7
History of allergy			
	Dust	72	54.5
	Others	60	45.5
Times of your children had wheezed in last 2 weeks			2.49 (2.85)
Times in the last 6 months mothers had took to the Emergency room because of their children Asthma			1.98(2.08)
Times in the last 6 months mothers had been hospitalized because of their children Asthma			0.21(0.46)
Last 2 weeks mothers had been nights awakened due to their children Asthma			2.20 (3.56)

**Distribution of Maternal Stress**

**Table 2** shows distribution of maternal stress. The total maternal stress scale mean was 3.37 (SD=0.58). The majority of mothers had highest score in higher maternal stress. The total item was 15 out of total score 75. Mothers answered extremely maternal stress this item number and they had higher stress (6) and regarding item “watching my child had trouble eating” mean score was 4.18 (SD=1.05) and mothers answered not at all maternal stress this item number (11) and they had lowest stress “talking with the nurse was difficult” mean score was 1.27 (SD=0.5).

**Table 2 Distribution of Maternal Stress (N = 132)**

Items	Not at all	A little	Some what	Very much	Extremely	M (SD)
	(1) n(%)	(2) n(%)	(3) n(%)	(4) n(%)	(5) n(%)	
Difficulty Sleeping	6 (4.5)	11 (8.3)	23 (17.4)	42 (31.8)	50 (37.9)	3.90(1.14)
Bringing my child to the clinic or hospital is difficult	10 (7.6)	6 (4.5)	26 (19.7)	49 (37.1)	41 (31.1)	3.80(1.16)
learning upsetting news is stressful	4 (3.0)	18 (13.6)	24 (18.2)	47 (35.6)	39 (29.5)	3.75(1.11)
Being unable to go to work	22 (16.7)	24 (18.2)	21 (15.9)	31 (23.5)	34 (25.8)	3.23(1.44)
Speaking with doctor is difficult	91 (68.9)	19 (14.4)	11 (8.3)	6 (4.5)	5 (3.8)	1.60(1.07)
Watching my child have trouble eating	6 (4.5)	5 (3.8)	11 (8.3)	47 (35.6)	63 (47.7)	4.18(1.05)
Having money/ financial troubles is difficult	13 (9.8)	7 (5.3)	14 (10.6)	23 (17.4)	75 (56.8)	4.06(1.33)

Table 2 (cont’)

Items	Not at all	A little	Some what	Very much	Extremely	M (SD)
	(1) n(%)	(2) n(%)	(3) n(%)	(4) n(%)	(5) n(%)	
Feeling confused about medical information	15 (11.4)	5 (3.8)	15 (11.4)	70 (53.0)	27 (20.5)	3.67(1.18)
Being with my child during medical procedures	8 (6.1)	21 (15.9)	24 (18.2)	49 (37.1)	30 (22.7)	3.55(1.18)

Knowing my child is hurting or in pain	5 (3.8)	20 (15.2)	15 (11.4)	51 (38.6)	41 (31.1)	3.78(1.15)
Talking with the nurse is difficult	105 (79.5)	20 (15.2)	6 (4.5)	1 (0.8)	-	1.27(0.59)
Making decisions about medical care or medicines is difficult	12 (9.1)	4 (3.0)	10 (7.6)	62 (47.0)	44 (33.3)	3.92(1.16)
Worrying about the long term impact of the illness	11 (8.3)	23 (17.4)	21 (15.9)	36 (27.3)	41 (31.1)	3.55(1.31)
Having little time to take of my own needs	30 (22.7)	37 (28.0)	13 (9.8)	26 (19.7)	26 (19.7)	2.86 (1.47)
Feeling helpless about my child condition	4 (3.0)	32 (24.2)	23 (17.4)	47 (35.6)	26 (19.7)	3.45(1.15)
Total	Mean 3.37(SD=0.58)					

**Distribution of Maternal of Life style**

**Table 3** shows distribution of maternal life style. The total maternal life style scale mean was 2.65(SD=0.50). The majority of mother’s had highest score showed in poor quality of life. The total item was 15 out of total score 75. Mothers answered agree maternal quality of life this item number (2) and they had reversed (likert point 2) that means poor quality of life and regarding item i had often awakened during the night mean score was 2.10(SD=1.25) and mothers answered strongly disagree maternal quality of life this item number (14) and they had reversed better quality of life with it bothered me because of my children asthma interfered with family relationship mean score was 4.11 (SD=1.29).

**Table3. Distribution of Maternal life style (N = 132)**

Items	Strongly disagree (1) n(%)	Disagree (2) n(%)	Undecided (3) n(%)	Agree (4) n(%)	Strongly agree (5) n(%)	M(SD)
I have sleepless night due to my child asthma	8 (6.1)	19 (14.4)	1 (0.8)	58 (43.9)	46 (34.8)	2.13(1.21)
I have often awakened during the night	9 (6.8)	18 (13.6)	1 (0.8)	53 (40.2)	51 (38.6)	2.10(1.25)
My child asthma interfere with my work	14 (10.6)	33 (25.0)	5 (3.8)	43 (32.6)	37 (28.0)	2.58(1.40)
I am frustrated or impatient due to my child is irritability	4 (3.0)	22 (16.7)	13 (9.8)	57 (43.2)	36 (27.3)	2.25(1.12)

Table 3 (cont’)

Items	Strongly disagree (1) n(%)	Disagree (2) n(%)	Undecided (3) n(%)	Agree (4) n(%)	Strongly agree (5) n(%)	M(SD)
I feel angry that my child has asthma	5 (3.8)	16 (12.1)	15 (11.4)	67 (50.8)	29 (22.0)	2.25(1.05)
I am undue a financial strain	8 (6.1)	25 (18.9)	5 (3.8)	51 (38.6)	43 (32.6)	2.27(1.27)
It bothers me, that my daily routine is altered	14 (10.6)	21 (15.9)	17 (12.9)	57 (43.2)	23 (17.4)	2.59(1.25)
I feel under increased mental strain	16 (12.1)	28 (21.2)	28 (21.2)	40 (30.3)	20 (15.2)	2.85(1.26)
I am worried about my child asthma medication and side effects	11 (8.3)	28 (21.2)	10 (7.6)	46 (34.8)	37 (28.0)	2.47(1.32)
The need to manage my child chest pain is overwhelming	15 (11.4)	37 (28.0)	16 (12.1)	33 (25.0)	31 (23.5)	2.79(1.38)
I have developed a closer relationship with my asthmatic child	13 (9.8)	25 (18.9)	27 (20.5)	46 (34.8)	21 (15.9)	3.28(1.22)
I feel adequately informed about my child illness	17 (12.9)	32 (24.2)	38 (28.8)	32 (24.2)	13 (9.8)	2.94(1.18)
I am satisfied with support that I get from my family	31 (23.5)	32 (24.2)	7 (5.3)	48 (36.4)	14 (10.6)	2.86(1.40)

Table 3 (cont’)

Items	Strongly disagree (1) n(%)	Disagree (2) n(%)	Undecided (3) n(%)	Agree (4) n(%)	Strongly agree (5) n(%)	M(SD)
It bothered me because of my child asthma interfered with	73 (55.3)	31 (23.5)	9 (6.8)	7 (5.3)	12 (9.1)	4.11(1.29)



family relationship						
I am worried about my child	4	25	8	57	38	2.24(1.15)
being able to lead a normal life	(3.0)	(18.9)	(6.1)	(43.2)	(28.8)	
Total		Mean 2.65(SD=0.50)				

**Relationship among Demographic and Disease Related Characteristics, Maternal Stress, and Maternal Life style of Mothers and their Children with Asthma**

**Table 4** illustrated bivariate analysis by using T-test, ANOVAs and correlations. There was a statistically significantly related among characteristics of mothers and their children, maternal stress, and maternal quality of life. There was a significant difference between mothers occupation and maternal stress ( $t=-3.02$ ,  $p=0.003$ ) and maternal quality of life ( $t=4.46$ ,  $p<0.001$ ). There was a significant relationship between disease related characteristics of children and maternal stress. There was a significant relationship between duration of treatment that last 6 months mothers had been hospitalized due to their children’s asthma, last 2 weeks, mothers had been awakened in night due to their children’s asthma with maternal stress ( $r=0.17$ ,  $p=0.05$ ), ( $r=0.20$ ,  $p=0.02$ ), and ( $r=0.17$ ,  $p=0.05$ ) respectively. There was a statistically significantly highly negative relationship between maternal stress and maternal quality of life ( $r=-0.71$ ,  $p<0.001$ ). While no statistical relationship was observed between characteristics of children’s, maternal stress and maternal quality of life of mother age, religion, residence, education, family income, family types, family members, living status and child age, sex, duration of illness, types of treatment, family history of treatment, history of allergy, children’s had wheezed in last 2 weeks, for 6 months mothers had taken their children’s to the emergency room because of their asthma.

**Table 4. Relationship among Demographic and Disease Related Characteristics, Maternal Stress, and Maternal Quality of Life of Mothers and their Children with Asthma (N =132)**

Items	Categories	n (%)	Maternal Stress		Maternal Quality of Life	
			M(SD)	t/ F/r(p)	M(SD)	t/ F/r(p)
Mothers						
Age				0.04 (0.61)		-0.06 (0.44)
Education level				0.08 (0.93)		0.11 (0.90)
	Primary school	60(45.5)	3.36 (0.5)		2.66 (0.48)	
	Secondary school	40(30.3)	3.36 (0.62)		2.64 (0.50)	
	Others	32(24.2)	3.41 (0.66)		2.61 (0.54)	
Occupation				-3.02 (.003)		4.46 (<0.001)
	Housewife	95(72.0)	3.28 (0.56)		2.76 (0.49)	
	Others	37(28.0)	3.61 (0.58)		2.36 (0.39)	
Table 4 (cont’)						
Items	Categories	n (%)	Maternal Stress		Maternal Quality of Life	
			M(SD)	t/ F/r(p)	M(SD)	t/ F/r(p)
Religion				-0.79 (0.43)		0.85 (0.40)
	Muslim	111(84.1)	3.35 (0.57)		2.66 (0.50)	
	Others	21(15.9)	3.46 (0.61)		2.56 (0.48)	
Family income				-0.03 (0.77)		0.03 (0.71)
Types of family				0.40 (0.70)		0.08 (0.94)
	Nuclear	116(87.9)	3.38 (0.59)		2.65 (0.49)	
	Joint family	16(12.1)	3.32 (0.62)		2.64 (0.56)	
Number of family members				-0.04 (0.65)		0.005 (0.96)
Living Status				0.98 (0.33)		-0.54 (0.59)
	Rural	46(34.8)	3.44 (0.50)		2.61 (0.49)	
	Urban	86(65.2)	3.33 (0.62)		2.66 (0.51)	

Types of residence			2.13 (0.12)	1.40 (0.25)
Katcha	39(29.5)	3.40 (0.51)	2.63 (0.53)	
Building	48(36.4)	3.24 (0.64)	2.74 (0.49)	
Half building	45(34.1)	3.48 (0.56)	2.56 (0.47)	

Table 4 (cont')

Items	Categories	n (%)	Maternal Stress		Maternal Quality of Life	
			M(SD)	t/ F/r(p)	M(SD)	t/ F/r(p)
Children						
Age in years				0.03 (0.77)		-0.008 (0.93)
Sex				1.09 (0.28)		-1.80 (0.08)
	Male	74(56.1)	3.42 (0.63)		2.58 (0.50)	
	Female	58(43.9)	3.31 (0.51)		2.73 (0.48)	
Disease Related						
Duration of illness				0.15 (0.08)		-0.11 (0.20)
Duration of treatment				0.17 (0.05)		-0.11 (0.21)
Types of treatment						
	Medication	50(37.9)	3.28 (0.58)		2.67 (0.50)	
	Nebulization	82(62.1)	3.43 (0.57)		2.63 (0.50)	
Family history of treatment						
	Yes	44(33.3)	3.39 (0.61)	0.27 (0.78)	2.67 (0.47)	0.42 (0.68)
	No	88(66.7)	3.36 (0.57)		2.63 (0.51)	

Table 4 (cont')

Items	Categories	n (%)	Maternal Stress		Maternal Quality of Life	
			M(SD)	t/ F/r(p)	M(SD)	t/ F/r(p)
History of allergy						
	Dust	72(54.5)	3.33 (0.58)	-0.84 (0.40)	2.70 (0.49)	1.29 (0.20)
	Others	60(45.5)	3.42 (0.58)		2.58 (0.51)	
Times of children had wheezed in last 2 weeks						
	Times in the last 6 months mothers had been taken to the emergency room due to their children asthma			-0.08 (0.36)		0.07 (0.43)
	Times in the last 6 months mothers had been hospitalized due to their children asthma			0.13 (0.15)		-0.15 (0.09)
	Times in the last 2 weeks mothers had been nights awakened due to their children asthma			0.20 (0.02)		-0.12 (0.16)
				0.17 (0.05)		-0.15 (0.08)
<b>Maternal stress</b>						<b>-0.71 (<math>&lt;0.001</math>)</b>

## V. DISCUSSION

The results of the present study showed that there was a statistically significant relationship between demographic and disease related characteristics of mothers occupation, children's duration of treatment, as for last 6 months mothers had been hospitalized due to their children asthma, and for last 2 weeks mothers had been nights awakened due to their children asthma and maternal stress and maternal quality of life. These results were

similar to other studies (Chiou et al., 2008; Frank et al., 1991; Hassan, 2016; Mullins et al., 2007; Saitso, Salmeta-Aro, Nurmi, & Halmesm, 2008; Sawyer et al., 2000).

The mother's occupation was significantly related to maternal stress and maternal quality of life. There was a statistically significantly relationship between maternal occupation and maternal stress ( $p=0.003$ ) and maternal quality of life ( $p<0.001$ ). The present study showed that majority of the mothers were more housewife they had more maternal stress that then led to poor maternal quality of life. Possible reasons were that housewife mothers had a significant impact on factors related to quality of life of mothers and their children with asthma. These results also were inconsistent with the study of (Hassan, 2016; Perosa et al., 2013).

There was a significantly relationship between disease related characteristics of children and maternal stress. Children's duration of treatment was related to maternal stress ( $p=0.05$ ). Present study also found that children who had more duration of treatment due to their asthma their mothers suffered more stress. Present study results also showed that children's average duration of treatment mean was (4.03) which was relevant with other study maximum duration of suffering from asthma for 10 years with a mean of (4.4) years and a standard deviation of (2.3) years conducted by Hassan, (2016).

In this study significantly relationship between disease related characteristics of children last 6 months mothers had been hospitalized due to their children asthma and maternal stress ( $p=0.02$ ). Results also indicated that mothers who had repeated hospitalized their children because of asthma they had more maternal stress. Similarly, Frank et al., (1991) found that severity was related to parental stress in mothers of children with a history of acute illness. These stresses include more role restriction, more social isolation, and more health problems.

There was a significant relationship between disease related characteristics of mothers nights awakened for last two weeks due to their children asthma and maternal stress ( $p=0.05$ ) which indicated that mothers awakened in nights for more time their children asthma they had more maternal stress. This was consistent with another study related to health outcomes that included number of days the child wheezed and number of nights the child was awakened by coughing due to their asthma over the last two weeks prior to their clinic visit. These health outcomes were chosen because they have been shown to be strong indicators of asthma severity conducted by National Asthma Education and Prevention Program, (2007). Study of Chiou et al., (2008) who have reported the high level of parenting stress in parents of children with asthma. Studies on adolescents, have reported that parents of children with severe asthma had higher level of parental stress. They reported difficulty in sleeping, night awakening and being stressed by watching their child during medical visits/ procedures.

There was a significantly negative relationship between maternal stress and maternal life style ( $r=-0.71$ ,  $p<0.001$ ). Finally, this study found that mothers who had higher stress regarding their children were suffering asthma they had poor maternal quality of life. Similarly, Mullins et al., (2007) found that parental stress predicted child illness uncertainty. If there is an association between parenting stress and illness uncertainty, it is reasonable to assume that there would be associations between parenting stress and life style.

Study showed maternal stress and maternal life style. The total maternal stress scale mean was (3.37) and in the results, the majority of mothers had higher level of maternal stress. Relevant study of Saitso, Salmeta-Aro, Nurmi, & Halmesm, (2008) found that these variables actually influence parental stress which in turn influences health related quality of life. Parents of adolescents with more severe asthma symptoms reported higher levels of parental stress. This suggests that as the adolescent's asthma severity increases, parents become more stressed. The total maternal quality of life scale mean was (2.65). The majority of mothers had highest score indicated the poor quality of life. Sawyer et al., (2000) examined health-related quality of life in 236 children with asthma and compared them to other children in the same community. The influences of family function, demographics, and severity on quality of life were studied. They found that asthmatic children had worse quality of life than healthy children in their community.

Results also revealed that there was no statistically significant relation among characteristics of mother age, educational level, religion, family types, living status, residence, and child age, types of treatment, family history of treatment, history of allergy, duration of illness, last 6 months mother had took their child's to the emergency room because of their asthma. In those results can influence the maternal stress and maternal and life style among parents with asthma patients . The results may have been due to an absence of up to date data regarding maternal stress and maternal quality of life. This specific relationship has not been previously studied in the literature that making this study important.

#### **LIMITATION OF THE STUDY:**

There were some limitations in the present study. The sample size was selected conveniently from only one tertiary specialized hospital. Thus, the result may not be generalizable to the mothers of children with asthma admitted at secondary and primary level hospitals. Another limitation was that the researcher did not get permission from the original author of maternal life style scale due to language. Therefore, maternal life style scale was developed by the researcher based on the literature review. This may influence the present study

findings. Data were collected only NIDCH in Dhaka city that does not represents whole situation all over Bangladesh. The probable drawback of this study was that we collected limited data due to lack of fund. To conduct this type of research work, whether in this area or any other part of the country, good financial support is more essential, and in this case, findings will be more specified and versatile.

## VI. CONCLUSION AND RECOMMENDATIONS

### 1. Conclusion

The study was a descriptive exploratory study in nature that was carried out from July, 2020 to January, 2021 at outpatient department in National Institute of Diseases of the Chest & Hospital, Dhaka, Bangladesh. The study aimed to assess the relationship between elements influences the life style among parents with Asthma patients in Bangladesh. A total number of 132 mothers of asthmatic children participated in the present study. Result of the present study indicates that mothers of children with asthma had higher level of maternal stress and poor life style. The findings of this study may provide information for the pediatric nurses in decreasing maternal stress. Nurses can incorporate healthy behaviors into their everyday discussions about well-being with patients and their families.

### 2. Recommendations

Future studies should be carried out covering to have larger and more diverse population using the same instruments for the validity and reliability of data. Further intervention study should consider other types of stressors that may contribute to child or care giving stress and subsequently impact child asthma outcomes in their families. Future qualitative study is needed to examine the in depth experiences of mothers of children with asthma. Data were collected only NIDCH in Dhaka city that does not represents whole situation all over Bangladesh, so next researcher will ensure others hospital condition.

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