

**LEVEL OF DEPRESSION OF MOTHERS OF CHILDREN WITH  
AUTISM SPECTRUM DISORDERS**



By  
**Nurun Nahar**

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Bachelor of Science in Occupational Therapy  
**Bangladesh Health Professions Institute (BHPI)**  
Faculty of Medicine  
**University of Dhaka**

Study Completed by:  
**NurunNahar**  
4<sup>th</sup> year, B.Sc. in Occupational Therapy

.....  
**Signature**

Study Supervisor's name, designation and signature:  
**Sk. Moniruzzaman**  
Assistant Professor and Acting Head of the Department  
Department of Occupational Therapy  
BHPI, CRP-Chapain, Savar, Dhaka-1343

.....  
**Signature**

Head of department's name, designation and signature:  
**Nazmun Nahar**  
Assistant Professor and Head of the Department  
Department of Occupational Therapy  
BHPI, CRP-Chapain, Savar, Dhaka-1343

.....  
**Signature**

## **Statement of Authorship**

Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis presented by me for any other degree or diploma or seminar.

No person's work has been used without due acknowledgement in the main text of the thesis.

This thesis has not been submitted for the award of any other degree or diploma in any other tertiary institution.

The ethical issue of the study has been strictly considered and protected. In case of dissemination of the findings of this project for future publication, research supervisor will highly concern and it will be duly acknowledged as undergraduate thesis.

Signature: ..... Date.....

**Nurun Nahar**

4th year, B.Sc. in Occupational Therapy

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## Abstract

**Background:** Depression is the most common disorders of mothers of children with Autism Spectrum Disorders. The problems associated with an autistic child are especially difficult for mothers, who are often the primary caregiver's. The aim of this study was to find out the level of depression of mothers of children with ASD.

**Objectives of the study:** The first objective was to identify the association between the level of depression and demographic characteristics of mothers of children with Autism Spectrum Disorder. The second objective was to identify the most common depressive symptoms of these mothers, and the third was to discover the prevalence of depression among mothers of children with ASD.

**Methodology:** This study was conducted by the quantitative research with a cross-sectional design and convenience sampling. Data was collected by using standard questionnaire (Depression Scale). Data was processed by using SPSS software 17.0.

**Result and discussion:** The result shows that socio-demographic characteristics like age, area, occupation, duration of child care, number of children and income do not have any significant association with the level of depression due to P-value  $>.05$  but the educational level of the mothers had a significant association with their level of depression P -value is .034. Mothers of children with autism spectrum disorders reported the following depressive symptoms like crying 64.8%, unable to participate in academic or professional activities as used to (61%), irritability, weak and fatigue 60%, unable to participate in social activities as used to 59%, reduced the speed of work and cannot remember as before 57.1%, difficulty concentrate in many things 55.2 %, and sleep less 51.4%.The result also shows that out of 105 mothers of children with autism spectrum disorders, 42.9% had minimal depression, 19 % mild depression, 9.5% moderate and 28.6 % severe depression.

**Conclusion:** Finally this study shows that mothers of ASD children need education and proper counseling to reduce their depression .These programs will be beneficial to mothers of ASD children.

**Keyword:** *Depression, Autism Spectrum Disorders, Level of depression.*

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## **List of Acronyms**

**CRP:** Centre for the Rehabilitation of the Paralysed

**BHPI:** Bangladesh Health Professions Institute

**ASDs:** Autism Spectrum Disorders

**DS:** Depression Scale

**CDC:** Centers for Disease Control and Prevention

**DACAC:** Dream Angels Centre for Autistic Children

**SPSS:** Statistical Package for Social Science

**SD:** Standard Deviation



## **CHAPTER 1 INTRODUCTION**

Maternal stress is one of the most commonly of family life among families of children with Autism Spectrum Disorders (ASD). Mothers of children with ASD normally reported that higher level of maternal stress and higher affective symptoms than compared to parents of typically developing children and other disabilities. Maternal stress include the age of the child with Autism Spectrum Disorders (ASD) like mothers of older children show higher levels of stress than mothers of younger children and the age of diagnosis such as later diagnosis is associated with higher depression levels (Davis and Carter, 2008). Similarly, mothers of young and older children with autism spectrum disorders experience significantly higher levels of depressive symptoms (Mothers raising children with autism prone to depression, stress, 2014).

People in the U.S. look to suffer from depression at an earlier age than people in other high-income countries. The median age for the start of the disease in the U.S. was 22.7, New Zealand was 24.2, Spain and Japan had the newest average age of onset at 30 and 30.1 age. China had the earliest depressed population and the age of onset there was 18.8. All countries did share some similarities. Furthermore, round the world women were double as likely as men to have had depression. Divorce, separation, the deaths of a spouse was commonly associated with depression. But high-income countries showed the highest levels of impairment from the disorder. The World Health Organization studies found that depression to be the fourth important cause of disability worldwide (Martin, 2011).

Autism spectrum disorders (ASDs) are lifelong neurodevelopmental disabilities that begin in early stages and impair communication and social behaviors (Rezends and Scarps, 2011).Uddin and Rahman (2005) explained that depression is one of the most common disorders, the main characteristics of depression disorders are depressed mood, negative thinking and lack of enjoyment, reduced energy and slowness.

Ingersoll, Meyer and Becker (2011) showed that mothers of children with Autism Spectrum Disorder reported more depressed mood and higher parenting stress, and this higher rate of depression to the increased stress of raising a child with Autism

Spectrum Disorders. Shu and Lung (2005) also found that mothers of children with Autism Spectrum Disorders suffered from depression.

Athari, Ghaedi and Kosnin (2013) suggested that mother's depression and stress have long lasting effects on their cognitive, behavioral and health outcomes, and also emotional problems such as feeling depressed and isolated. Effects of the severity of autism among children based on the level of depression and stress among their mothers and the effect of mother's depression and stress on the importance of autism rising. High prevalence of autism among children and depression and stress among mothers associate the relationship between them.

A study by Phetrasuwan and Shandor (2009) stated that mothers' burden and stress are associated with high levels of psychological suffering and depression. Moreover, mothers of child with Autism Spectrum Disorders (ASD) is stressful because of the various symptoms associated with the syndrome like challenges in communication and learning due to problems related to emotional expression and language impairments.

The aim of this study was to find out the level of depression of mothers of children with autism spectrum disorders.

## **1.1. Background**

The World Health Organization reported that depression affects 121 million people worldwide. In the 10 higher income countries surveyed, an average of nearly 15% of the population had suffered from minimum depression after in their lives. People living in low to middle income countries reported that 11% possibility of having had the disease. At 19.2%, the U.S. had the second highest lifetime rate of depression. Only France, at 21% had a greater rate of the disease. Among the high-income countries like Japan, Germany, Italy, and Israel reported that the smallest percentages, ranging from under 7% to 10%. Likewise, China (6.5%) and Mexico (8%) had the smallest percentage of lifetime prevalence of depression and only Brazil, at 18.4%, approached the level of depression in the U.S. (Martin, 2011).

Depression is a severe condition that can impact every part of the life. It can affect social life, relationships, career, intelligence of self-confidence and purpose. Women in individual depression are common. In detail, according to the National Mental

Health Association, about one in every eight women depression at some fact during her lifetime. If the feeling sad, guilty, tired and just generally depressed in the tips may be suffering from major depression (Smith, 2014).

It is now proven that depression is a dangerous psychiatric disorder. In Bangladesh, the prevalence of depression was found to be 28.78 per thousand in a field study near Dhaka. The lifetime risk for major depressive disorder in public samples have different from 10% to 25% for women and 5% to 12% for men. According to an evaluation 34% of patients attending psychiatric treatment as outpatients at Bangabandhu Sheikh Mujib Medical University and in general practice suffer from depressive illness (Uddin and Rahman, 2005).

A Bangladesh Health Report 2013 stated that Autism is one of the most common childhood mental health conditions, affecting one in 88 children. In Bangladesh the overall mean prevalence for Autism Spectrum Disorder was 1.55/1000 (n=7280). In Dhaka city the prevalence was 30/1000, and 0.68/1000 in rural populations around Dhaka, and no child with autism was identified in Debhata, Modhupur, Pirganj, Pekua or Wazipur. So a high prevalence was noted in Dhaka city, i.e. 3% of the surveyed population, and a much lower prevalence in the rural population, i.e. 0.07%.

Besides, Mohammadi, Zarafshan and Ghasempour (2012) clarified that the prevalence of Autism Spectrum Disorders (ASD) is increasing with calculations alternating from 2.5 to 72.6 per 10,000, and a median rate of 11.3 per 10,000. The valued screening prevalence of autism spectrum disorders in school aged children in Iran is about 1.9% (8). A study found that up to 20% of siblings with autism showed a deficit in one or more core areas associated with Autism Spectrum Disorders, social interaction, communication, restricted and repetitive behaviors. According to the Autism Spectrum Resource Center only 20% of people on the autism spectrum have classic autism (Autism Spectrum Disorders, 2014).

Phetrasuwan and Shandor (2009) found that caring for a child with Autism Spectrum Disorders (ASD) is difficult and presents major responsibilities to parents, particularly mothers who are often the primary caregivers. The number of children diagnosed with Autism Spectrum Disorders (ASD) has been rising, maybe due to better assessment and diagnosis in latest years. Autism Spectrum Disorders (ASD) is a worldwide

disorder that occurs all racial, ethnic, cultural, and social boundaries and it occurs four times more often in boys than in girls.

Feinberg, Silverstein and Ferreira-Cesar (2013) argued that up to 40% of mothers of children with autism report clinically significant depressive symptoms, 35% of these mothers had received a depression diagnosis in their lifetime and 68% had recent symptoms.

Moreover, Children with Autism Spectrum Disorder (ASD) more than 30% of the mothers reported moderate to severe depressive symptoms when their children were 9 months old and also most possible to last suffering these problems into their children's preschool years. On the other hand the rates of maternal depression and stress are increased among all the mother of 4years old child's (Mothers raising children with autism prone to depression, stress, 2014).

Weitlauf, Vehorn and Taylor (2012) suggested that mothers of children with Autism Spectrum Disorders (ASD) report higher levels of stress and depression than mothers of children with developmental delays. Maternal depression symptoms in mothers of young children diagnosed with Autism Spectrum Disorders (ASD) an average of 1.4 years earlier. Child characteristics that increase to maternal stress and depressions, including behavior problems, sleep problems, emotion regulation deficits, and cognitive impairment. And also child behavior problems can increase to more mother psychological distress than other aspects of impairment, such as autism symptoms or cognitive abilities. On the other hand, family factors, mainly spousal relationships, are also likely important causes of depression above and beyond child factors. Low marital satisfaction in mothers of children with Autism Spectrum Disorders (ASD) is related to higher maternal negative affect.

It has been reported that mothers of children with an Autism Spectrum Disorders (ASD) experience greater levels of stress, anxiety and depression than mothers of children with other intellectual, developmental, or physical disabilities. And also mothers of children with autism are more suffer from depression than those of children with intellectual disability (ID) without autism, and mothers with typically developing children (Almansour *et al.* 2013).

## **1.2. Significance**

Occupational therapist's has great role to work with the autism child to be independent in the activities of daily living such as self care, productivity and leisure. Most of the time occupational therapist observes that mothers of autism child have a lack of interest, motivation, participation in the therapy session, do not continue the home advice and the mothers also does not engage their child in schooling, society, friends circle and relatives. Taking a child out in public can't cause unlimited emotional stress for parents because the behavioral and developmental problems of children with Autism Spectrum Disorders (ASD) cause them to be very irregular (Hidden Stress: Parental Burdens Caused by Autism, 2011). And also parents are often overcome by the challenges presented by a child with autism spectrum disorder (ASD) and especially mothers of children with Autism Spectrum Disorders ( ASD) in individual look to face single challenges that potentially have an impact on their health and wellbeing (Wilkinson ,2013). Most of the time it is seen that mothers of children with Autism Spectrum Disorder are suffered from depression as they primary caregiver of the child. Severity of impairment, particularly behavioral characteristics has been associated with parenting stress and poor maternal health. If the mothers are suffering from these problems, it may impact on the outcome of occupational therapy intervention. Because most of the times mothers work as co-therapist and she learned to take caring the child at home and follow the instructions and home advices. In our occupational therapy department still there was no study about the level of depression of mothers of children with autism spectrum disorders. When it will be identified the level of depression of the autism mothers from this study then qualified occupational therapists to be aware about their intervention and then occupational therapists can also include the mothers of autism child in their intervention should consider about mothers education properly, ensure quality service and create an awareness of the most autism mother depression in future. If the mothers understand their problems then they will change their life style and take care properly to their child. That's why the final outcome of autism child will be improved. On the other hand, it will be very helpful for the occupational therapist as an evidence to know the level of depression of mothers of children with autism in Bangladesh.

### **1.3. Aim of the study**

To find out the level of depression of mothers of children with autism spectrum disorder

### **1.4. Objectives of the study**

1. To identify the association between the level of depression and demographic characteristics of mothers of children with Autism Spectrum Disorder (ASD).
2. To identify the most common depressive symptoms of mothers of children with Autism Spectrum Disorders (ASD).
3. To identify the prevalence of depression of mothers of children with Autism Spectrum Disorder (ASD).

## **CHAPTER 2 LITERATURE REVIEW**

### **2.1. Autism spectrum disorder**

According to Canadian Association of Occupational Therapy (2014) proposed that Autism Spectrum Disorders (ASD) is a class of developmental disabilities that cause severe impairments to a person's communication, their social interactions, and their play and behavior. The disorder presents differently with respect to severity and symptoms. Allen, Bowles and Weber (2013) stated that Autism Spectrum Disorders is characterized by deficits in speech, sociability, sensory perception, cognitive awareness, health, and physical behavior and also interactions as well as restricted and repetitive forms of behavior. These symptoms impair everyday functioning in 62.5% of the approximately 10, 000 6 to 12 year old children in Australia. Such characteristics have been found to be great sources of stress for parents of children with this disorder. The behavioral characteristics of Autism Spectrum Disorders (ASD) that significantly relate to parental stress levels include child awareness, behavior, repetitive behaviors and extra care needs.

### **2.2. Types of autism**

Types of autism spectrum disorder include Asperger syndrome, childhood disintegrative disorder, Rett syndrome, pervasive developmental disorder, and classical autism. Characteristics of these types of autism include impaired social interaction and communication skills, and a partial choice of activities and interests (Types of Autism, 2014).

### **2.3. Causes of autism spectrum disorders**

Smeardon (1999) described that the specific causes of autism are unidentified. It is evident that there are maybe combinations of infections, metabolic, genetic and environmental factors that main to autism. Besides maternal rubella, tuberculosis and encephalitis which are the conditions affecting brain development may be associated with autism.

Another study reported that etiology of autism is complex and likely involves many genes in mix with external factors. Specific genes that complex factor main to autism or other psychiatric disorders have but to be complete (Daniels *et al.* 2008). Many

genetic factors have been associated in the etiology of ASDs and twin studies suggest that heritability might be greater than 90%. Prenatal environmental factor and challenging perinatal outcomes are also associated with Autism Spectrum Disorders (ASDs) and the complex evidence supports the risk of gene-environment interactions. Some sociodemographic factors, including maternal and paternal age, race, and socioeconomic status have also been associated with Autism Spectrum Disorders (Schieve *et al.* 2012). Gardener, Spiegelman and Buka (2014) stated that mechanism of basic autism aetiology is most likely polygenic and potentially epistatic and that environmental factors may interact with genetic factors to increase risk.

Besides women who are 40 years old have a 50 percent greater risk of having a child with autism than women who are between 20 and 29 years old. Babies that have been sure pharmaceuticals in the womb have a higher risk of autism. A study found that children born to mothers who live within a 1000 feet of freeways have twice the risk of autism. Scientists think that chemicals in pesticides may poorly affect those who are genetically predisposed to autism and also vaccinations, environmental exposures are causes of ASD (National Autism Association, 2014).

#### **2.4. Signs and symptoms of autism spectrum disorders**

Initial signs and symptoms naturally seem in the early developmental period however, social deficits and behavioral patterns might not be known as symptoms of Autism Spectrum Disorders (ASD) until a child is unable to meet social, educational, occupational or other important life stage stresses. Functional limitations vary among persons with Autism Spectrum Disorders (ASD) and might develop over time (Rai *et al.* 2013).

ASD is characterized by four main categories: impairment in verbal and nonverbal communication, restricted repetitive and stereotyped behaviors, interests and activities and developmental delay. According to the DSM-IV criteria (2004) the characteristics of ASD are given below: Impairment in social interaction like marked impairment in nonverbal behaviors such as eye contact and gestures, failure to develop peer relationships, impaired expression of pleasure when others are happy. Another Impaired communication such as lack of development of spoken language, unable to sustain conversation, repetitive use of language and lack of social imitative play. And also restricted repetitive behaviors like preoccupation show abnormal behavior with



one or more patterns for attention, uncontrollable reality to routines, repetitive motor gestures and preoccupation with part of objects and also delays in functioning children with ASD (Glennon, 2004).

On the other hand, related signs and symptoms of autism spectrum disorders like, sensory problems, emotional difficulties, unbalanced cognitive abilities (Smith, Segal, and Hutman, 2014).

## **2.5. Depression**

Depression is a mood disorder characterized by low mood and a wide range of other possible symptoms, which will vary from person to person. An illness that can develop quickly or slowly, and be brought on by life events or changes in body chemistry. It can attack anyone, and is improvable. And also depression as a safety mechanism that one's body accepts in order to discharge from unbearable stress. In some cases, it could even be a form of anger directed towards the self for not having lived up to one's expectations (About depression, 2014).

## **2.6. Types of depression**

### **Major depression**

Major depression is one of the most common forms of depression. He or she looks disinterested in becoming involved in regular activities and seems influenced that he or she will always be in this hopeless state. There is a lack of interest in sexual activity and in appetite and a weight loss.

### **Atypical depression**

Atypical depression is a variation of depression that is slightly different from major depression. The sufferer is sometimes able to experience happiness and moments of joy. Symptoms of atypical depression include fatigue, oversleeping, overeating and weight gain. People who suffer from atypical depression believe that outside events control their mood (i.e. success, attention and praise).

### **Psychotic depression**

Psychotic depression begins to hear and see imaginary things such as sounds, voices and visuals that do not exist. These are referred to as hallucinations which are generally more common with someone suffering from schizophrenia. The sufferer of psychotic depression imagines frightening and negative sounds and images.

### **Dysthymia depression**

Many people just walk around seeming depressed simply sad, unhappy. They have been this way all of their lives. Dysthymia conditions people are not even aware of but just live with daily. They go through life feeling unimportant, dissatisfied, frightened and simply don't enjoy their lives.

### **Manic depression**

Manic depression can be defined as an emotional disorder characterized by changing mood shifts from depression to mania which can sometimes be quite rapid. People who suffer from manic depression have an extremely high rate of suicide (Behrman, 2014).

## **2.7. Symptoms of depression**

Not everyone who is depressed experiences every symptom. Some people experience a few symptoms, some many. Severity of symptoms varies with individuals and also differs over time. These are persistent sad, anxious or empty mood; feelings of hopelessness, pessimism; feelings of guilt, worthlessness, helplessness; loss of interest or pleasure in hobbies and activities that were once enjoyed including sex ;decreased energy, fatigue; difficulty concentrating, remembering or making decisions; insomnia, early-morning awakening or oversleeping ; appetite , weight loss, overeating and weight gain ;thoughts of death or suicide; suicide attempts ; restlessness, irritability ;persistent physical symptoms that do not respond to treatment, such as headaches, digestive disorders and chronic pain (Grohol, 2014).

## **2.8. Risk factors for depression**

There are many risk factors for depression such as effects of illness; previous history of mood disorder; childhood experience of being parented; stressful life events; insufficient family or social supports; a child that is restless, difficult to settle or

unwell; anxious worrier ; socially avoidant; perfectionist ; self-critical (Causes & risk factors, 2013).

## **2.9. Effect on family**

Autism has an effect on families especially parents. The main effects of autism are on the individual who has the disorder but the parents are greatly affected as well. (Hidden Stress: Parental Burdens Caused by Autism, 2011).Autism effects families in many ways such as:

### **Emotional impact**

Autism is an emotional that begins before diagnosis and continues throughout life. According to a study published in the journal Pediatrics, mothers of children on the autism spectrum normally rated their mental health status as poor or fair. They had a much higher stress level than the general population. In addition to the higher stress level, many parents of children with autism experience the following emotions like feelings of being overcome; anger at their spouse, the doctors, or themselves; anger of the child and blame for that anger; depression at the incurable nature of the disorder; frustration that the parenting experience; feelings of social isolation; shame at child's behavior in public.

### **Physical impact**

Autism also has an indirect impact on the physical health of family members. Anxiety, depression and fatigue on the physical health of families with children on the autism spectrum disorder. Stress can main to lowered protection, and lack of sleep may result in difficulty concentrating, memory impairment and other health complications.

### **Financial impact**

The financial impact on families of autistic children is vast. Most private health insurance plans do not cover all expenses related to therapy and treatment for autistic children and the co-pays for office visits and medications often results in huge financial responsibility. In addition to therapy and medical expenses, there are added financial burdens like specialized educational toys, equipment like weighted blankets and vests, and much more. According to a study in Pediatrics, having a child with autism resulted in an average of a 14% loss in total family income. It is often very

difficult for both parents to continue working full-time, which means a reduction in household income to go along with the increased expenses. Since many parents need a full-time job in order to provide health insurance, loss of full-time employment can have a affected and negative impact on the family's finances.

### **Impact on marriages**

One of the biggest ways that autism impacts families is by placing additional stress on the parents' marriage. According to a study published in the Journal of Family Psychology, parents of children with autism were 9.7% more likely to get divorced than their peers. There are several ways that autism stresses the marriage like often parents accept the child's diagnosis in different ways and at different rates, leading to conflict; inconsistent schedules and numerous commitments make it difficult for parents to spend time together; it can be challenging to find child care for children with autism, which also makes it hard for parents to go out as a couple; financial stresses can cause additional conflict between parents.

### **Impact on siblings**

Autism also affects neuro-typical siblings. These children face many of the same pressures as the break of the family and they may not have the full support of parents who are overcome with the needs of their child with autism. Sibling conflict can become stronger in a family with a mixture of typically developing siblings and children with autism. If the Autism Spectrum Disorders (ASD) child's need for extra time and attention becomes a permanent issue, as often happens with autism, siblings can feel left out and resentment can build. However, many families are able to type out these challenges as lengthy as they can control other stress factors. A study in the Journal of Autism and Developmental Disorders found that the biggest predictor of sibling emotional adjustment was the occurrence or absence of other risk factors like low socio-economic status. If these factors were controlled, the experience of being a sibling to a child with autism actually enhanced the emotional and psychosocial health of the sibling (Impact on Families of Autistic Children, 2014).

## **2.10. Level of depression**

Tracy (2011) stated that dealing with straight major depression with no subtype consideration, there is still the question of depression severity. There are many classification and severity evaluation scales used in psychiatry. These are generally used for diagnosis. There is much discussion over rating scales and their use but one thing is clear, depression isn't a single thing; it is many things combined.

## **2.14. The statistic of autism spectrum disorders**

Frieden *et al.* (2014) stated that the global prevalence of autism has increased day by day. At that time, prevalence estimates from European studies were one in 2,500 children in the population and by the 2000s prevalence estimates from large surveys were 1%–2% of all children. Beside Almansour *et al.* (2013) proposed that the prevalence of autism is approximately 1-2 per 1,000 people worldwide and the Centers for Disease Control and Prevention (CDC) reports that approximately 9 per 1,000 children in the United States are diagnosed with ASD.

Furthermore, around 700,000 people may have autism or more than 1 in 100 in the population, the latest prevalence studies of autism indicate that over 695,000 people in the UK may have autism an estimate result from the 1.1% prevalence rate applied to the 2011 UK census figures (Statistics: how many people have autism spectrum disorders? 2014). The expected prevalence of autism spectrum disorders in the United States has dramatically increased from fewer than 5 in 10 000 children in the 1980s to 1 in 88 in 2008. Similar increases have been reported in much of the Western world (Rai *et al.* 2013). Autism affects around 115,000 families in the UK. However, difficulties in obtaining a diagnosis are common causing uncertainty for parents and delaying appropriate interventions or educational programmed (Midence and Neill 1999). Gardener, Spiegelman and Buka (2014) found that the prevalence of autism has been estimated at 13/10 000 and is believed to be rising.

On the other hand, In Bangladesh, Ministry of Social Welfare reported that the total number of persons with Autism Spectrum Disorders (ASDs) could be as high as 1, 4 million, only a few hundred have been diagnosed. Other estimates are that one child in 500 in Bangladesh has autism, meaning that the approximate number of children with Autism Spectrum Disorders (ASDs) in Bangladesh is no less than 280,000. Sometimes, children are misdiagnosed and given antipsychotic drugs by psychiatrists.

In Bangladesh, there are only 20 schools for disabled children and all of them are situated in the capital city of Dhaka (Autism in Bangladesh),

### **2.111. Mothers of children with Autism Spectrum Disorders (ASDs)**

Hedda, James and Aaron (2010) explained that mothers and fathers share parenting roles but mothers typically assume a larger part of the responsibility of the child with Autism Spectrum Disorders (ASDs) and stress level of parents of individuals with Autism Spectrum Disorders (ASDs) has been conducted with mothers. Mothers of individuals with Autism Spectrum Disorders (ASDs) reported more stress, depression, and anxiety than fathers, mothers of individuals with Down syndrome and mothers of typically developing children. Child with Autism Spectrum Disorders (ASDs) is the main factors associated with a mother's stress and variables are associated with mothers' stress.

In addition to lower levels of support in mothers of children with Autism Spectrum Disorders (ASDs) were associated with significant psychological distress and also single parents, living in poor housing or were parenting a boy with Autism Spectrum Disorders (ASDs). Maternal stress and well-being were found to be related to children's challenging behavior and severity of the behavioral symptoms. More specifically mothers of children with Autism Spectrum Disorders (ASDs) reported the greatest stress when their children were more irritable, socially withdrawn, hyperactive, unable to take care of themselves and unable to communicate or interact with others and also explored that cultural differences in the relationship between stress and parenting a child with Autism Spectrum Disorders (ASDs). African American mothers of children with Autism Spectrum Disorders (ASDs) reported lower levels of perceived negative impact of having a child with ASD than Caucasian mothers. Interestingly that mother of children with ASD reported more stress than the other groups, regardless of their cultural background.

### **2. 12. Diagnosing depression in mothers of those with Autism Spectrum Disorders (ASDs)**

According to Interactive Autism Network (2014) listed that 16.2% of parents of autism spectrum disorder reported that they had ever been diagnosed by a professional with a major mood disorder, specifically a major depressive disorder. In addition, 10% of those who had never received a professional diagnosis were able to report that

they had ever self-diagnosed. 37% of mothers indicated that they had a history of depression. Another 10% of mothers said that they had been treated for depression without ever receiving a diagnosis from a professional or diagnosing themselves. 44% of mothers who had received a professional diagnosis of depression were diagnosed by a psychiatrist or psychologist and 45% were diagnosed by a general physician. This study evaluates whether hospital diagnosis of psychiatric disorders is more common among the parents of children with hospital-diagnosed autism than the general population and, if so, which disorders are most strongly associated with autism (Daniels et al. 2008).

Bitsika *et al.* (2015) found that 90% of parents reported that they were sometimes unable to connect effectively with their child's behavior. And also nearly half of the participants were severely anxious and nearly two thirds were clinically depressed.

### **2.13. Autism spectrum disorders and parental depression**

Rezendes and Scarpa (2011) explained that parents of children with autism spectrum disorders have been shown to experience increases in stress, depression and anxiety and decreased parenting self-efficacy are associated with child behavior problems related to autism spectrum disorders and also prevalence of major depressive disorder may be higher. Nearly half of the parents of youth with autism spectrum disorders were found to be severely anxious and nearly two-thirds were found to be clinically depressed. Behavior problems in youth with autism spectrum disorders also predict the level of maternal anxiety and stress experienced as well as maternal mood disorders and depression. The child's behavioral problems produce negative effects on the parents' psychological well-being. Increases in stressors related to child behavior problems can produce an environment more positive to parental depression.

On the other hand Allen, Bowles and Weber (2013) stated that parental stress demonstrates that interactions between parent and child may also have a direct impact on parental stress and also behavioral deficits of a child with autism spectrum disorders are a greater source of stress than the other characteristic-based variables of autism spectrum disorders such as deficits in cognitive and sensory awareness. And also found that the strong association between parenting stress and behavior problems in children with autistic spectrum disorders focused on very young children and employed a wider range of child ages (2:6-4:0 years) and autism spectrum disorders

severity related most strongly to parenting stress (Lisa, 2009). Child characteristics associated with the type of disability may influence the responsiveness of parents and communication challenges decrease the responsiveness and mindfulness of parents. Algood, Harris and Hong (2013)

Diagnosis is the first source of stress for parents because of the uncertainty and frustration of the process produces extra tension in the family and high costs, the treatment phase is also stressful and frustrating because of the amount of therapy needed for the different developmental and physical challenges associated with autism. And also the repeated sessions over long periods of time can be stressful (Hidden Stress: Parental Burdens Caused by Autism, 2011). The emotional stress from diagnosis and treatment can strain parents frequently experience anger and depression but coping with these stressors can create stronger marriages and families, it takes a great deal of work and an excellent support system. From the moment they begin to doubtful that their child isn't developing in a neuro-typical way families of children with autism spectrum disorders begin to face challenges that set them apart from other family groups. This disorder can be emotionally devastating for parents, especially just before and after the child is diagnosed. Additionally, there's the stress of complicated therapy schedules, following through on treatment at home, family commitments with job responsibilities and many other issues (Impact on Families of Autistic Children, 2014)



## **CHAPTER 3 METHODOLOGY**

### **3.1. Study design**

This study was conducted by the quantitative research with a cross-sectional design because in this way the researcher was able to collect data objectively using a large number of populations. The researcher required to gather information from a large number of mothers of children with Autism Spectrum Disorders (ASD) at the time of data collection. Levin (2006) suggested that cross-sectional studies are carried out at one time point to or over a short period. Researcher usually conducted to estimate the rate of the outcome of interest for a given population and data can also be collected on individual characteristics. In this way cross sectional studies provide a snapshot of the outcome and the characteristics associated with it, at a specific point in time. On the other hand, the cross-sectional design is one of the most commonly used survey research designs. And also the focus in a cross-sectional design is description-describing the characteristics of a population or the differences among two or more populations at a particular point in time (Shaughnessy *et al.* 2003). So this study was used cross-sectional study design for the research under quantitative methods.

### **3.2. Study setting**

This study was conducted in five areas and the areas was

#### **CRP Savar**

Pediatric Unit out patient of CRP Chapain, Savar, Dhaka-1343 is the head office for the Centre for the Rehabilitation of the Paralysed (CRP) and occupies approximately 13 acres of land. CRP originally began its operation in 1979 from two cement storerooms in the grounds of the Shaheed Suhrawardy Medical College Hospital, Dhaka. The size and complexity of the current CRP-Savar centre, establishment of the 9 additional CRP sub-centers across Bangladesh and the extensive range of high quality services now provided to Persons with Disabilities. Bangladesh Health Professions Institute (BHPI), CRP Nursing College, William and Marie Taylor School and various other activities also operate from this centre.

### **CRP Mirpur**

Plot A/5, Block A, Mirpur 14, Dhaka-1206 and CRP-Mirpur is located in a unique 13-storey building in Dhaka city, providing a wide range of services to maintain the financial sustainability of CRP. It was designed with an accessible wide ramp up to the fifth floor, visible gardens from each floor, and with an innovative use of light and space. About 450 patients receive daily services from various units at CRP-Mirpur. There is an Inpatient and Outpatient service offered for pediatrics similar to the service in Savar.

### **Beautiful mind**

Beautiful mind: A special center for autistic and mentally challenged children is situated at Plot#1145, Road# 6/A Dolipara, Sector#5, Uttara Dhaka-1230, Bangladesh. It is built on a foundation of hope and commitment to helping children and families affected by Autism and other related development disorders. And also it is comprised of dedicated professionals that are passionate about helping families understand the complexities of the disorders so their children can reach their fullest potential.

### **Proyash-Savar**

Proyash-Savar Area, Savar Cantonment ,Savar, Dhaka-1344 and Proyash is an institute run under the Bangladesh Army dedicated for the wellbeing of persons and children with special needs. Its primary objective is to educate and train children and youths with special needs.

### **Dreams Angel Centre for Autistic Children**

Dreams Angel Centre for Autistic Children, Mirpur, Dhaka-1216 and Dream Angels Centre for Autistic Children (DACAC) is a specialized centre for physically and mentally challenged children between the ages of 2- 8 years especially with symptoms of Autism. DACAC is run and managed by professional speech therapists, occupational therapists, physiotherapists and special educators ably supported by caregivers and administrative staff.

The researcher selected this area because of available autism children in this area

### **3.3. Study participants**

The study population was mothers of children with autism. The study was conducted to select the sample by convenience sampling. This sampling method can be used in a study because of mostly easier, cheaper, quickly and it also might be used as for financial and temporal reasons (Bailey, 1997). On the other hand, the most common form of Nonprobability sampling is convenience sampling. It involves selecting respondents primarily on the basis of their availability and willingness to respond. It is result in a biased sample unless have strong evidence confirming the representativeness of the sample (Shaughnessy *et al.* 2003). There are some inclusion and exclusion criteria for select participant. These are

#### **3.1.1. Inclusion criteria**

All the mothers of children with autism spectrum disorders who were interested to participant in the study.

#### **3.1.2. Exclusion criteria**

The mothers of children with autism who have any recent diagnosed illness such as physical and severe psychological illness that is hampered the ability of the participants to communicate with the researcher in the time of data collection.

#### **3.1.3. Variables**

The dependent variable is defined as the level of depression of mother of children with Autism Spectrum Disorders (ASD).The categorical types of independent variable were age, area, educational level, occupation, duration of child care, number of children, income.

### **3.4. Sample size**

The sample size must be sufficiently large to ensure that it reflects the large group or population from which it is resulting (Hicks, 2000).The sample size consisted of 105 mothers of children with Autism Spectrum Disorders at five areas, who were interested to take part in this study. There was no stabilized prevalence of mothers of children with autism spectrum disorders in Bangladesh, so for the study purpose 50% prevalence has count for sample size determination and the sample size is  $n = \frac{Z^2 \times PQ}{R^2} = \frac{(1.96)^2 \times .5 \times .5}{(.05)^2} = 372.4$  by using the standard formula of sample size calculation. Where confidence level is 95%, P= prevalence and that is 50% = .5,

Z=constant number and that is 1.96, Q= (1-P) and that is .5, R= Sampling errors and that is 5%= .05. That is too difficult to fulfill the participants within 2 months because there was a limited time to data collection. In this short time it is impossible to cover standard amount. And the researcher is under graduate and completed her research within a limited time so for the better work 105 participants were selected for the study. Where CI=90% and sampling error =8%, so the formula is  $n = Z^2 \times PQ/R^2 = (1.64)^2 \times .5 \times .5 / (.08)^2 = 105.0625$  sample size for the study. For doing well in the research 105 participants were selected for data collection.

### **3.9. Data Collection instruments**

#### **3.9.1. Structured questionnaire**

Permission was taken to use the questionnaire Depression Scale (DS). A short Bengali version of the Depression Scale (DS) was used to measuring the level of depression of mother of children with Autism. The Depression Scale allows health professionals to measure the level of depression in a standardized way. The validity of the questionnaire was analyzed in different studies. The questionnaire Depression Scale (DS) score is divided in four categories – Minimal depression score: 30-100, Mild depression score: 101-114, Moderate Depression score: 115-123, Severe Depression score: 124-150. This scale was prepared by Md. Zahir Uddin under supervision of Professor M. Mahmudur Rahman as part of the requirements of his M. Phil thesis in the year 2000 in clinical psychology from Dhaka University, Bangladesh.

#### **3.9.2. Socio-demographic questionnaire**

The Socio-demographic questionnaire was developed with inclusion and exclusion criteria which were set to meet the study purpose. It was used at the beginning of sample selection. By this demographic questionnaire the researcher was collecting the general demographic information about the participants to find out the level of depression of mother of children with autism.

#### **3.9.3. Consent form**

During interview researcher took permission from every single participant with signature on a written consent form. Research clarified in consent form the role of the participants in the study and ensured that it will not cause any harm or directly benefit to them but in future autism mother with depression will get benefit from the study. Researcher explained participants how interview data was used in the study and make

sure that their identify was kept confidential in the study. Their given data was not be shared with others expect researcher's supervisor who is helping to conduct the study. Researcher was also explaining the benefits of the study and their rights to refuse answering any questions during interview and refuses to participant in the study at any time. They have right to make any query anytime regarding this study. They were also informed that researcher was not provided any money for participating in this study.

#### **3.9.4. Field testing questionnaire**

The aim of the field test was to test the effectiveness of interviewing techniques and materials. In order to accomplish these aims of field test of the interview guideline of Depression Scale scoring form to measure the depression and demographic questionnaire was used before the actual data collection. Field testing was performed with 3 autism mothers who met the inclusion and exclusion criteria from the CRP. The interview with those participants and record of the DS scoring form were prepared. It was conducted to check the appropriateness of wording as well as ease of understanding.

Data collection tools also paper, pen, pencil, eraser, and writing board.

#### **3.10 .Data collection procedure**

After getting final approval of proposal researcher was taken permission from Savar and Mirpur Centre for the Rehabilitation of the Paralysed (CRP), Beautiful mind, Proyas authority, Dreams angel participant's for data collection. At first participants were informed about the aim of the study and also informed in details about consent form. A consent form was developed based on inclusion and exclusion criteria for each participant. The researcher asked the participants about the information. Interview was conducted in Bangla so that participants can understand easily. After completing of data collection researcher gave thanks to the participants.

#### **3.11. Possible constraints**

Participants were sick at the interview time and also organizational problems.

### **3.12. Data collection and analysis**

Data entry and analysis was performed by using the Statistical Package for Social Science (SPSS), Inc. version 17, according to the category. The Depression Scale was used to measure the level of depression of autism mother and Bengali demographic questionnaire was used to identify demographic characteristics of depression of mothers of children with Autism spectrum disorder. The extended chi-square test was used to find out association between levels of depression with age, occupation, income, number of children, duration of child care, area. And also descriptive statistic was used to find out, prevalence and most common depressive symptom of mother of children with Autism Spectrum Disorders (ASD).

### **3.13. Validity**

The data was analyzed by using the Statistical Package for Social Science (SPSS), Inc. version 17, according to the category to reduce statistical error which is valid software. The questionnaire Depression Scale (DS) is a valid self-reported questionnaire. A field test was completed to ensure appropriateness of questionnaire and language.

### **3.14. Reliability**

A field test of the questionnaire was conducted to check the tools in the actual field. The purpose of the field test was to gather pre knowledge about participants' response to the tools.

### **3.15 Ethical consideration**

1. The researcher received permission from the ethical committee to conduct the research.
2. Written consent was gained from the study participants.
3. All participants were informed about the aim of the study.
4. Confidentiality of personal information was strictly maintained.

## CHAPTER 4 RESULT

The result section showing the association between the level of depression and demographic characteristics of mothers of children with Autism Spectrum Disorders (ASD), prevalence of depression of mothers of children with Autism Spectrum Disorders, and identify the most common depressive symptoms of mothers of children with Autism Spectrum Disorder.

### 4.1. Socio-demographic characteristics of the participants (N= 105)

Factors	Frequency (N)	Percentage (%)
<b>Age</b>		
19-30	32	30.5
31-40	62	59.0
41-50	11	10.5
Mean ± SD	33.6 ±5.7	
<b>Area</b>		
Urban	56	53.3
Semi-urban	35	33.3
Rural	14	13.3
<b>Educational level</b>		
S.S.C	21	20.0
H.S.C	20	19.0
Higher study	64	61.0
<b>Occupation</b>		
Housewife	88	83.3
Service holder	17	16.2
<b>Duration of child care</b>		
1-6 hours	25	23.8
7-12 hours	73	69.5
13-18 hours	7	6.7
<b>Number of children</b>		
1	35	33.3
2	63	60.0
3-4	7	6.7
<b>Income</b>		
7000-20000	52	49.5
21000-40000	50	47.6
Above 40000	3	2.9

**Table – 01:** Socio-demographic characteristics of the participants

Table-01 showed that, total 105 mothers of children with autism spectrum disorders participants participated in this study in which 30.5% mothers of 19-30 age, 59.0% of 31-40 age ,and10.5% mothers of 41-50 age and also Mean ± SD (33.6 ±5.7).53.3%

mothers live in urban area, semi-urban area 33.3% and 13.3% rural area. Here 20.0% mothers completed S.S.C, 19.0% H.S.C, and higher study 61.0%. Most of the mothers (83.3%) are housewife and 16.2% householder. 69.5% mothers caring her child 7-12 hours, 23.8% mothers 1-6 hours, and 6.7% mothers 13-18 hours caring her child. 60.0% mothers has 2 child, 33.3% has 1 child and other 6.7% mothers has 3-4 child. Most of the family monthly (49.5%) income level 7000-20000 taka, 47.6% family monthly income 21000-40000 taka, 2.9% family monthly income above 40000 taka.

#### **4.2. Association between the level of depression and demographic characteristics of mothers of children with Autism Spectrum Disorder**

Table-2 shows that socio-demographic characteristics like age, area, occupation, duration of child care, number of children, income does not show any significant association with level of depression due to P-value  $>0.05$ . Educational level had a significant association with level of depression chi square value is 13.619 and P-value is 0.034 that is less than 0.05.



Variable	Level of depression				Value	
	Minimal (%)	Mild (%)	Moderate (%)	Severe (%)	P-value	Chi-square value
<b>Age</b>					0.898	2.219
19-30	43.8	15.6	6.3	34.4		
31-40	43.5	21.0	9.7	25.8		
41-50	36.4	18.2	18.2	27.3		
<b>Area</b>					0.216	8.308
Urban	50.0	17.9	10.7	21.4		
Semi-urban	34.3	22.9	2.9	40.0		
Rural	35.7	14.3	21.4	28.6		
<b>Educational level</b>					0.034	13.619
S.S.C	28.6	9.5	4.8	57.1		
H.S.C	45.0	10.0	15.0	30.0		
Higher study	46.9	25.0	9.4	18.8		
<b>Occupation</b>					0.168	5.059
Housewife	38.6	19.3	11.4	30.7		
Service holder	64.7	17.6	0.0	17.6		
<b>Duration of child care</b>					0.237	8.014
1-6 hours	48.0	16.0	8.0	28.0		
7-12 hours	43.8	16.4	9.6	30.1		
13-18 hours	14.3	57.1	14.3	14.3		
<b>Number of children</b>					0.986	1.000
1	45.7	17.1	8.6	28.6		
2	42.9	19.0	9.5	28.6		
3-4	28.6	28.6	14.3	28.6		
<b>Income</b>					0.366	6.532
7000-20000	34.6	19.2	11.5	34.6		
21000-40000	48.0	20.0	8.0	24.0		
Above 40000	100.0	0.0	0.0	0.0		

**Table-02:** Association between the level of depression and demographic characteristics of mothers of children with Autism Spectrum Disorders (ASDs).

Table-2 described that total 105 mothers of children with autism spectrum disorders participated in this study in which minimal depression 43.8%, mild depression 15.6 %, moderate depression 6.3% and severe depression 34.4 % of 19-30 age of mothers of children with autism spectrum disorders. 31-40 age of mothers' of minimal depression 43.5%, mild depression 21.0%, moderate depression 9.7% and severe

depression 25.8 %. And also minimal depression 36.4%, mild depression 18.2 %, moderate depression 18.2% and severe depression 27.3 % 41-50 age of mothers of children with autism spectrum disorders.

On the other hand, mothers of children with autism spectrum disorders who live in urban area their minimal depression 50.0 %, mild depression 17.9%, moderate depression 10.7% and severe depression 21.84% and who live in semi-urban area their minimal depression 34.3 %, mild depression 22.9 %, moderate depression 2.9% and severe depression 40.0%. Another who live in rural area their minimal depression 35.7 %, mild depression 14.3 %, moderate depression 21.4% and severe depression 28.6%.

This study 20.0% mothers completed S.S.C their minimal depression 28.6%, mild depression 9.5 %, moderate depression 4.8% and severe depression 57.1% and 19.0% mothers completed H.S.C their minimal depression 45.0 %, mild depression 10.0 %, moderate depression 15.0% and severe depression 30.0%.

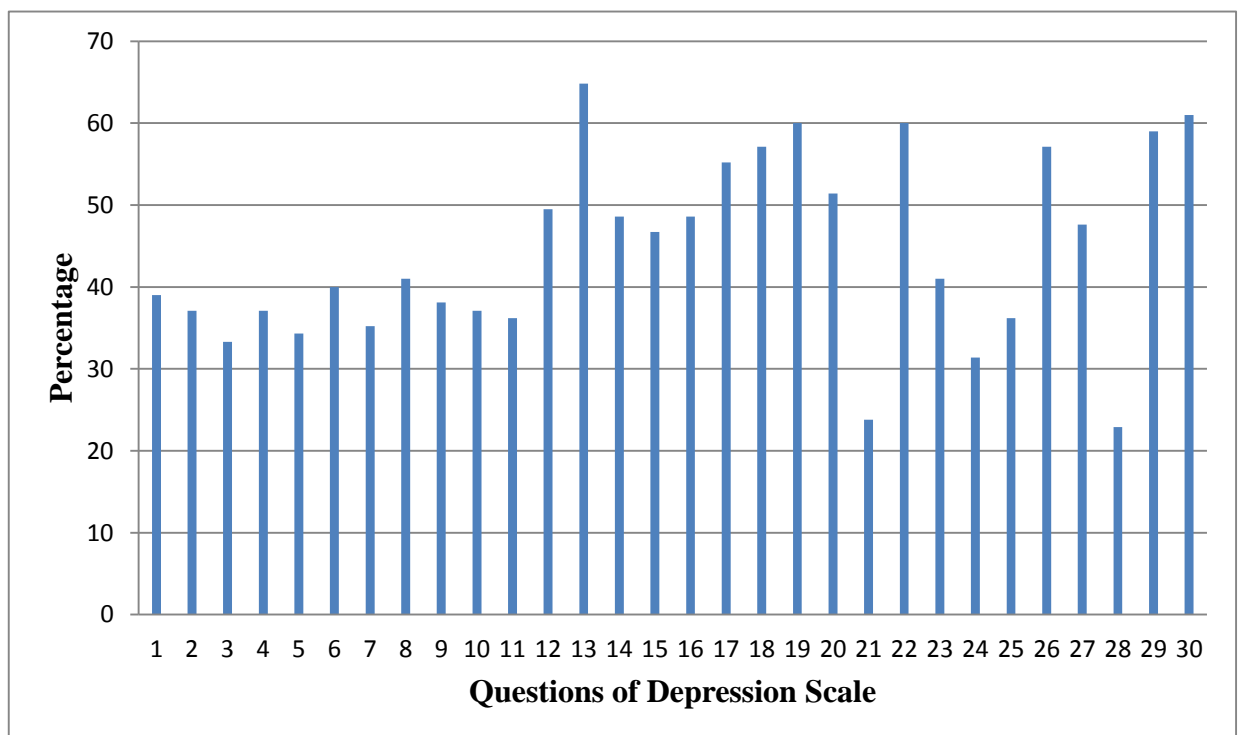
And also higher study 61.0% mothers their minimal depression 46.9 %, mild depression 25.0 %, moderate depression 9.4% and severe depression 18.8%. Otherwise, housewife mothers their minimal depression 38.6 %, mild depression 19.3 %, moderate depression 11.4% and severe depression 30.7% and service holder mothers their minimal depression 64.7 %, mild depression 17.7%, moderate depression 0.0% and severe depression 17.6%. 23.8% mothers 1-6 hours caring her child their minimal depression 48.0 %, mild depression 16.0 %, moderate depression 8.0% and severe depression 28.0%.

Also mothers (69.5%) caring her child 7-12 hours their minimal depression 43.8 %, mild depression 16.4 %, moderate depression 9.6% and severe depression 30.1%. Mothers 13-18 hours caring her child 6.7% and their minimal depression 14.3 %, mild depression 57.1 %, moderate depression 14.3% and severe depression 14.3%. 33.3% mothers number of children 1 their minimal depression 45.7 %, mild depression 17.1 %, moderate depression 8.6% and 60.0 % mothers have 2 child their minimal depression 42.9 %, mild depression 19.0 %, moderate depression 9.5%.

Moreover, 6.7% mothers have 3-4 child their minimal depression 28.6%, mild depression 28.6 %, moderate depression 14.3%. All of the mothers have 1, 2, 3-4

child their severe depression 28.6%. Most of the family monthly income level 7000-20000 taka their minimal depression 34.6 %, mild depression 19.2 %, moderate depression 11.5% and severe depression 34.6% and family monthly income 21000-40000 taka their minimal depression 48.0 %, mild depression 20.0 %, moderate depression 8.0% and severe depression 24.0%. And also family monthly income above 40000 taka their minimal depression 100.0 %, mild depression .0%, moderate depression 0.0% and severe depression .0% (Table-02).

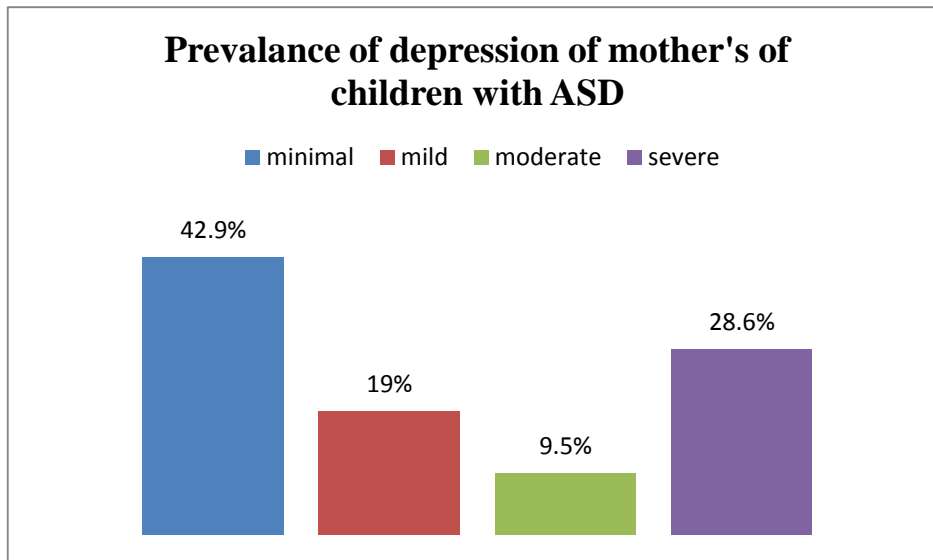
### 4.3. To identify the most common depressive symptoms of mothers of children with Autism Spectrum Disorders



**Figure-01:** Most common depressive symptoms of mothers of children with autism with Autism Spectrum Disorders.

Most common depressive symptoms of mothers of children with autism spectrum disorders like crying 64.8%, unable to participate in academic or professional activities as used to 61%, irritability, weak and fatigue 60%, unable to participate in social activities as used to 59%, reduced the speed of work and cannot remember as before 57.1%, difficulty concentrate in many things 55.2 %, and sleep less 51.4%.

#### 4.4. To identify the prevalence of depression of mothers of children with Autism Spectrum Disorders



**Figure-02:** Prevalence of depression of mothers of children with Autism Spectrum Disorder

Figure- 02 showed that to find out the prevalence of mother of children with autism spectrum disorder among 105 participants 42.9% minimal depression, 19.0% mild depression, 9.5 moderate depression, and 30% severe depression.

## CHAPTER 5 DISCUSSION

This study shows that total 105 mothers of children with autism spectrum disorders participants participated in this study in which 30.5% mothers of 19-30 age, 59.0% of 31-40 age ,and10.5% mothers of 41-50 age and also Mean  $\pm$  SD (33.6  $\pm$  5.7).53.3% mothers live in urban area, semi-urban area 33.3% and 13.3% rural area. Here 20.0% mothers completed S.S.C, 19.0% H.S.C, and higher study 61.0%. Most of the mothers (83.3%) are housewife and 16.2% householder.69.5% mothers caring her child 7-12 hours, 23.8% mothers 1-6 hours, and 6.7% mothers 13-18 hours caring her child.60.0 % mothers has 2 child, 33.3% has 1 child and other 6.7% mothers has 3-4 child. Most of the family monthly (49.5%) income level 7000-20000 taka, 47.6% family monthly income 21000-40000 taka, 2.9% family monthly income above 40000 taka.

Phetrasuwan and Shandor (2009) study found that participants was 106 mothers of children with Autism Spectrum Disorder (ASD) the mean age was 37 years (*SD* = 6.6 and range 22–62 age) and high school education (75%) and employed full or part time (56%). And their income levels different from under 19,000 (13%) and over 50,000 (52%). One study found that the average age of the mothers was 39.01 years and mothers reported college education (29.5%), graduate degree (27.5%), college degree (25.4%), high school degree (10.9%), and completing graduate studies (6.5%) (Rezendes and Scarpa, 2011).

Another study indicated that mother's the average time of schooling was approximately 10 years and seven respondents (35%) had primary education (complete or incomplete), seven (35%) high school (complete or incomplete) and six (30%) higher education (complete or incomplete). Only one participant studied for three years and another completed 15 years of study (Favero-Nunes, 2010).

A study by Shu and Lung (2005) of mothers children with autistic children, found that their ages ranged from 30 to 51 years ,with a mean average age of 41 years (n=27). 30% of mothers had an education level of H.S.C or above. There were no significant changes between the intervention and control groups in terms of age, education, marital status, the age of the autistic child, religion, employment status, and individual health.

Phetrasuwan and Shandor (2009) study identified that there was a significant relationship between parental stress and maternal education and maternal income, and also reported that mothers with lower education levels and lower income had higher parenting stress.

Another study Allen, Bowles and Weber (2013) showed three significant relationships. Firstly they showed a relationship between the mothers' depression and stress, and the severity of autism of their children. Secondly they showed a relationship between the mother's depression and stress, and family income, and thirdly a relationship between mothers' depression and stress, family income and the severity of autism of the children.

Another study Athari, Ghaedi and Kosnin (2013) and Osborne (2009) clarified that different incomes of mothers have significant effect on the level of depression and stress among mothers and the severity of autism, decrease in family income is followed by an increase in depression and stress level in mothers, and rising family income is followed by reductions in the depression and stress among mothers.

In a study Hedda, James and Aaron (2010) stated that sure character and demographic factors of the mother are associated with maternal stress and also expressing little affection, having low interest in people, and being an older mother (34-45) were found to contribute to stress in mothers of children with Autism Spectrum Disorders (ASD). On the other hand older mothers (ages were not specified) of children with AS and those with higher annual income reported better adjustment. Parents' (92% mothers) stress levels were expected mainly by psychological (e.g., coping strategies, social support) rather than demographic variables.

Favero-Nunes (2010) told that do not significant association between the variables of age and educational level of mother, marital status, current occupation, religion and number of children but association with family income. And also stated that two participants (10%), one attending higher education and the other a post-graduate student, reported spending at least one of the periods away from home. On the other hand only two (10%) received support from supporters to provide childcare, some caregivers spend full time to their children depend on the relation to occupation and also to maintain special ability to care for the child. Another only two participants

(10%) who performed paid work and also mothers reported that they level their energy into the performance of daily activities related to motherhood and housework, with little available for self-care. The majority of families consisted of two to three children, with the minimum of one child and the maximum of six children. On the other hand Phetrasuwan and Shandor (2009) study reported that caring for a child with autism affects maternal careers and leisure time.

In a study reported small positive association was also found between the maternal age and level of parenting stress, older mothers are reporting higher levels of stress (Rezendes and Scarpa, 2011). The current study, the 25% of mothers reporting a less well-characterized mood disorder, the mothers are highly educated, and over the age of 30 years (Vasa, Anderson and Marvin, 2012).

Similar to Weitlauf, Vehorn and Taylor (2012) study reported that the strong relations between higher levels of parenting stress were significantly related to more child problem behavior. And also higher levels of parenting stress related to higher levels of depression. In a study Alago (2014) explained that 39% of the parents of children with autism spectrum disorder reported that child care problems had a major impact on employment decisions than comparable non poor household, impacting these numbers are the family income levels.

Wang et al. (2013) told that mothers' parenting stress was associated with levels of depression and anxiety, and child's behavioral symptoms, maternal anxiety, maternal depressive symptoms, and lack of governmental financial support.

One finding suggest that the relationship excellence and parenting stress explain a single amount of the difference in maternal depressive symptoms, above and beyond the helps of child-specific factors. The impacts of parenting stress on depressed mood after diagnosis and a less positive relationship may impair the impact of parenting stress on depressed mood at this time (Weitlauf, Vehorn and Taylor, 2012).

In this study found that Most common depressive symptoms of mothers of children with autism spectrum disorder like crying 64.8%, unable to participate in academic or professional activities as used to (61%), irritability, weak and fatigue 60%, unable to participate in social activities as used to 59%, reduced the speed of work and cannot

remember as before 57.1%, difficulty concentrate in many things 55.2 %, and sleep less 51.4%.

Phetrasuwan and Shandor (2009) found that mothers reporting more parenting stress had more depressive symptoms and lower levels of well-being and also feelings like guilt and worthlessness, loss of appetite, psychomotor retardation, sleep disturbance, feelings of helplessness, and hopelessness.

In 2010, a study was conducted in Brazil mothers of children with autism experiences irritability, self-reproach (guilt), sorrow, distorted body image, indecision, feelings of guilt and somatic concern and 85% mothers reported irritability , 85% sleep disturbance, 75% self-accusations ,75% fatigue ,65% sadness , and 65% body image distortion (Favero-Nunes ,2010).

Bilgin and Kucuk (2010) study reported that mother's frequently experienced negative feelings, such as grief 18.6%, emotional breakdown 11.6%, worry 9% and hopelessness 9 %. In a study 78.7% mothers reports that clinically significant depressive symptoms regarding the week following their child's ASD diagnosis, with some 37.3% continuing to report clinically significant levels of depressive symptoms at follow-up (Taylor and Warren 2012).

Another study Jennifer (2007) showed that the effects of children with autism on their parents has focused on the negative effects of parenting like stress, pessimism (negativity), distant relationships with their child, depression, limited career options, anxiety, disappointment, worry about the future, exhaustion (fatigue), embarrassment (shame), feelings of helplessness, loss of leisure time, isolation, and rejection by family, friends and the community.

In a study Wilkinson (2013) described that mothers of children with Autism Spectrum Disorders (ASD) reported significantly higher fatigue and fatigue was also significantly related to other aspects of wellbeing including stress, anxiety and depression, and lower parenting efficacy and satisfaction. And also factors associated with high levels of fatigue were poor maternal sleep quality, a high need for social support and poor quality of physical activity. One study reported that child and parent sleep as factors associated with depressive symptoms in parents of children with Autism Spectrum Disorders (ASDs) (Meltzer, 2011). Another study also shows that



sleep is also found to be an important factor. Child sleep problems and parental sleep quality were associated with maternal blood pressure, parenting stress, anxiety and depressive symptoms (Leader, 2013).

This study shows that to find out the prevalence of mother of children with autism spectrum disorder among 105 participants 42.9% minimal depression, 19.0% mild depression, 9.5 moderate depression, and 30% severe depression.

Bezerra, Junior and Ivone, (2014) reported that depression was present in 26.7% of parents and anxiety in 33.7%. Severe behavioral symptoms in the child increased the possibility of severe anxiety and depression symptoms in the parents. Phetrasuwan and Shandor (2009) found that parenting burden and parenting stress are associated with high levels of psychological distress and depression. In another study seen that 50% of mothers with children with autism had higher depression (Olsson and Hwang, 2008).

Wood, Sherman and Hamiwka (2008) reported that 25% mothers reported moderate or severely depressed range and 67% mothers reported sleep disruption. Similarly another study found that children who had Autism Spectrum Disorders (ASDs) experienced more than 32 % of the mothers moderate to severe levels of depression and mothers of children with Autism Spectrum Disorders were 9 months and 4 years old observed in moderate and severe levels of depressive symptoms (Mothers raising children with autism prone to depression, stress, 2014).

Favero-Nunes (2010) found that a prevalence of criteria for depression was found in only 15% of these mothers' normality or mild depression. Mazefsky, Conner and Oswald (2008) told that 60% of families had at least one parent with depression and also 80% of probands had depression when their mothers were also diagnosed with depression, compared to only 16% of those whose mothers did not have depression meeting criteria for comorbid depression.

Parental depression was assessed using the Beck Depression Inventory (BDI) in 216 families with children with autism and 50% of mothers with children with autism had elevated depression (Olsson and Hwang 2008).

## **CHAPTER 6**

### **LIMITATION, RECOMMENDATION AND CONCLUSION**

#### **6.1. Limitations of the study**

This study was about the level of depression of mother of children with Autism Spectrum Disorders. There were some limitations researcher was always faced. About these limitations researcher considering prepared this project. The limitations are: Only one hundred five participants actively participate in this study. So this may not generalize and may not give the actual result. Because researcher couldn't collect more data lack of enough time for data collection. And also researcher faces difficulties of data collection because when the mothers come, before closing the school and also faces problems of collecting data after completing group therapy. For this reason the researcher have many time of data collection. Also some related article was found but they were from different countries. So it was so difficult to present any information in the context of Bangladesh and also no significant statistics result was included in this study in the basis of Bangladeshi culture.

#### **6.2. Recommendations of the study**

Future similar research will be conducted in the area with large number of sample size. And also need for more research on the psychosocial well-being of the parents of children with Autism Spectrum Disorders (ASD). To prevent the depression among mothers of children with autism, it is necessary to ensure the effective treatment of depression of mother of children with Autism Spectrum Disorders (ASD). Education and proper counseling to help them to obtain the beneficial outcomes and avoid the negative outcomes that is possible. It is also needed to document all information safely.

#### **6.3. Conclusion**

In summary, autism is associated with burden and stress for parents and caregivers. Parents caring for a child with autism contribute to a higher overall incidence of parental depression, anxiety and affects family quality of life. The absence of a cure for autism, the limited range of support services for parents, and the consequent burden of coping with autism experienced by the families.

If increased rate of depression in mothers of children with Autism Spectrum Disorders (ASD) can be attributed to both the increased stress related to having a child with significant impairments as well as the expression of a greater number of autistic characteristics in the mothers themselves. As a result, mothers can not management properly of the child. So understanding the patterns and causes of depression can help reduce the impact of depression on individual lives and in reducing the burden to society. Mothers of Autism Spectrum Disorders (ASD) need education and proper counseling to reduce their depression and personal support services. These interventions mothers to help them manage their children's behavior and focus on stress reduction and well-being. And also these programs will be beneficial to mothers of Autism Spectrum Disorders (ASD).

Beside, this study shows that mothers' education and training programs are also important that may contribute to feelings of control and support and consistently mediated positive effects on a variety of targeted behaviors and characteristics in children. Mothers of children with autism who participate in training experience improvement in mental health and well-being, reduced stress, and more time for leisure activities.

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## Appendix 1

### Permission letter for conducting study

#### Permission letter

Date: 23-07-14

To

The Head of the Department  
Department of Occupational Therapy  
Bangladesh Health Professions Institute (BHPI)  
CRP-Chapain, Savar, Dhaka-1343

Subject: Prayer for seeking permission to conduct the research project.

Sir/Madam,

With due respect and humble submission to state that I am a 4th year student of B.Sc. in Occupational Therapy of Bangladesh Health Professions Institute, the academic institute of Centre for the Rehabilitation of the Paralyzed (CRP). I am sincerely seeking permission to conduct my research project as the partly fulfillment of the requirements of degree of B.Sc. in Occupational Therapy. The title of my research is "Level of depression of mother of children with Autism Spectrum Disorder". The aim of the study is "To find out the level of depression of mother of children with Autism spectrum Disorder".

So, I therefore pray and hope that you would be kind enough to grant me the permission of conducting the research and will help me to complete a successful study as a part of my course.

You're obediently,

Nurun Nahar 23-07-14

Nurun Nahar

4th year, B.Sc. in occupational Therapy,  
Bangladesh Health Professions Institute (BHPI)  
CRP-Chapain, Savar, Dhaka-1343

Approved by	Signature and comment
<p><b>Supervisor</b> Sk. Moniruzzaman Senior Clinical Occupational Therapist &amp; In-charge, Occupational Therapy Pediatric Services Centre for the Rehabilitation of the Paralyzed (CRP) Savar, Dhaka-1343</p>	<p>I wish success in her research. The study will be helpful for mother of children with autism and occupational therapist to provide a quality of treatment.</p> <p><i>Sk. M. M. M.</i> 23/07/2014</p>
<p><b>Supervisor</b> Nazmun Nahar Assistant Professor and Head of the Department Department of occupational therapy BHPI, CRP-Chapain, Savar, Dhaka-1343</p>	<p>As per supervisor's comment it may allow her to conduct her study.</p> <p><i>Nazmun Nahar</i> 23/07/14</p>

## Appendix 2

### Permission letter for data collection



বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)  
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)  
(The Academic Institute of CRP)  
CRP-Chupain, Savar, Dhaka, Tel: 7745464-3, 7741404, Fax: 7745069  
BHPI-Mirpur Campus, Plot-A/5, Block-A, Section-14, Mirpur, Dhaka-1206. Tel: 8020178, 8053662-3, Fax: 8053661

তারিখ : ২২.০৯.২০১৪

প্রতি  
অধ্যক্ষ  
প্রয়াস  
সভার সেনানিবাস, সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর প্রসঙ্গে।

জনাব,  
আপনার সদয় অধিকারের জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন অকুপেশনাল থেরাপি কোর্স পরিচালনা করে আসছে।  
উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।  
বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন অকুপেশনাল থেরাপি কোর্সের ছাত্রী নুরুন নাহার তার রিসার্চ সংক্রান্ত কাজের জন্য আগামী ০১.১০.২০১৪ তারিখ থেকে ৩০.১১.২০১৪ তারিখ পর্যন্ত সময়ে আপনার প্রতিষ্ঠানে সফর করতে অগ্রহী।  
তাই তাকে আপনার প্রতিষ্ঠান সফরে সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

  
অধ্যাপক ডাঃ এম এ কাদের  
অধ্যক্ষ  
বিএইচপিআই।



Received on  
Sl.No: ২০৫  
Date: ২২/০৯/২০১৪  
Sign: 



  
  
অধ্যক্ষ  
প্রয়াস  
সভার এন্ট্রান্স



বাংলাদেশ হেল্থ প্রফেশনস ইনষ্টিটিউট (বিএইচপিআই)  
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)  
(The Academic Institute of CRP)

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BHPI-Mirpur Campus, Plot-A/5, Block-A, Section-14, Mirpur, Dhaka-1206. Tel: 8020178, 8053662-3, Fax: 8053661

তারিখ : ২৫.০৯.২০১৪

প্রতি  
অধ্যক্ষ  
বিউটিফুল মাইন্ড  
উত্তরা, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পঞ্চাশতাত্ত্বদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশনস ইনষ্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন অকুপেশনাল থেরাপি কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন অকুপেশনাল থেরাপি কোর্সের ছাত্রী নুরন নাহার আক্তার তার রিসার্চ সংক্রান্ত কাজের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী।

তাই তাকে আপনার প্রতিষ্ঠান সফরে সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

অধ্যাপক ডাঃ এম এ কাদের  
অধ্যক্ষ  
বিএইচপিআই।



Approved  
23/10/14  
Vice-Principal  
Beautiful Mind





বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)  
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BHPI-Mirpur Campus, Plot-A/3, Block-A, Section-1A, Mirpur, Dhaka-1206. Tel: 8020178, 8053662-3, Fax: 8053661

তারিখ : ০২.১১.২০১৪

প্রতি

অধ্যক্ষ

গ্রীম এনজেল সেন্টার ফর অটিস্টিক চিলড্রেন

মিরপুর, ঢাকা-১২১৬।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর প্রসঙ্গে।

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উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন অকুপেশনাল থেরাপি কোর্সের ছাত্রী নুরুল নাহার তার রিসার্চ সংক্রান্ত কাজের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে অগ্রহী।

তাই তাকে আপনার প্রতিষ্ঠান সফরে সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

শেখ মনিরুজ্জামান

সহকারী অধ্যাপক ও বিভাগীয় প্রধান (ভারপ্রাপ্ত)

অকুপেশনাল থেরাপি বিভাগ

বিএইচপিআই।



Permitted  
A. Y. 28/11/14





বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)  
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তারিখ : ২২.০৯.২০১৪

প্রতি  
ইনচার্জ  
শিশু বিভাগ  
সিআরপি, সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) প্রসঙ্গে।

জনাব,

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন অকুপেশনাল থেরাপি কোর্সের ছাত্রী নুফান নাহারকে তার রিসার্চ সংক্রান্ত কাজের জন্য আগামী ০১.১০.২০১৪ তারিখ থেকে ৩০.১১.২০১৪ তারিখ পর্যন্ত সময়ে আপনার নিকট প্রেরণ করা হলো।

তাই তাকে সার্বিক সহযোগিতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

নাভমুন নাহার  
সহকারী অধ্যাপক ও বিভাগীয় প্রধান  
অকুপেশনাল থেরাপি বিভাগ  
বিএইচপিআই।



She is permitted for  
data collection. please  
help her.  
Thanks  
Hosnean Perveen  
29-10-14

Permitted to  
collect data  
H. H. H. H. H. H.  
20.12.2014  
Laboratory  
Mirpur  
Dhaka

## Appendix 3

### Consent form and questionnaire in Bangla

#### সম্মতি পত্র

এই গবেষণায় অকুপেশনাল থেরাপি বিভাগের অধ্যয়নের একটি অংশ এবং গবেষকের নাম নুরুল্লাহর। তিনি বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিটিউটের বি.এস.সি ইন অকুপেশনাল থেরাপি বিভাগের ৪র্থ বর্ষে অধ্যয়নরত একজন ছাত্রী এবং তার গবেষণার বিষয় “অটিজম বাচ্চার মায়েদের বিষ্মৃতা পরিমাণ”।

এই গবেষণায়.....  
একজন অংশগ্রহণকারী এবং আমি এই গবেষণার উদ্দেশ্য পরিস্কারভাবে বুঝতে পেরেছি। আমি যে কোন সময় এবং গবেষণার যে কোন পর্যায়ে আমার অংশগ্রহণ প্রত্যাহার করতে পারি। এই জন্য আমি কারো কাছে জবাব দিতে বাধ্য থাকব না। আমি অবগত হয়েছি যে, এই গবেষণায় অংশগ্রহণ করার ফলে বর্তমানে এবং ভবিষ্যতে আমার বাচ্চার চিকিৎসা গ্রহণের উপর কোন প্রভাব পরবে না। এই গবেষণার সাক্ষাৎকারের সকল তথ্য যেগুলো গবেষণার কাজে ব্যবহৃত হবে, সেগুলো সম্পূর্ণ ভাবে গোপনীয় থাকবে এবং আমার নাম ও পরিচয় ছাপা হবে না।

আমি গবেষণার পদ্ধতি, জটিলতা অথবা সুফলের ব্যাপারে যে কোন প্রশ্নের উত্তর দানের জন্য এই গবেষণার তত্ত্বাবধায়কের সাথে আলোচনা করতে পারব। আমি উপরোক্ত সকল তথ্য সম্পর্কে জানি এবং এই গবেষণায় অংশগ্রহণে সম্মতি জানাচ্ছি।

অংশগ্রহণকারীর স্বাক্ষর/টিপসইঃ	তারিখঃ
গবেষকের স্বাক্ষরঃ	তারিখঃ
স্বাক্ষীরস্বাক্ষর/টিপসইঃ	তারিখঃ

## জনসংখ্যা ভিত্তিক প্রশ্নাবলি

অংশগ্রহণকারীর নামঃ

বয়সঃ

শিক্ষাগত যোগ্যতাঃ

পেশাঃ

বাচ্চার যত্ন নেয়ার সময়কালঃ

ধর্মঃ

বিবাহ সংক্রান্তঃ

ছেলে মেয়ের সংখ্যা :

অটিজম বাচ্চার সংখ্যা :

আর্থিক অবস্থাঃ

### বিষন্নতা পরিমাপক

	বিবৃতি সমূহ	একেবারেই প্রযোজ্য নয় (১)	প্রযোজ্য নয় (২)	মাঝামাঝি (৩)	কিছুটা প্রযোজ্য (৪)	পুরোপুরি প্রযোজ্য (৫)
১।	আমার অশান্তি লাগে।					
২।	ইদানিং আমি মন মরা থাকি।					
৩।	আমার ভবিষ্য অঙ্ককার।					
৪।	ভবিষ্যতে আমার অবস্থা দিন দিন আরও খারাপ হবে।					
৫।	আমার সব শেষ হয়ে গেছে।					
৬।	আমি মনে করি যে জীবনটা বর্তমানে আমি খুব বেশি কষ্টকর।					
৭।	বর্তমানে আমি অনুভব করি যে মানুষ হিসাবে আমি সম্পূর্ণ ব্যর্থ।					
৮।	আমি কোথাও আনন্দ-স্মৃতি পাইনা।					
৯।	নিজেকে খুব ছোট মনে হয়।					
১০।	সব কিছুতে আমার আত্মবিশ্বাস কমে গেছে।					

১১।	আমার মনে হয় মানুষ আমাকে করুণা করে ।					
১২।	জীবনটা অর্থহীন ।					
১৩।	প্রায়ই আমার কান্না পায় ।					
১৪।	আমি প্রায়ই বিরক্তবোধ করি ।					
১৫।	আমি কোন কিছুতে আগ্রহ পাইনা ।					
১৬।	আমি ইদানিং চিন্তা করতে ও সিদ্ধান্ত নিতে পারি না ।					
১৭।	আমি আজকাল অনেক কিছুতেই মনোযোগ নিতে পারি না ।					
১৮।	আমি আগের মত মনে রাখতে পারি না ।					
১৯।	আমি দুর্বলবোধ করি এবং অল্পতেই ক্লান্ত হয়ে পড়ি ।					
২০।	আমি এখন কম ঘুমাই ।					
২১।	আমি এখন বেশি ঘুমাই ।					
২২।	আমার মেজাজ খিটখিটে হয়ে গেছে ।					
২৩।	আমার ক্ষুধা কমে গেছে ।					
২৪।	আমার ক্ষুধা বেড়ে গেছে(ইচ্ছাকৃতভাবে ওজন নিয়ন্ত্রনের চেষ্টা করার ফলে নয়) ।					
২৫।	আমার ওজন কমে গেছে(ইচ্ছাকৃতভাবে ওজন নিয়ন্ত্রনের চেষ্টা করার ফলে নয়) ।					
২৬।	আমার মনে হয় যে আমার কাজ কর্মের গতি কমে গেছে ।					
২৭।	হাসির কোন ঘটনা ঘটলেও আমি আর হাসতে পারি না ।					
২৮।	যৌন বিষয়ে আমার আগ্রহ কমে গেছে					
২৯।	সামাজিক কাজ কর্মে আগের মতো অংশগ্রহণ করতে পারি না					
৩০।	শিক্ষা বা পেশাগত কাজ কর্ম আগের মত করতে পারি না ।					

## Appendix 4

### Consent form and questionnaire in English

#### Consent form

This research is a part of Occupational Therapy course and the name of this researcher is Nurun Nahar. She is a student of BHPI in Occupational Therapy in 4<sup>th</sup> year. The study is entitled as “Level of depression of mother of children with Autism Spectrum Disorders.”

In this study I am .....agree to participate and participating voluntarily. The purpose and nature of the study has been explained to me clearly. I will not be bound to answer to anybody and I understand that I can withdraw from the study, without repercussion at any time whether before it starts or while I am participating. I understand it will have no influence on my present or future status as a patient in this organization. I will receive the same care as any other patient seen in this organization. There will be no loss of benefits to which I am otherwise entitled. I also understand that all the information collected from interview used in the study would be kept safe and confidentiality. Only researcher will be eligible to assess in the information for her publication. I give permission for my interview with the researcher and I agree for publication of extracts from my interview. My name and address will not published anywhere in this study.

I can consult with researcher and research supervisor about the research process and I am willing to participate in the study with consent.

Signature	Date
Signature of the participant	
Signature of the researcher	
Signature of the witness	

## Socio demographic questionnaire

Name of participant:

Age:

Educational background:

Occupation:

Caregiving duration:

Religion:

Marital status:

Number of children:

Number of Autistic children:

Financial condition:

## Depression Scale

S.N	Items	Not at all applicable	Not applicable	Moderately applicable	Somewhat applicable	Fully applicable
1.	I Feel lack of peace in my mind.					
2.	Nowadays I experience low mood.					
3.	My future is dark.					
4.	My condition will be worse in future.					
5.	I am finished.					
6.	Currently I think that my life is very painful.					
7.	Currently I feel that I am a complete failure.					
8.	I find no pleasure					
9.	I feel myself very inferior.					
10.	My self-esteem has reduced in every respect.					
11.	I think that I am an object of pity to the people.					
12.	Life is meaningless.					
13.	I often feel like crying.					
14.	Often I feel irritated.					
15.	I feel no interest in anything					
16.	Now a day I cannot think and cannot					

	take decisions.					
17.	Now a day cannot concentrate in many things.					
18.	I cannot remember as before					
19.	I feel weak and exhausted easily.					
20.	Currently I sleep less.					
21.	Currently I sleep more.					
22.	My temper has turned irritable.					
23.	My appetite has reduced.					
24.	My appetite has increased.					
25.	My weight has reduced (No due to intentional attempt to control weight).					
26.	I thing speed of my work has reduced.					
27.	I cannot laugh even when there is a funny event.					
28.	My desire in sex has reduced.					
29.	I cannot participate in social activities as I used to.					
30.	I cannot do academic or professional activities as I used to.					