

**MOTHER'S PERCEPTION TOWARD USING FUNCTIONAL  
MOBILITY AIDS FOR THEIR CHILDREN WITH CEREBRAL  
PALSY**



By  
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## **Statement of Authorship**

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

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

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

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

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## Abstract

**Background:** Children with Cerebral Palsy have difficulties in functional mobility due to abnormal tone, posture, balance, and coordination. That's why while children continue to use mobility aids then physical, social and overall environment act as either barrier or facilitator to use mobility aids. Then, mother faces so many difficulties and opportunities. That's why investigator run a study to explore mother's perception for using mobility aids for their children. In Bangladesh, still now there is no research conducted on exploring mother's perception toward using functional mobility aids for their children with cerebral palsy.

**Objectives of the study:** The objectives of the study were to explore difficulties of the mothers for their children on physical mobility by using functional mobility aids in their physical environment, exploring difficulties of the mothers for their children on social activity by using functional mobility aids in their social environment, and exploring status of the mothers for their children on attending cultural program by using functional mobility aids.

**Methodology:** The study was a qualitative content analysis under qualitative design. The study was conducted in the William & Marie Taylor School of Center for the Rehabilitation of the Paralyzed (CRP) at Savar, and Proyash, Savar cantonment. There were eight mothers participated in this research. Semi structure questioners with face to face interview and the investigator used convenient sampling for data collection from the mothers of child with CP.

**Result and Discussion:** From the finding of the research, it was seen that mothers of child with cerebral palsy have tendency to go to school by using mobility aids regularly though they face transport and behavioral difficulties for using mobility aids. Mothers face no difficulties to engage their child with other children by using mobility aids. But in society mother faces unlike, sympathetic, discriminative and uncomfortable attitude from the neighbors for using mobility aids. For this reason they don't use mobility aids to go fair. Mother's don't go to relative's house by using mobility aids due to transport difficulties. Most of the mothers go outside and encourage their child to participate in play by and they feel satisfied for using mobility aids. They ensure participation in the cultural program by using mobility aids for their school going children.

**Conclusion:** Mothers perception toward using mobility aids show different problems in physical, social, and cultural aspects. They also demonstrate the importance of taking children's different developmental stages and unique personal experiences into consideration in understanding the influence of mobility aids for children with cerebral palsy.

**Key words:** *Cerebral palsy, mobility aids, mothers perception about mobility aids.*

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## **List of Acronyms**

**AFO:** Ankle Foot Orthoses

**CP:** Cerebral Palsy

**CRP:** Center for the Rehabilitation of the Paralyzed

**CRPD:** Convention on the Rights of Persons with Disabilities

**CWCP:** Children With Cerebral Palsy

**CWD:** Children with Disabilities

**GOB:** Government of Bangladesh

**IE:** Inclusive Education

**NGOs:** Non- Government Organization

**OT:** Occupational Therapy

**OT's:** Occupational Therapists

**PWD:** Person with Disabilities

**QCA:** Qualitative Content Analysis

**US:** United States

**WHO:** World Health Organization



# CHAPTER 1 INTRODUCTION

## 1.1. Background

### 1.1.1. Impacts of Cerebral palsy among mothers and mobility aids for children's

Cerebral Palsy is a group of permanent disorders of the development of movement and posture and causes activity limitations that are attributed to non-progressive disturbances (Elad *et al.* 2012). The early signs of Cerebral Palsy usually appear before the age of 3 (Cerebral Palsy, 2014). Cerebral palsy is first noticed by parents when a child shows impairment of movement and posture (Quinn *et al.* 2011). Caring for a child with CP is much more difficult than caring for a normally developing child. Children's disability may impact on many areas within the family, such as causes stress, depression, anxiety, guilt, sadness, burnout, and worry. At the same time the disability also impacts on social status, psychosocial well-being, job role, physical fitness and the relationship with other normal children in the family (Nicolson, Moir, and Millsteed, 2012). In Bangladesh, children with CP have usually been considered as fearful and superstitious beings. The direct result of these beliefs impacts on many areas of life for the mother and child. Most of the people in the Bangladesh look at Children with CP as a curse and a cause of embarrassment to the family (JICA, 2002). Parents need to increase their knowledge about activities and participation for their children, according to the child's age appropriate motor function (Chiarello *et al.* 2010).

Mobility aids are important and helpful for those children who experience mobility difficulties. As well as Cerebral Palsy, there are many other health conditions and impairments which affect proper mobility, such as amputation, arthritis, poliomyelitis, muscular dystrophy, spinal-cord injury, spina bifida, and so on (WHO and USAID, 2011). Mobility aids are one of the most common types of assistive technologies or devices. For example: independent mobility for Children with CP can be achieved by wheelchairs which will help them to explore their own environment (Bousquet and Hägglund, 2010). Mobility aids enable Children with CP to achieve personal mobility and they are a pre-requisite for achieving equal opportunities, enjoying human rights and living with dignity (WHO and USAID, 2011). There are many mobility aids that help to improve activity, participation, user satisfaction and quality of life (Bousquet and Hägglund, 2010). Mobility aids can make school, home, and community settings much

less restrictive for Children with CP. It increases student opportunities for education, integration, social interactions, and the potential to provide meaningful jobs (Ron and Larae, 2001).

### **1.1.2. Government initiatives for accessing mobility aids in developing countries**

In most developing countries the law for giving mobility aids is poor (WHO and USAID, 2011). In United Nations, CRPD highlights the responsibility to take appropriate measures to ensure the greatest possible independence and a corresponding responsibility to promote the availability and access to mobility aids. A meeting at WHO headquarters in Geneva in Switzerland proposed that in developing countries WHO would provide mobility aids for CP children (WHO and USAID, 2011). Bangladesh is a country with a population of 140 million. The WHO estimates that 10% of the population in Bangladesh is disabled (CRP-Bangladesh, 2010). The Bangladesh Persons with Disability Welfare Act (2001) covers the initiatives of transport facilities as - firstly, setting up proper access opportunities for all buildings, establishments, and transportation; secondly, taking initiatives for improving access to rest-rooms in rail compartments, water-vessels, bus-terminals and waiting rooms; thirdly, setting up auditory signals at all main road-crossings in the towns for people with auditory impairment; fourthly, devising a plan for suitable signs and symbols to facilitate safe and hazard-free movement; fifthly, ensuring easy access for wheelchairs by curb cuts, slopes, and ramps in public buildings and rest-rooms; finally, allowing PWD's and CWD's special identity cards allowing them to travel with a social companion by train, bus, water-vessel (Disability world, 2007). In Bangladesh, BRAC's Children with Special Needs program supplies hearing aids, ramps to school buildings, wheelchairs, crutches, glasses and other opportunities to ensuring educational access for children with CP (Donald, 2010).

### **1.1.3. Barriers and difficulties for accessing mobility aids**

In most of the countries there is a barrier in service delivery of mobility aids as there is a poor referral, assessment, prescription, funding, ordering, and product organization (WHO and USAID, 2011 & Pechak and Thompson, 2007). Social and attitudinal barriers can obstruct participation in leisure and recreational activities by children who use wheelchairs (Palisano and Lally, 2007). The physical environment is one of the barriers

to using mobility aids, such as inaccessible houses and schools in rural and urban areas. In developing countries, parents are not knowledgeable about mobility aids and therefore they may buy mobility aids, but not use them in their home (Ron and Larae, 2001). Besides, these barriers mothers face many difficulties for using mobility aids such as: One research result from the mother's perspective shows that the manual wheelchair is difficult to propel because of its weight and tilted seat. The mobility of CWCP is strongly influenced by the kind of surface they have to walk on. Some parents complained that they faced numerous physical barriers while using wheelchairs for their children, such as road conditions and no ramps (Harrison and Rochette, 2013). Another research result shows that for home based mobility aids mothers do not encourage their children sufficiently and they provide three reasons behind their unwillingness. Firstly, they thought that their children require more time to develop the skills to manage an independent life. They indicated other problems like lack of space at home, with small doors and narrow houses. Secondly, they felt that their child might develop a negative attitude towards their mobility aids at home as most of them had a lowered willingness to use these aids, and displayed negative emotions. Thirdly, mothers have an inadequate understanding of the aids and their functions. Besides, mothers complained that when their children used standers they experienced low back pain, soreness, and numbness in the legs because standers require the trunk fixed in a specific alignment. They also added that the children using AFO's felt restricted, hot, and stuffy, and they are also afraid that their children might develop pressure sores, and scoliosis or reduced functioning of the lower extremities (Huang, Sugden, and Beveridge, 2008). In developing countries the future of rehabilitation will improve by information exchanging, networking, and training opportunities within and between developed and developing countries by expanding globalization trends, and internet availability (Pechak and Thompson, 2007).

#### **1.1.4. Mobility aids and mothers perception**

Cerebral palsy is first seen by parents when a child may not be able to show the need for closeness in an ordinary way due to motor, sensory or cognitive difficulties. This affects the mother's attachment response to the child (Quinn and Gordon, 2011). But mothers said that by using mobility aids their children improved in many areas of their daily lives. These included social participation, independence, sleep, integration, personal care,

family relationships, mobility, and participation in a wide range of activities. In case of interpersonal relationships parents feel that the public accepts their child more when they use mobility aids. Parents added that their children were more motivated, more interactive, and that they have improved physical as well as psychosocial well-being. They have less stress and greater satisfaction with their child's participation (Harrison and Rochette, 2013). The David Hart Walker Orthosis is a modular brace that fits on the child's trunk, pelvis, and legs and has a spring-loaded attachment to a wheeled frame. In 1999, this device was used among 20 Children with CP from 4 to 13 years of age, who were unable to use a traditional and ordinary walker. After 12 months of use, parents expressed that their children were able to move considerable distances, involve in variety of activities, able to walk short distances at home and school, and used for standing and exercise. They also mentioned that their child's ability to interact with other children increased when using the walker. Overall, the walker met or exceeded the expectations and satisfactions of the parents (Palisano and Lally, 2007).

At present, in Bangladesh, there is no research conducted to analyze the perception of the mothers about mobility aids for their cerebral palsy children. Overall, it is really very important to explore the perception of the mothers with CP children. Therefore, the main purpose of this study is to explore perception of the mothers on using mobility aids on physical, social and cultural perspectives.

## **1.2. Aims**

This study main aim is to explore perception of the mothers toward using functional mobility aids for their children with cerebral palsy (quadriplegic & diplegic).

## **1.3. Objectives**

- To explore difficulties of the mothers for their children on physical mobility by using functional mobility aids in their physical environment.
- To explore difficulties of the mothers for their children on social activity by using functional mobility aids in their social environment.
- To explore status of the mothers for their children on attending cultural program by using functional mobility aids.

## **1.4. Significance**

The aim of the study is to find out the mother's perception toward using functional mobility aids for their children with cerebral palsy. Mobility aids provision and designing is a part of OT intervention and, in CRP both occupational and physiotherapist just send the aids measurement to the workshop. In CRP, still now there is no research has conducted on perception of the mothers on using mobility aids for their children and it is important to do a research. After completing the research, the findings will help to ensure and consider possible problems and difficulties of the mothers who have school going CWCP and mobility difficulties. The study findings may be useful for the OT's to let them inform about the importance of raising education program on mobility aids according to the perception of mothers. With the permission of authority, the results of the research can be shared with the school based OT's and in the Pediatric unit also. Research findings may help the therapists to realize mothers' perception about the mobility aids in the form of a written document. After finishing the research, if anyone wants to know about the further situation of prescribing mobility aids for school going children with CP, then therapists can use this study and may get a snapshot on mobility aids and at the same time perception of the mother's on using mobility aids. This research may be helpful for the service providers to continue good rapport with the caregivers by sharing and understanding possible problems related with before, during and after

prescribing mobility aids. Additionally, mothers of Children with CP may become motivated to take OT treatment because they may feel that OT's are giving value to their feelings and perceptions. This study may also encourage the mother to take proper modification from Occupational Therapist in their home environment.

## **CHAPTER 2 LITERATURE REVIEW**

### **2.1. Cerebral palsy**

Cerebral Palsy is a non-progressive disorder causing disturbances in the developing fetal or infant brain (Knis-Matthews *et al.* 2011). A child diagnosed with CP may show problems in movement, muscle tone, coordination, and postural control (Knis-Matthews *et al.* 2011 and Elad *et al.* 2012). It is the leading cause of childhood motor disability (Carroll *et al.* 2014). In developing countries, the prevalence of CP is much higher due to poor antenatal care, dehydration, malnutrition, and poor disease management (Quinn and Gordon, 2011). Worldwide, the incidence of CP is 1.6 to 2.5 per 1,000 live births (Carroll *et al.* 2014). It is estimated that the incidence of CP in the United States ranges from 1.5 to 4 per 1,000 live births and 10,000 infants are born with CP (Knis-Matthews *et al.* 2011 and Carroll *et al.* 2014). In South Africa the prevalence of CP is between 1% and 8 % with a higher prevalence in less developed communities and rural areas (Knis-Matthews *et al.* 2011). The early signs of CP usually appear before the age of three (Cerebral Palsy, 2014). CP is one of the most common causes of long-term disability (Elad *et al.* 2012). There are specific forms of CP (athetoid, ataxic, and spastic) that are classified according to the type and distribution of motor impairment to the involved limbs (Knis-Matthews *et al.* 2011). CP affects sensation, perception, cognition, communication, and behavior (Quinn and Gordon, 2011). Impaired movement and postural instability also limits functional activities and walking ability (Botega *et al.* 2013). For these reasons mothers of CWCP think that their children had limited attachment behaviors (Cerebral Palsy, 2014).

### **2.2. Perception of mother's about Cerebral Palsy**

In Bangladesh disability is a major social and economic issue. In 1998, the GOB estimated a national prevalence of disability is 1.60% (JICA, 2002). In 2010, a study in Kuwait show that the mothers of CWCP felt uneasy with the term “disability”. They thought that this term means incomplete child and indicate a negative image for their children. They thought that their children had greater opportunity to achieve and more creativity than normal children. Many mother expressed that local people showed over sympathy, this over sympathy segregates their child from inclusion. On the contrary,

many mother expressed that local people did not show any sympathy for their children and this attitude separate their child from integration. Many mothers thought that Allah or God sent disable children as challenge or test their patience (Raman *et al.* 2010). Many mothers think that their child condition was temporary. They complained self-blame, possession by ghosts, evil spirits, sin or fall during the pregnancy for their child's disabilities. They think that premature delivery, homebirths, and long labor are also responsible. Some mothers mentioned oxygen deprivation to the infant's head during delivery. In general these findings indicate that mothers had lack of understanding about clinical explanation for their child's disability (Maloni *et al.* 2010).

### **2.3. Problems of mothers to bring up Cerebral Palsy child**

A primary family caregiver gives care and support to a family member or friend who has a disability, mental illness, chronic condition or is elderly (Queensland Government, 2014). Care-giving is a normal part of human being. Parent role becomes totally different when a child experiences functional limitations. One of the main challenges for the mothers is to manage their child's chronic health problems in an effective way. In some cases, the provision of such care can damage to both the physical and psychological wellbeing of the mothers (Unsal-Delialioglu *et al.* 2009). The relationship between mother and child facilitates the development of emotional bond between the two. This emotional bond could be affected by the complexities of caring for children with CP. When a child diagnosed with CP, mother has to deal with the physical condition of their child (Quinn and Gordon, 2011). In Australia 474 600 females providing ongoing help and support to people with disability, and 118 are caring for children CP (Edwards *et al.* 2008). Caring of a CWCP has additional responsibilities and stressors when compared to caring for typically developing children. Many research shows that the mothers who caregiving CWCP suffers from lower life satisfaction, decrease in psychosocial well-being and quality of life (Sen and Yurtsever, 2007). Family is the home environment for learning early attachment behaviors before child goes to school and interact with the outside community (Quinn and Gordon, 2011).



## **2.4. Children with Cerebral palsy and schooling**

Children with CP usually admit in special schools with special facilities and multi-disciplinary team of specialists to deal with emotional, physical, social and learning difficulties (Quinn and Gordon, 2011). The prevalence of CP among school-age children is approximately 2-2/1000 compared with other chronic conditions such as deafness, blindness, musculoskeletal impairment, diabetes mellitus, asthma, epilepsy, *etc.* (Barabas, Mathews and Zumoff, 1992). In USA around 1,200 to 1,500 preschool-aged children are diagnosed per year with CP (Stern, 2014). The Bangladesh government has declared "Education for all by the year 2000" and trying to attain this goal by formal and non-formal education systems (JICA, 2002). There are five types of Special Education Programs: firstly, special education program (JICA, 2002, and Khan and Anisuzzaman, 2011). Secondly, home-based education program by mobile education system. Thirdly, the integrated education programs under the mainstream system. Fourthly, distance education program, and finally, Inclusive Education Program (JICA, 2002). Inclusive education is adaptable to different style of learners so that it suits all learners (UNESCO, 2001 and National Council for Special Education, 2010). Parents of school-aged children had more priorities for productivity than parents of younger children. For parents of children in all age groups and motor function levels, self-care was the most frequent priority (Chiarello *et al.* 2010). School going CWCP were less dependent on adult assistance for mobility at home and more dependent on adult assistance for mobility when outdoors or in the community (Palisano *et al.* 2009). Children often require disability certificates to ensure their abilities to get mobility aids (Donald, 2010). Severe locomotors restriction negatively impacts psychological development and personality characteristics. These may impact on poor academic achievement and social interaction (Butler, 2009).

## **2.5. Social participation for children with CP**

Cerebral palsy restricts participation and negatively impacts on mobility (Botega *et al.* 2013). Children with CP experience physical and social problems that present in different ways in their entire life (Shikako-Thomas *et al.* 2008). Mobility is the prerequisite for completing other daily activities, social roles and participation (Botega *et al.* 2013).

Severely limited mobility negatively impacts social interaction (Butler, 2009). Social participation includes the performance of daily living activities and social roles. These emerge from the interaction between personal factors and environmental factors. It helps to develop competency skills, relationships, personal identity, and to improve quality of life. Mobility aids help to facilitate school inclusion and social participation by improving walking ability of CWCP (Botega *et al.* 2013). A study shows that, eight parents among 20 Children with CP mentioned their child's social interaction increased when using a walker. Leisure and recreational activities can be restricted for wheelchair users due to social and attitudinal barriers (Palisano *et al.* 2007). Before giving mobility aids, environmental and occupational factors must be considered for proper social participation (Mobility Aids Ambulation Devices, 2013).

## **2.6. Leisure activities and cultural program for children with CP**

### **2.6.1. Leisure activities**

The term “leisure,” refers to recreational activities (Shikako-Thomas *et al.* 2008). Leisure activities are divided into formal and informal. Formal includes structured, preplanned and informal includes spontaneous, unstructured activities (Longo, Badia, and Orgaz, 2013, Shikako-Thomas *et al.* 2008). Basically Children with CP perform informal activities. Mainly those activities are organized within the house by family members. These types of children usually experience lack of social engagements with their peers (Palisano *et al.* 2009). Leisure activity is influenced by every child’s age, sex, and personality. It is also influenced by different family characteristics, mobility aids, physical limitations, environmental accessibility, and availability of transportation (Palisano *et al.* 2011). One research explored that under child, leisure activities are influenced by the child’s physical capacities, personality, motivation, age, sex, and gender. Under functioning, leisure is influenced by reduced family stress, time limitations, financial crisis, and poor mobility aids in the school environment. Under environment, leisure is also influenced by the lack of accessibility, and social attitudes (Longo, Badia, and Orgaz, 2013). Usually parents should take their Children with CP to parks, gardens, zoos, playgroups, and playgrounds to explore the outside world (Panse, 2012 and Chiarello, 2011). Research shows that in Canada, on skill-based activity, school-going CWCP participate in swimming, gymnastics, singing, art lessons, dancing, and religious activity in

their leisure time. They also engaged in puzzles, card games, crafts, drawing, playing with toys, hike, watching TV etc. (Majnemer *et al.* 2008). Parents can arrange learning activities like listening to stories, looking at pictures or books in their leisure time at home (Chiarello, 2011). In many countries there are accessible playgrounds and swimming pools that allow CWCP and normal to have fun (Palisano and Lally, 2007).

### **2.6.2. Cultural program**

In Bangladesh, every year the Pediatric Unit of the CRP observe the World CP Day. In 2013, nearly 200 Children with Cerebral Palsy took part in cultural programs (CRP, 2013). Parents of CWCP need to encourage developing leisure and recreational interests, and participating in community programs (Panse, 2012). During the holidays or any cultural program like birthday parties or any religious events parents should keep up their children for learning social skills (Chiarello, 2011). In social activity talking on the phone, going to a party, hanging out, visiting and seeing movies, live event, full-day outing are very important (Majnemer *et al.* 2008). One research findings in Spain show that most of the school going CWCP involved in hanging out and social activities. It indicates that they participated in leisure activities with low rate but they get increased enjoyment. It also shows that the severity of the disability is not an important factor of the satisfaction and pleasure received from participating in leisure activities (Longo, Badia, and Orgaz, 2013). Environmental factors may act as either barriers or facilitators for engagement in cultural program such as lack of accessibility in cultural programs, and social attitudes (Shikako-Thomas *et al.* 2008). Mobility aids not only helps to compensate for a way of disability it also increases opportunities for social participation (Mobility Aids Ambulation Devices, 2013).

### **2.7. Mobility aids**

Mobility aid is defined as an assistive device that is used by individuals with mobility impairments (Catay pacific, 2014). Functional mobility surrounds the individual's capacity to transfer from one's own position from one place to another if anyone disabled, aged, or have an injury (Mobility Aids Ambulation Devices, 2013). Mobility makes an important patient-centered rehabilitation outcome (Cury, Figueiredo, and Mancini, 2013 and Wise Geek, 2014). Mobility Aids also called Ambulation devices (Mobility Aids

Ambulation Devices, 2013 & Wise Geek, 2014). It includes items such as walkers, canes, crutches, manual and electric wheelchairs (Mobility Aids Ambulation Devices, 2013). Mobility Aids are mainly necessary for children with spastic diplegic CP for their ambulation (21%) than those with hemiplegic CP (6%) (Carroll *et al.* 2014). Lack of mobility aids restricts normal participation (Cury, Figueiredo, and Mancini, 2013). When prescribing mobility aids, it is important to identify the physical and functional needs of each child and care-giver. For children with good upper extremities function, they need walkers with front wheels, walkers without wheels, crutches and canes are the most effective for standing in upright position and walking (Botega *et al.* 2013). Mobility aids can be appropriate technology only when it would be perfectly adjustable to the environment, properly maintained, and repaired (Pechak and Thompson, 2007).

### **2.7.1. Assistive device**

WHO defined Assistive Device as “any piece of equipment, or product, whether it is acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities” (JICA, 2002). Assistive device is a global term; mobility aids, ambulatory aids, and assistive device are expressing the same meaning. Children with CP often require assistive devices to ensure functional mobility across the environmental settings of home, school, and community (Cury, Figueiredo, and Mancini, 2013). Assistive devices are designed to improve physical functioning by reducing the environmental barriers (Huang, Sugden, and Beveridge, 2008). It also improves the functional capacity of CP children to allow greater participation in activities of daily living, work, and play (Pechak and Thompson, 2007). It facilitates functional with cognitive development, school inclusion, and social participation. It commonly used for functional rehabilitation of Children with CP (Unsal-Delialioglu *et al.* 2009).

### **2.7.2. Orthotic devices**

Orthotic device is the instruments which are applied externally to the human body to maintain alignment, provide support, correct deformities, to improve the movement of joints, spine, or limbs (Wise Geek, 2014). These used in order to change or adapt structural and functional characteristics of the neuromuscular and musculoskeletal

systems (Butler, 2009). Splints and casts are a kind of orthotic devices. Splint is mainly useful to fix any part of the limb in a specific position. Crutches are considered an orthotic device (Wise Geek, 2014). Occupational therapist considers child and family preferences in the selection and use of devices, and ensures the basic understanding of using the device. If any negative perspective arises from the children then OT's work with the child and family. OT's prescribe orthotic device for the purpose of remediation, compensation and adaptation (Butler, 2009). There are many orthotic interventions are provided for CWCP such as ankle-foot orthoses (Carroll *et al.* 2014). OT's may also use a variety of devices and adaptations for the normal development of Children with CP (Butler, 2009).

## **2.8. Mobility for Children with Cerebral Palsy**

According to the WHO, mobility involves moving from one place to another. For Children with Cerebral Palsy mobility involves body movements such as walking and using equipment such as walker or wheelchair to move actively (Palisano *et al.* 2009). Effective mobility is locomotion that is functional, timely, and energy-efficient (Butler, 2009). Environmental setting influences mobility of Children with CP. A study shows that school going Children with CP aged between 4 to 12 years were less dependent on adult assistance for mobility at home and more dependent on adult assistance for mobility when outdoors or in the community (Palisano *et al.* 2009). One research findings indicated that sixty-one percent parents of Children with CP identified at least one priority related to mobility (Chiarello *et al.* 2010). Mobility may include a variety of wheeled and ambulatory aids that increase whatever movement a child may have (Butler, 2009). Thus, occupational therapists routinely prescribe mobility aids and adaptive seating for CWCP to promote their function and to improve their developmental capabilities (WHO and USAID, 2011).

## **2.9. Mobility aids and Occupational therapy**

The main focus of occupational therapists is to enable individuals to engage in their meaningful occupations of their daily life by increasing performance in their self-care, productivity, and leisure activities by overcoming barriers that hinders the ability to perform occupations (Morris and Condie, 2009). Many CP children cannot sit without

support (WHO and USAID, 2011). For children with mobility difficulties, there is a relationship between capability and performance in the person-environment- interaction framework. Cerebral palsy children's home, school and community have significant impact on the performance of mobility. Contextual features of the school setting may include physical features, such as uneven surfaces like stairs, and insufficient space inside the classroom. Temporal features include staying with peer groups. Social feature includes expectations for age-appropriate mobility (Tieman *et al.* 2004). OT focuses on elements of body structure and function, activity and participation, and environment. Body structure and function includes casting and splinting; seating and positioning. These are aids, devices or adaptations used as tools to minimize the deformity. Activity and participation includes three occupational performance domains; self-care (wearing school dresses), productivity (e.g. schooling by using mobility aids), and, play (Harrison and Rochette, 2013). A study in Canada finds out that 33% of children with CP are pushed by adult and 28% are carried by adult for wheelchair mobility due to outdoors surfaces, distances, and time constrains (Tieman *et al.* 2004).

## **CHAPTER 3 METHODOLOGY**

### **3.1 Study design**

Investigator used qualitative research design to conduct this study. This method's main aim is to describe and explore the experiences and perception of people in a particular area and to understand their perspective. This method is used for exploring the behavior, meanings, values, perceptions, and experiences of conveniently sampled individuals. Qualitative study also helps to developed to study natural phenomena (Myers, 2009). Qualitative research is exploratory in nature by which the investigator can gain deep insights into another person's viewing perception, feelings, and beliefs within their own natural setting (Hick, 2000). The study was conducted by Qualitative Content Analysis (QCA) approach of qualitative method. Content analysis is a research method that has come into wide use in health studies in recent years. It is a journey from textual data to contextual meaning by the development of emergent themes. An investigator seems content analysis as a flexible method for analyzing text data (Hsieh and Shannon, 2005).

### **3.2 Study setting**

To conduct this research investigator has chosen CRP "William and Marie Taylor School" and "Savar proyash" to collect data on mother's perception toward using mobility aids for Children with CP. Centre for the Rehabilitation of the Paralyzed (CRP) is founded in 1979. The CRP has developed into an internationally respected organization. CRP accomplishes the physical rehabilitation, psychological rehabilitation, economic rehabilitation, poverty alleviation, human rights, health care provision, education, and planned discharge including environmental modification. In Bangladesh, there are many branches of CRP has develop and something is under developed like in Savar, Mirpur, Gobindapur, Moulvibazar, Manikganj, Gonokbari, Nawabgonj, Chittagong, Rajshahi, and Barisal. CRP also runs an academic institute name as the Bangladesh Health Professions Institute (BHPI). CRP is the only organization in Bangladesh which only works on disability (CRP-Bangladesh, 2010).

### **3.2.1 William and Marie Taylor Inclusive School**

In Bangladesh, very little children with disabilities have the opportunity of education. Mainstream schools have neither the opportunities nor the skillful to enable disabled children to attend school regularly. CRP has established “William and Marie Taylor School” at Savar headquarters since 1993. CRP started the construction of an inclusive school building in 2003. This school is combined with CRP's special needs students, and students from CRP's mainstream school. The purpose of combining and communicating with disabled and non-disabled children at an early age in school is to break down the barriers and superstitions surrounding disability. This inclusive educational environment helps children with special needs to access a level of education that is suitable for their abilities. It also gives opportunity for sporting, recreational, and extra-curricular activities (CRP-Bangladesh, 2010).

### **3.2.2 Savar cantonment, Proyash**

In 18 July 2006 an organization named "Sena Sahayok School" started its journey because statistics shows that in the Armed Forces family there are more than 500 children who suffer from different types of disability. Besides this reason, it is very difficult for the parents of military families to stay in permanent place because of their nature of job, frequent posting and other problems. On 11 Jun 2009, the complex was organized and shifted to its new site. Beside Dhaka, three more centers were built in Chittagong, Jessore, and Bogra. This organization was primarily established for the children of defense families only but now it is open for all children from all communities. The name of the organization has been changed to “Proyash” on 02 April 2010. “Proyash” is a Bengali word which means endeavor (Proyash, 2014).

## **3.3 Population**

The investigator observed several mothers of children with CP in William & Marie Taylor School in the preparatory phase of this study and found that the CP child uses different mobility aids according to their functional problems and some of them



don't use their aids regularly. The populations were mothers of children with cerebral palsy who were come to the school through using mobility aids.

### **3.4 Study participant**

Study participant was the mother's whose children with CP attend school through using mobility aids. There were eight participants had selected for this study. Response of the mothers was also depended on data saturation. The permission and level of interest of each participant had confirmed prior to inclusion in the study.

### **3.5 Participant selection procedure**

Participants had selected through convenient sampling. The investigator had selected participants in the following way, after taking permission from the principal of the schools. The investigator had discussed the study with the responsible occupational therapists of the schools. The investigator then observed the mothers of Children with CP in William & Marie Taylor School, and Savar Proyash School of this study for selecting the participants. The investigator then made a list of mothers who would be able to fulfill the inclusion criteria, then invited them to become a participant in this study.

### **3.6 Inclusion criteria**

For participant selection the followings were inclusion criteria:

- ✓ Mothers of children with cerebral palsy who attended on school by using functional mobility aids.
- ✓ Children with CP should be aged at 7-15 years old.
- ✓ Child should be dependent on mother for using mobility aids.
- ✓ Information would be taken from the urban area schools.
- ✓ This study participant would be the mothers of children with quadriplegic & diplegic CP.
- ✓ Mothers of all educational level would be involved.

### **3.7 Ethical consideration**

- ✓ The investigator had taken approval from supervisor and course coordinator of Department of occupational therapy and Bangladesh Health Professions Institute (BHPI) an academic institute of CRP (Please see Appendix – 1, page number- i).
- ✓ Permission had also taken from the principal of William & Marie Taylor School and Savar proyash for data collection from the participants (Please see Appendix-2, page number- ii).
- ✓ The investigator had provided information sheet and consent form in Bangla to the participants who were interested to participate in the study and informed them verbally about topic and purpose of study.
- ✓ It also informed to participant that there would be no risk or direct benefit to participate in the study.
- ✓ It was also informed to the principal of the schools that the school would not be harmed by this study.
- ✓ Each participant had the right to refuse to answer any question or withdraw from the study.
- ✓ It was informed clearly that all information that would be gathered from the participants would be confidential, only investigator and supervisor have access to them.

### **3.8 Data collection tools and materials**

During the interview time, the investigator used audio tape recorder to collect the interview data as it is difficult to write down every question's answer in details during the interview session. Audio taping is a basic data collection tool that the investigator used during face to face interview by open-ended question in a natural setting. Pen, and clip board had used to write down participants general information. Information sheet and consent forms had also used for gaining permission from the participants. A printed semi-structured question had used to conduct the interviews with the mothers. Information sheet and consent forms were used for gaining permission from the participants (For details Please see Appendix-3 and 4 for Information sheet in Bangla and English, page number-ii-iv, Appendix-5 for consent

form in Bengali, page number-v, Appendix-6, Questions (Bengali & English), page number-v-vii).

### **3.9 Data collection procedure**

The aim of the study was to explore perception of the mothers of children with CP towards functional mobility aids. The investigator had collected data from the mothers with children having or using mobility aids. The investigator used face-to-face interview with a semi-structured question for data collection. The investigator collected data by own self. At first, the investigator tried to arrange a quiet place in the school with the permission of the authority and at home for communication with the mothers and spend some time for rapport building through trusting a therapeutic relationship with participants. The investigator then explained the study question and aim of the study. The investigator then took the opinion of the participants by using an information sheet and consent form. After completing these primary steps, the investigator asked questions from the question paper for getting details information's from mothers to use mobility aids for their children. All questions and information sheets had translated into Bangla for understanding the purposes of the research. Interviews was conducted in Bangla and recorded by MP3 recorder. Duration of interview was maximum 10 minutes for each participant. Venue of the interview was mainly at the home or school.

### **3.10 Field Test**

Before starting data collection, the investigator completed a field test with two participants. It is important to carry out a field test before collecting the final data as it helps the researcher to refine the data collection plan (Depoy and Gitlin, 1998). This test was performed to identify any difficulties that are present in the questions. By this test the researcher had re-modeled the questions to make it more understandable, clear and enough for the participants and the study.

### **3.11 Rigor of the study**

The careful manner was continued to conduct the study by the investigator. This study was conducted in a systemic way by following the steps of research under supervision of an experienced supervisor. During the interview session and analyzing data, the investigator never tried to influence the process by own value, perception and biases. The investigator accepted the answer of the questions whether they were of positive or negative impression. During asking question, the investigator always tried to avoid leading. The transcripts were translated by another 3 individuals to avoid biasness and investigator checked it several times with her own translation and recording to reduce any mistake and compared it with the Bangla transcript. The participants' information was coded accurately and checked by the supervisor to avoid any possible errors. Investigator tried to keep all the participants' related information and documents confidential. At last in the result section, the investigator used scientific manner and didn't interpret the outcomes of the result.

### **3.12 Data analysis**

The investigator used Qualitative Content Analysis (QCA) to analyze data of mothers' perception about mobility aids for their children. The aim of the data analysis was to find out perception of the mothers toward using mobility aids for their children with CP, which collected according to the participant's opinion. Priest, Robert and Woods (2002) suggested that contextual meaning in text through the development of emergent themes derived from textual data. Data was analyzed by 3 stages: coding, categorizing, and generating into themes. Firstly, coding was started with line-by-line analysis, where phrases, sentences or whole sections were pasted into categories. Secondly, analysis was done by indexing more detail and pieces of codes with similar meaning grouped together to form a category. Thirdly, progressing reduction was done through a process of interpretation to generate themes (Priest, Robert and Woods, 2002). At the first step of analysis the investigator listened to the recorded interviews of the participant several times. After that, the investigator transcribed the interviews into Bangali. The investigator also

reviewed the interviews with the transcript to ensure all the data was presented within the text. After formulating the transcription, it was given to 3 individuals who were competent in English to translate the data from Bangla to English. Then, investigator completed three copies of data where one set was translated by the investigator. After that, the investigator checked those three data sets and also read it several times to recognize what the participants wanted to say in the interviews. At the same time, the investigator listened to the MP3 recorder to ensure the validity of data. Then, the investigator categorized the data. In the 2nd step, after categorizing, the investigator started content analysis. Then investigator attempt to find out the codes from participants' answer. Investigator organized data according to the categories. Under those categories, the investigator coded all the information from participants' interview according to similar responses. The coding was different from each participant and after finishing the coding; the investigator detected some important codes that reflected the themes of the study findings. Several procedures were implemented to ensure credibility and accuracy of data analysis. These included setting an idea or opinion before too early, the purposeful sampling strategy of maximum variation, providing evidence of agreement in coding, external confirmation of codes and themes (Palisano *et al.* 2009).

## CHAPTER 4 RESULT AND DISCUSSION

### 4.1. Discussion

Each of the tables below represents the collected data. The findings and discussion have been presented together with the necessary literature support. The tick was given only for those columns where the mothers spoke about those issues. . Here ‘P’ was used for participant.

### 4.2. Findings at a glance

In the result section, it has been possible to understand the mothers’ opinions by content analysis, where some categories have been found. Under the different categories, mothers’ different opinions are expressed by different codes and themes.

*Theme – 1:* All mothers use AFO regularly and most of the mothers use wheelie walking frame regularly for their children.

*Theme – 2:* Very few mothers face transport problems and not feel the necessity of using mobility aids regularly for their children.

*Theme – 3:* Most of the mothers don’t face any difficulties to use mobility aids at home.

*Theme – 4:* Most of the mother’s use mobility aids regularly for their children with CP for school mobility.

*Theme – 5:* Most of the mothers face no difficulties to engage their child with other children by using mobility aids.

*Theme – 6:* Most of the mothers face unlike attitudes of neighbors toward their CP child’s.

*Theme – 7:* Most of the mother’s don’t go to relative’s house by using mobility aids due to transport difficulties.

*Theme – 8:* Most of the mothers go outside and encourage their child to participate in play by using mobility aids.

*Theme – 9:* Most of the mothers feel satisfied in involving their child in play by using mobility aids.

*Theme – 10:* Most of the mother ensures participation in the cultural program by using mobility aids for their school going children.

*Theme – 11:* Most of the mothers are highly eager to ensure participation for their school going children in the cultural program by using mobility aids.

*Theme – 12:* Most of the mothers don't use mobility aids to go fair and they mainly go to fair only for their child.

*Theme – 13:* Very few mothers are satisfied and most of the mothers face road conditional difficulties and criticized behaviors to go fair with their child by using mobility aids.

### Summary table

<b>Objectives</b>	<b>Question no.</b>	<b>Category</b>	<b>Theme</b>
To explore difficulties of the mothers for their children on physical mobility by using functional mobility aids in their physical environment	Question no -1, 4.	1. Name of mobility aids that used regularly by mothers of CWCP.	1. All mothers use AFO regularly and most of the mothers use wheelie walking frame regularly for their CWCP.
	Question no - 4.	2. Identifying problems for not using mobility aids regularly.	2. Very few mothers face transport problems and not feel the necessity of using aids regularly as begin to learn walk.
	Question no - 5.	3. Identifying difficulties to use mobility aids at home.	3. Most of the mothers don't face any difficulties to use mobility aids at home.
To explore difficulties of the mothers for their children on social activity by using functional mobility aids in their social environment.	Question no - 2, 3.	4. Identifying the regularity and name of problems for using mobility aids by mothers of CWCP for school mobility.	4. Most of the mother's use mobility aids regularly for their CWCP for school mobility.
	Question no - 6	5. Identifying difficulties that face mothers to engage their child with other children.	5. Most of the mothers face no difficulties to engage their child with other children by using mobility aids.
	Question no - 7	6. Mother's opinion about attitudes of neighbors toward CWCP.	6. Most of the mothers face unlike attitudes of neighbors toward their CWCP.
	Question no - 8	7. Identifying whether mother go or not to relative's house by using mobility aids. 8. Identifying difficulties for not going to relatives house by using mobility aids.	7. Most of the mother's don't go to relative's house by using mobility aids due to transport difficulties.
To explore status of the mothers for their children on attending cultural	Question no - 9&10	9. Identifying the status from mothers go outside with their child and encourage their child to participate in play by using mobility aids.	8. Most of the mothers go outside and encourage their child to participate in play by using mobility aids. 9. Most of the mothers feel satisfied



program by using functional mobility aids.		10. Exploring satisfaction and reasoning for not encouraging in play by using mobility aids.	in involving their child in play by using mobility aids.
	Question no - 11	11. Identifying encouragement and participation of the mothers for their school going children in the cultural program by using mobility aids. 12. Identifying feelings and difficulties of the mothers for their school going children in the cultural program by using mobility aids.	10. Most of the mother ensures participation in the cultural program by using mobility aids for their school going children.  11. Most of the mothers are highly eager to ensure participation for their school going children in the cultural program by using mobility aids.
	Question no - 12,13	13. Identifying the mother tendency to go fair with their child by using mobility aids. 14. Identifying the mother satisfaction and difficulties to go fair with their child by using mobility aids.	12. Most of the mothers don't use mobility aids to go fair and they mainly go to fair only for their child.  13. Very few mothers are satisfied and most of the mothers face road conditional difficulties and criticized behaviors to go fair with their child by using mobility aids.

**4.2.1. Category 1:** Name of mobility aids that used regularly by mothers of CWCP  
(Question no-1, 4).

Codes	P1			P2			P3			P4			P5			P6			P7			P8			Total						
	R	I	N	R	I	N	R	I	N	R	I	N	R	I	N	R	I	N	R	I	N	R	I	N	R	I	N				
Wheelchair	✓																												1		
AFO	✓			✓			✓			✓			✓			✓			✓			✓						8			
Special sitting Chair					✓																								1		
Walking frame with wheel					✓		✓			✓			✓		✓			✓			✓						5	2			
Stick					✓																							1			
Gaiter										✓				✓				✓									2		1		
Standing frame										✓											✓						2				
Asserting frame														✓															1		
Shoe with arch															✓												1				
Brace club																					✓						1				

**Table 1:** Name of mobility aids that used regularly

[Here R= Regular, S= Sometimes, N= Not used]

The entire participant uses AFO regularly for their CWCP. With other mobility aids they use AFO regularly.

In literature it's found that in Bangladesh, the number of Children with CP is approximately 2.8 million among 144,109,214 populations (US Census Bureau, 2004). CWCP usually require mobility aids from moving one place to other. In a study in UK, it is found that mothers don't use AFO regularly for their children because they felt restricted, hot, stuff. That's why mothers are afraid of developing pressure sores, scoliosis or reduced function of the lower extremities (Huang, Sugden, and Beveridge, 2008). This finding is contradicted by this study. Because, in Bangladesh, very few educated or uneducated mothers have lack of knowledge about mobility aids and the secondary complications that might arise due to using AFO. That's why mothers use AFO regularly without knowing any duration for application and secondary complication of using aids.

Most of the participants use wheelie walking frame regularly for their children with cerebral palsy.

A study in Canada found that mothers use normal walker frame irregularly. That is the contradictory result of this study. This is may be due to their ways of looking difficulties in extensive ways than us. They are dependent on the well-developed David Hart Walker. It is a helpful Orthotics that is a modular brace that adjusts on the child's trunk, pelvis, legs, and has a spring loaded bonding to a wheeled frame. After the experiment within 12 months of use, children of six parents expressed that their child was able to move a certain distances and use the walker for a variety of activities. Above all, the walker fulfills the expectations and satisfactions of 13 parents (Palisano and Lally, 2007). As a developing country, it is difficult to get access and buy expensive aids. As they get access of the aids, so they use that regularly instead of anything.

One Participant used wheelchair regularly for her child. Mother said that-  
*“Now wheelchair act like as my guardian”*.

A study in Canada found that mother irregularly use manual wheelchair due to propelling difficulties, weight, and tilted seat (Harrison and Rochette, 2013). In Bangladesh this is also difficult to propel manual wheelchair regularly as there are very few accessible environment. In developed countries they mainly dependent on power wheelchairs. That's why they look any small problems very largely. But in Bangladesh, mothers usually not get in touch with any mobility aids. Whether they started to use any aids, their curiosity increased to use that device regularly at anyhow instead of many difficulties.

One Participant said that she use standing frame regularly for her child.

This finding is contradicted by a study in UK. It found that mother's usually don't use standing frame regularly because in standing frame their child shows negative attitude as the trunk remains fixed in a particular alignment. For this reason their child complaints back pain, soreness, numb in the legs (Huang, Sugden, and Beveridge, 2008). As mothers are not well known about secondary complications they just obey the suggestions that is suggested by mobility aids provider.

The study found that most of the participants regularly use AFO, wheelie walker frame, wheelchair, and standing frame for their CWCP. Most of the published studies show

contradictory results of using these aids. The reason for different opinion with other studies is their developed knowledge, technology, their ways of looking difficulties in extensive ways than us and so on.

**4.2.2. Category 2:** Identifying problems for not using mobility aids regularly (Question 4).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Transport problems		✓							1
Not feeling the necessity of aids as begin to learn walk					✓				1

**Table 2:** Problems for not using mobility aids regularly

Very few mothers face transport problems and not feel the necessity of using mobility aids regularly as begin to learn walk. One mother said that

*“When he did not know how to walk that time he used it regularly. Now he has learned walking a little bit and he is not feeling the necessity to use the walker frame. He feels I will walk on my own just keep holding my hands”.*

In this study I found that when a child begins to learn walk then he not feels the necessity of using mobility aids regularly which is supported by a study conducted in UK. It supports that children had a lowered interests to use mobility aids and display negative emotions when children grow up. In such a situation mother did not insist on their child to use mobility aids because that may have an adverse impact on their relationships. Then they become sympathize with their child situations. That’s why they priority their child decisions (Huang, Sugden, and Beveridge, 2008).

**4.2.3. Category 3: Identifying difficulties to use mobility aids at home (Question: 5)**

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
No difficulties	✓	✓				✓	✓		4
Lack of space inside home			✓						1
Muddy and no cobbled road near home				✓					1
Size and shape of mobility aids					✓				1
Transport problems for away living mothers					✓			✓	2

**Table 3:** Difficulties for using mobility aids at home

Most of the mothers face no difficulties to use mobility aids at home. One participant said-

*“No, there is no problem”.*

In literature, there is contradictory evidence in UK study that at home, school going children are not motivated to use mobility aids at home. They are highly interested to use mobility aids for school mobility (Huang, Sugden, and Beveridge, 2008).

Very few mothers face transport problems to use mobility aids at home that lives in faraway houses. One mother said that

*I do not take it to my village, otherwise he use it here. When I get in a rickshaw, it is difficult to keep walker over the rickshaw. This is not going to fold. Think that could be folded or minimized. This could be big or small. Then again it would not have a problem. If I want to small, large size then I need to take it to the factory. I am unable to do it. That’s why I face difficulties to ride in CNG or rickshaw. Our home district is Chittagong, a far distance and the buses with big seat are not interested to get in.*

There is not enough literature is found based on this concept. Here mothers reflect their problems on going to their main home as most of the mothers are immigrant from different part of Bangladesh for their children. Here they face transport related problems like by bus they face difficulties to go their own home.

Another participant faces muddy and no cobbled road near home to use mobility aids.

*While I go to my own district then I face difficulties. In our village house there is muddy, further no cobbled road near to use walker frame. That's why we have to remain inside our house with walker frame.*

A study in Canada indicated that while mothers use mobility aids for their children they face problems such as inaccessible road conditions and no ramps near at home (Harrison and Rochette, 2013). In Bangladesh, in both urban and rural areas there is very rare accessible environment for using mobility aids. In case of village this could be a build castle in the air to get accessible environment for operating their mobility aids.

Based on participant's opinion it's clear that most of the mothers face no difficulties to use mobility aids at home due to their ways of using aids is different than others. But some of them face transport problems and muddy with no cobbled road near home to use mobility aids.

**4.2.4. Category 4:** Identifying the regularity and difficulties for using mobility aids by mothers of CWCP for school mobility (Question no- 2, 3).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Regularly	✓		✓	✓		✓		✓	5
Irregular		✓					✓		2
Time consuming			✓				✓	✓	3
Pushing difficulties					✓				1
Wheel cosmetically unsound					✓				1
Difficult to move wheel					✓				1
Roads not well						✓	✓		2

Far distance							✓		1
Satisfied				✓					1
Dissatisfied								✓	1

**Table 4:** Regularity and difficulties of using mobility aids for school mobility

Most of the mothers regularly use mobility aids for their children with CP for school mobility. One mother said-

*“By using AFO and walker frame facing no problem. Rather not using AFO he face problem during walking. While I don’t use walker frame, then I face problems. I face difficulties while I lap him. I am satisfied”.*

A literature in UK, there is evidence that children with cerebral palsy are very interested to use mobility aids regularly for going to school and mother think that mobility aids are very essential for their children. They are interested to spend money for their children (Huang, Sugden, and Beveridge, 2008). This literature is supported by the findings of this research. Besides the study shows that rarely one mother is also satisfied to use mobility aids for school mobility.

Some mothers view mobility aids using as time consuming due to roads not well and far distance for using mobility aids for their children. One mother said -

*Difficult to go from far distance as it takes time a lot.*

There is a limited research based on this concept because in developed countries most of the mobility aids are power or electrical that used in school purposes. That’s why they don’t face time consuming and road conditional difficulties like us. Besides, in developing there is limited research conducted based on mobility aids for school going children with cerebral palsy. In Bangladesh, most of the roads are not well accessible for using mobility aids.

**4.2.5. Category 5:** Identifying difficulties that face mothers to engage their child with other children by using mobility aids (Question-6).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
No difficulties	✓	✓	✓		✓		✓	✓	6
Aids dependency on mother hinders engagement				✓					1
People ask question about mobility aids						✓			1

**Table 5:** Difficulties that face mothers to engage their child with other children

In this study it is found that most of the mother's don't face difficulties to engage their child with other children by using mobility aids. Like, one mother said-

*“There is no problem to mix with other children. He has already adjusted with normal child aged 1 year. Able to mix with other”.*

This result is supported by a study conducted in UK. It shows that for using mobility aids, child has increased interpersonal relationships and mothers feel that public accepts their child more. Parents also added that their child more motivated and interactive. They have improved physical and psychosocial well-being. Parents have less stress and greater satisfaction of their child's participation (Harrison and Rochette, 2013). In another study, some mothers mentioned that their child's ability to interact with other children increased when using the walker (Palisano and Lally, 2007).

Very few mothers face aids dependency on themselves hinders engagement with other children while using mobility aids. Mothers also said that people ask question about mobility aids while she go outside to engage her child by using mobility aids.

Though there is no study found the researcher but in general in Bangladesh this is the common attitudes of general people to criticize a simple matter about anything.



In this study it is found that most of the participants don't face any difficulties to engage their child with other children by using mobility aids. On the base of literature, it has been seen that mobility aids helps to improve interpersonal relationships and mothers feel that public accepts their child more. They also face no difficulties to engage their child with other children.

**4.2.6. Category 6:** Mothers opinion about attitudes of neighbors toward CWCP (Question - 7).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Good attitude	✓					✓			2
Sympathetic attitude		✓		✓					2
Discriminative attitude			✓		✓				2
Contempt attitude			✓						1
Unlike attitude			✓		✓		✓		3
Friendly attitude				✓					1
Uncomfortable attitude					✓			✓	2

**Table 6:** Attitudes are faced by the mothers of CWCP

Most of the participants face unlike attitude of neighbors toward children with cerebral palsy. One mother said –

*“They don't say anything in front of him. If there child's wanted to walk with my child, and talk with my child then they dislike that. They told don't touch him, don't have there, don't do it”.*

A study from South Africa supported the findings of this study. It found that, mothers felt that their neighbors did not like their children. The society was not protective enough for CWCP. They suffered from insecure feelings and more restricted of the children (Quinn and Gordon, 2011). In Bangladesh most of the people are uneducated and have lack of knowledge about cerebral palsy. Many people think this disease is contaminated. That's why not got in contact with CWCP and shows unlike attitude.

The equal number of people face sympathetic, discriminative, and uncomfortable attitude of neighbors toward child with CP. One mother said -

*“I wouldn’t say that people look at us with best view. Yes, no one look at us with best view. I do not mean it. Such as like, we are different than they, we are from a different society and we are not belongs to their society. We are patient. What greater than this!”*

Literature also supports that neighbors usually shows hostility attitudes toward CWCP (Quinn and Gordon, 2011). In another study in Kuwait, mothers expressed that over sympathetic attitude towards their children separate them from social integration (Raman *et al* 2010).

Very rarely some participant face good attitude of neighbors toward children with CP. One mother said –

*“Good attitude. Everybody behaves well with her and wants to know what does she wants, come to wandering our home with her. Everybody do same”.*

The result of this study is supported by a study conducted in Australia. It indicate that neighbors who had contacts with CWCP daily/weekly basis had more positive attitudes towards them than the neighbors who had contacts on a less frequent basis (Cambridge University Press, 2014).

In this study, it is found that mothers usually face unlike attitude of neighbors toward children with CP. Similarly, they face sympathetic, discriminative, and uncomfortable attitude. Controversially they also face good attitudes of neighbors, as the literature indicated. Basically, it depends up to human nature as different people accept different issues in different way.

**4.2.7. Category 7:** identifying whether mother go or not to relative’s house by using mobility aids (Question-8).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Go and satisfied	✓					✓			2
Don’t go		✓	✓	✓	✓		✓	✓	6

**Table 7:** Status of the mothers for going to relative’s house

Most of the mother's don't go to relative's house by using mobility aids.

Literature supports that mother usually doesn't go to relative's house by using mobility aids for their CWCP. It indicated that physical environment obstruct to use mobility aids that's why mother don't go to relatives house it may be due to inaccessible house and many other reasons (WHO and USAID, 2011).

**4.2.8. Category 8:** Identifying difficulties for not going to relatives house by using mobility aids (Question-8)

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Inferior feelings		✓							1
Transport difficulties			✓	✓			✓	✓	4
Time consuming			✓						1
No relatives nearby					✓				1
Cosmetically not sound							✓		1

**Table 8:** Difficulties of the mothers to go to relative's house

Most of the mothers face transport difficulties to go to the relative's house by using mobility aids. One mother said –

*“It is really impossible to take him at relative's house by using walker frame. Where can I go by using walker frame? Where I have to go by cars, how can I pull him as well as his walker frame? I face difficulties to lap him as he grown up, 11 years old. My child is growing up. I face difficulties to get in bus”.*

I got very little literature on difficulties of using mobility aids of mothers for CWCP. After that, a literature from India supported that about 11% face little problem and 77% face big problem for using mobility aids in transportation. Among these participant the frequency of facing transport related difficulties, in case of daily 52%, weekly 5%, monthly 3%, less than monthly 28% , and never 12% (Devi, Goyal, and Ravindra, 2013).

Another mother said -

*“We face problem in road crossing. When there are cars, rickshaws present then take the time to go”.*

Children with CP usually have physical limitations and in most of the cases there is absent environmental accessibility like, lack of accessible transportation. That’s why many mothers are demotivated to use mobility aids for their CWCP (Palisano et al. 2011). Only for this reason mothers have lack of interest to use mobility aids in case of travelling, though it is difficult for them to lap big size children.

Very few mothers individually face difficulties to relative’s house by using mobility aids like feel inferiority, aids is time consuming, and cosmetically not sound.

In Bangladesh, still now there are limited smart technologies developed and are not available for all classes of people. Besides, mobility in all environments is not accessible for CWCP. That’s why mother faces different difficulties.

This study finds that most of the participants face transport difficulties with other difficulties to go to the relative’s house by using mobility aids. Literature also supports those findings.

**4.2.9. Category 9:** Identifying the status from mothers who go outside with their child and encourage their child to participate in play by using mobility aids (Question-9 &10).

<b>Codes</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>	<b>P8</b>	<b>Total</b>
Go and encourage	✓		✓			✓		✓	4
Don’t go don’t encourage		✓		✓					2
Go but not encourage					✓				1
Don’t go but encourage							✓		1

**Table 9:** Mothers status for going outside and encouragement to participate in play

Most of the mothers go outside and encourage their child to participate in play by using mobility aids. One mother said-

*“Even she can perform or not, I support her”.*

Encouragement and involvement in play by using mobility aids is very important for CWCP. A study from UK supported that mothers are interested to use mobility aids for their children to play with their peers and join themselves in shared activities (Huang and Sugden, 2008). Mothers need to do this to facilitate their normal cognitive and psychosocial development.

Some mothers don’t go outside and don’t encourage their children in play by using mobility aids.

Tendency of going outside is part of human nature. Every mother is different from each other. Some mother view their child’s disability largely and some not. Someone have orthodoxy beliefs to go outside by using mobility aids for their CWCP.

This study finds out that, most of the participants go outside and encourage their child to participate in play by using mobility aids, literature also supports that.

**4.2.10. Category 10:** Exploring satisfaction and reasoning for not encouraging in play by using mobility aids (Question-9 &10)

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Satisfied	✓		✓			✓			3
Feel sad				✓					1
Emphasis physical limitations		✓							1
Become unsupported during play				✓	✓				2
Inaccessible playground							✓		1
Time consuming aids							✓		1
New mobility aids user								✓	1

**Table 10:** Satisfaction and difficulties of the mothers for not encouraging in play

Most of the mothers feel satisfied in involving play by using mobility aids. One mother said-

*“Wherever I interested to take him, there I can take him. What a comfortable! Otherwise, if I walking him, there is a huge time, many difficulties and tired a lot”.*

Mobility aids plays an important role for the development of social functioning, physical and psychosocial well-being for CWCP. A study in UK supports that child involvement in play by using mobility aids increase greater engagement with other children. It also increases social functioning, physical and psychosocial well-being. Mothers have less stress and greater satisfaction with their child’s participation in play by using mobility aids (Harrison and Rochette, 2013).

Very few mothers face sudden unsupported difficulties of their child and feel sad during play by using mobility aids. One mother said –

*While I stand him outside of home by walker frame, I tell him to throw ball. Then, during throwing ball he grasp ball with one hand and at the throwing time he remains unsupported by releasing another hand from walker frame. Then he fall down. This situation made me sad. Then I feel sad a lot. If he able to walk and move own way, then I will relief from sad.*

Some mother think that after using mobility aids for a long time now he may be able to play without her support and that time the child become unsupported and fall down. That’s why mothers not encourage their child to play by using mobility aids. A study in USA similarly found that mothers not interested to encourage their school going CWCP in play at their leisure time due to their unsupported difficulties in comparison to their peers (Shikako-Thomas *et al.* 2008).

One mother emphasis physical limitation and another mother suffer from an inaccessible playground for using mobility aids.

A study in Philadelphia supports the study that for CWCP, play may be influenced by the mobility aids according to their physical limitations, environmental accessibility and availability of transportation in community aspects (Palisano *et al.* 2011). It’s true that physical limitation and accessible playground often hinders engagement in play at leisure time. In context of Bangladesh this is rarely impossible to found accessible playground for all.

In this study, it is found that most of the mothers feel satisfied in involving play by using mobility aids. Some contradictory points also explored. Some mother complaints unsupported difficulties. Some mothers emphasis physical limitation and inaccessible playground for play. Literature supports both similar and contradictory points of the study. But situation are now changing mothers are learning to except the truth and challenges, and based on this they are happy and satisfied.

**4.2.11. Category 11:** Identifying encouragement and participation of the mothers for their school going children in the cultural program by using mobility aids (Question-11).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Encourage	✓	✓				✓			3
Participate		✓	✓		✓			✓	4
Not encourage				✓		✓	✓		3

**Table 11:** Encouragement and participation of the mothers in the cultural program

Most of the mothers ensure participation of their school going children in the cultural program by using mobility aids. One mother said –

*“I feel great when she participate in cultural functions. She also participates in inaugural ceremony of the school”.*

A study in USA indicated that for cultural program environmental factors may act as either barriers or facilitators for the involvement in cultural activities, such as accessibility for activities, enough spaces, community and cultural opportunities, cultural context, and social attitudes (Shikako-Thomas *et al.* 2008). Instead of all barriers the Bangladeshi mothers of this study successfully able to ensure participation in the cultural program for their children with CP by using mobility aids.

The equal numbers of mother encourage and don't encourage their school going children in the cultural program by using mobility aids. One mother said –

*“He practiced basketball, throwing ball to a basket on sitting position in wheelchair. In school by using wheelchair they practiced running standing. He can't well to recite Quran or rhymes because his speech is not clear. He has a great curiosity in dance and listening song. I have talked with his madam about dance and singing song but she says before dancing and singing he needs to stand independently”.*

Another mother said –

*“Actually I didn’t participate himself in cultural program because he didn’t get any support to maintain any balance for standing. If he stands by walker frame independently then he suddenly fall down. He participate playing sitting in wheelchair”.*

The result for encouragement is supported by a study conducted Philadelphia. It indicated that during the holidays or any cultural program parents should keep up their children and encourage ensuring participation in different programs for learning their social skills (Chiarello, 2011).

In this study this is found that most of the mothers ensure participation of their school going children in the cultural program by using mobility aids. Some mother encourages and some mother doesn’t encourage participating in cultural program. Literature supports that mother should encourage participating their children. Children with CP are human being; they also have the right to participate in social and cultural programs. In spite of all difficulties, mothers need to ensure their child’s social and cultural engagement for regaining normal development.

**4.2.12. Category 12:** Identifying feelings and difficulties of the mothers for their school going children in the cultural program by using mobility aids (Question-11)

<b>Codes</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>	<b>P8</b>	<b>Total</b>
Highly eager to ensure participation	✓		✓		✓				3
Feel great		✓							1
Lack of time			✓			✓			2
Sudden falling down by using mobility with aids independently				✓	✓				2
Child sickness most of the time						✓	✓		2

**Table 12:** Feelings and difficulties of the mothers for cultural program

Most of the mothers are highly eager to ensure participation of their school going children in the cultural program by using mobility aids. One mother said –



*“He wants to see other children to dance and interested to dance also. Then I encourage him to dance by saying lets come dance with me”.*

A study in USA supported that there are different characteristics of community programs that may or may not permit to fulfill the needs of CWCP. These are also identified as important factors for participation. But mothers are interested for ensure participation for their children (Shikako-Thomas *et al.* 2008). Cultural programs help to learn social skills and attitudes. Mother is the only key person who can ensure participation in cultural programs.

Some of the mothers have lack of time. Their child sudden falls down from mobility aids and child sickness is another problem for participation in cultural program. One mother said-

*“He has a great curiosity in dance and listening song. I have talked with his madam about dance and singing song but she says before dancing and singing he needs to stand independently”.*

In context of Bangladesh, mothers usually have to complete most of the household chores and maintenance of others. That’s why they have lack of time to ensure participation in cultural program. The child who use mobility aids is dependent on mother. While they released their child then they fall down. Many child most of the time suffers from different diseases. That’s why they are not interested to involve in cultural program.

This study shows that most of the mothers are highly eager to ensure participation of their school going children in the cultural program by using mobility aids, literature also supports that. Some mothers also face some difficulties to involve their child’s. In spite of difficulties, honoring mothers craving for participation there should be opportunities for engagement in cultural program in both home based and school based.

**4.2.13. Category 13:** Identifying the mother tendency to go fair with their child by using mobility aids (Question-12, 13).

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Go to fair	✓						✓	✓	3
Go only for child			✓	✓	✓	✓			4
Don't go		✓							1
Use mobility aids to go fair	✓								1
Don't use mobility aids to go fair		✓	✓	✓	✓	✓	✓	✓	8

**Table 13:** Status of the mothers to go fair for CWCP

Most of the mothers don't use mobility aids to go fair with their child. One mother said – *“If I do (go to fair) then it becomes an exhibition. Everyone creates concussion, so I don't take her to fair”*.

A study conducted in USA supported that in crowded place it is difficult to use mobility aids for the mothers for their CWCP (Palisano *et al.* 2009). Usually fair is a crowded place. In fair, this is quite difficult to move normal people.

Some mothers go to fair only for child. One mother said – *“I go to fair for my son”*.

Some mothers think that like other children there child also have the right to go outside to mix with other children. If they don't provide any opportunity there child will not understand what the world is?

Some mothers personally go to fair and some use mobility aids to go fair.

This study shows that most of the mothers don't use mobility aids to go fair and they go fair only for their child. Literature also supports the findings. Fair is usually a crowded place, that's why most of the mothers don't use mobility aids.

**4.2.14. Category 14:** Identifying the mother satisfaction and difficulties to go fair with their child by using mobility aids. (Question-12, 13)

Codes	P1	P2	P3	P4	P5	P6	P7	P8	Total
Satisfied	✓								1
Public place become exhibition		✓			✓	✓			3
Difficult to move aids in crowded place			✓						1
Difficult to move in long distance				✓		✓			2
Road are not good				✓	✓	✓			3
Difficult to manage everything					✓	✓			2
Time consuming							✓		1

**Table 14:** Satisfaction and difficulties of the mothers to go fair

Most of the mothers face criticized behaviors from general public while go fair with their child by using mobility aids. When they go to any public place by using mobility aids for their children, then general people looked at negatively. One mother said -

*“When I take him with walking frame everyone looked at strangely by opening mouth and ask thousand questions. I feel very sad. That’s why I say no need to take this walking frame”.*

A study conducted in USA indicated that in case of social mobility school going CWCP suffers from personal attributes; attitudes of general people and coordination of services are potential determinants (Palisano *et al.* 2009). In Bangladesh, different classes of people live together. Their verbal and non-verbal communications make sense many things.

Most of the mothers seem road conditions are not good to go fair with their child by using mobility aids. One mother said-

*“I didn’t go fair at radio colony because it much far away and the road are not good. Due to raw soil, this is difficult to move walker frame”.*

A study in UK suggested that for using mobility aids the road conditions need to be plane surface for propelling mobility aids (Harrison and Rochette, 2013). In Bangladesh, most of the road is not accessible for propelling mobility aids. That’s why mothers avoid propelling mobility aids in uneven surfaces for their children.

Difficult to move in long distance with their child by using mobility aids.

Child’s mobility maintaining with mobility aids for far distances is very difficult for the mothers. Self-dependency on mothers with mobility aids requires much energy for themselves.

Some mother face difficulties to manage everything with their child by using mobility aids. One mother said –

*“If I take walking frame, I have to lap both him and his walking frame. So, everything goes very heavy”.*

A study conducted in South Africa supported that while mothers go anywhere then everything becoming so heavy (Quinn and Gordon, 2011). That’s why it is difficult to move anywhere for themselves.

Very rarely one mother satisfied to go fair with their child by using mobility aids.

In developed countries power nobilities are available for all. That’s why they are the most satisfied than anyone. In case of Bangladesh, after facing many difficulties mothers nicely replies that they are satisfied. Really, this is the uncommon achievement. In this study, most of the mothers face criticized behaviors from general public and road conditional difficulties while go fair with their child by using mobility aids. Literature also supported that. Besides very rarely one mother feel satisfied for using mobility aids. In general it can be said that mothers face behavioral and physical difficulties in their environment for CWCP.

## **CHAPTER 5 LIMITATION**

This was an under graduate study of approximately nine months. It was the first time i had conducted any such type of study. Investigator has tried to follow best systematic way to conduct the study. Through searching information from different source such as manual searching on BHPI library, online database such as pub med, Hinari, Google scholar, Google, OT Seeker etc. For more specification, investigator searched on above all source by related key points with this study these are CP, mobility aids, mother's perception about mobility aids, barriers for accessing mobility aids etc. Then investigator found some information related to this study on global perspective. Most of the studies are based on power mobility. That's why; this was one of the difficulties of the investigator. Therefore, investigator had tried best to relate this study with other information from developing countries. As there is no available related study in Bangladesh or in similar context, so it was not possible to compare the study findings with other study. Emerging lots of themes is one of the limitations of the study. For doing the research in urban areas, the result may change if anyone does it in another context.

## **CHAPTER 6 RECOMMENDATION**

After completing the study, the investigator found some recommendations like professionals can reevaluate the mobility aids related fitness and barriers from school authority and it should be more structured, resourceful and educative for the parents. Mother can also check their physical environment by qualified occupational therapist. For far away living mothers their personal home environment can be checked by showing photography for ensuring accessibility. Besides, in school, booklets can be provided with exact measurement of the adaptations. This will help the mothers for ensuring accessible environment.

It will be better if it is possible to conduct the same study by using different method and also a large number of participants. Further study can be done on mother's level of satisfaction on using mobility aids for school going children with cerebral palsy.

## **CHAPTER 7 CONCLUSION**

Occupational Therapy is a growing profession in Bangladesh serving for the PWD and CWD. CP is one of the major disabling condition Where Occupational Therapists can play very important role to maximize daily living activities of the children with CP. CP is the most common condition that is responsible for disability and affects a child's ability to function on different areas. With increasing age, though children admitted to school, but most of the child dependent on mother for using mobility aids. Besides, mothers need to complete every activity with their CP child in their physical and social environment, as well as attending cultural program. For this reason, it was necessary to conduct a study on exploring perception from mother on these areas. Therefore, the investigator starts conversation to find out perception from mothers on using mobility aids.

According to the data analysis it is identified that mothers with CP children face difficulties in many aspects like transport problems and not feeling the necessity of using mobility aids regularly for their children, face muddy and no cobbled road difficulties near at home to use mobility aids. Most of the mother's use mobility aids regularly for their children on school mobility. In case of cultural program, most of the mother ensures participation in the cultural program by using mobility aids for their school going children. Very few mothers are satisfied on using mobility aids. Overall, it can be said that the identified result will help the school based and pediatric Occupational therapist to encourage their child's full participation and mentally preparing the mothers about difficulties. Besides, these findings will encourage working on transport related accessibility for Children with CP and Person with disabilities. It will also help the health professionals by adding much support to the provision, development, and funding of new mobility aids and related services for children with CP.

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## Appendix – 1: Permission letter for conducting the study

22<sup>nd</sup> July, 2014

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

Subject: Prayer for the approval of Undergraduate Academic Research Project.

Sir,

With due respect, I beg most respectfully to state that, I am a student of 4<sup>th</sup> year, Department of Occupational Therapy, BHPI, the academic institute of CRP. As a partial fulfillment of my Bachelor Science Degree of Occupational therapy course under the medical faculty of Dhaka University, I will have to conduct a research project in this academic year which is a part of my academic curriculum. I have chosen my study area schools where cerebral palsy students study and the study titled as “Children with cerebral palsy mother’s satisfaction towards functional mobility aids: a qualitative study”. The aim of the study is to explore the satisfaction of mother’s with children with cerebral palsy (quadriplegic & diplegic) towards functional mobility aids. I can make sure that the study will never harm to the participants. The detail proposal of the study is attached with the application.

I therefore, pray and hope that you would be kind enough to grant my appeal by giving the permission to conduct the study which will help me to complete a successful study as a part of my course and oblige thereby.

Sincerely yours,

*Naznin - 22.07.14*

Naznin Akhter

4<sup>th</sup> year, roll no- 02, session: 2010-2011, Department of Occupational Therapy.

BHPI, CRP, Savar, Dhaka- 1343.

Approved by	Comment & Singnature
<b>Head of the Department</b> Nazmunnahar Assistant professor & Head of the Department Department of Occupational Therapy, BHPI, CRP, Chapain, Savar, Dhaka- 1343	<i>It may allow her to do this project as per supervisor's comment.</i>
<b>Supervisor</b> S.M. Abul Bashar Manager- Rehabilitation Wing CRP- Chapain, Savar, Dhaka- 1343	<i>She may start <del>22.07.14</del> <sup>27.07.14</sup> work for this project. However, there will be a little change in the process.</i>

*Bashar*  
*22/07/2014*

## Appendix - 2: Permission letter for data collection



বাংলাদেশ হেল্থ প্রফেশন ইনস্টিটিউট (বিএইচপিআই)  
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)  
(The Academic Institute of CRP)

CRP-Chapain, Savar, Dhaka, Tel: 7745464-5, 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 অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশনস 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 নাজনীন আক্তার তার রিসার্চ সংক্রান্ত কাজের জন্য আগামী ০১.১০.২০১৪ তারিখ থেকে ৩০.১১.২০১৪ তারিখ পর্যন্ত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী।

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

ধন্যবাদান্তে

অধ্যাপক ডাঃ এম এ কাদের  
অধ্যক্ষ  
বিএইচপিআই।



অধ্যক্ষ  
প্রয়াস  
সভার এরিয়া

Received on  
Sl.No: 226  
Date: 24/9/14  
Sign: [Signature]



### **Appendix - 3: Information sheet in English**

I am Naznin Akhter, student of the Bangladesh Health Professions Institute (BHPI) which is the academic institute of the Centre for the Rehabilitation of the Paralyzed (CRP), Savar, and Dhaka. I am studying B.Sc. in Occupational Therapy, (4 year course) under the Occupational Therapy department of BHPI. In regards to the fulfillment of B.Sc. Degree, it is mandatory to conduct a research in final or 4th year of study. I would like to invite you to take part in my research study, and the title **“Perception of mothers toward using functional mobility aids for their children with cerebral palsy”**. The aim of the study is to explore perception of mothers toward using functional mobility aids for their children with cerebral palsy.

It is up to you whether or not you want to participate in this study. If you do not wish to take part then there is an opportunity to withdraw your participation at any time. May be there is no direct benefit for you and your child at present. However, the findings may help to provide information to authority about mobility aids provision.

An interview will be conducted with some questions regarding the study that will be recorded by tape recorder. Confidentiality of all records will be highly maintained and all details will be kept on a confidential database that is only accessible to me and my supervisor. The identity of you and your child will not be disclosed in any presentation or publication without your agreement. If you have any queries now regarding this study please feel free to ask. I am accountable to answer all questions regarding this study.

Naznin Akhter

B Sc. in Occupational Therapy

Department of Occupational Therapy

Bangladesh Health Professions Institute (BHPI), CRP-Chapain, Savar, Dhaka-1343

## Appendix - 4: Information sheet in Bengali

### তথ্যপত্র

আমি নাজনীন আক্তার, বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) এর ছাত্রী যা পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্র (সিআরপি) এর একটি শিক্ষা প্রতিষ্ঠান। আমি অকুপেশনাল থেরাপী বিভাগের বি.এস.সি. ইন অকুপেশনাল থেরাপীর ৪র্থ বর্ষে অধ্যয়নরত আছি। এই কোর্সের অংশ হিসাবে চূড়ান্ত বর্ষে আবশ্যিকভাবে একটি গবেষণা কর্ম সম্পাদন করতে হয়। আমি আপনাকে এই গবেষণায় অংশগ্রহণ করার জন্য আমন্ত্রন করছি। গবেষণার বিষয় হচ্ছে সেরিব্রাল পলসি বাচ্চার মায়েদের ধারণা তাদের বাচ্চার জন্য যে সাহায্যকারী ব্যবহার করা হয় তা নিয়ে। এই গবেষণার উদ্দেশ্য হলো সাহায্যকারী ব্যবহার নিয়ে সেরিব্রাল পলসি বাচ্চার মায়েদের ধারণা জানতে পারা।

এই গবেষণায় অংশগ্রহণ সম্পূর্ণ আপনার ইচ্ছাকৃত। আপনি যে কোন সময় আপনার অংশগ্রহণ প্রত্যাহার করতে পারবেন। ইহা আপনার শিশুর চিকিৎসা সেবায় কোনরূপ প্রভাব ফেলবে না। গবেষণায় অংশগ্রহণের জন্য কোন উপহারের ব্যবস্থা নেই। আপনি এবং আপনার শিশু গবেষণা থেকে সরাসরি উপকৃত নাও হতে পারেন। তবে গবেষণা থেকে প্রাপ্ত ফলাফল কর্তৃপক্ষকে তাদের সাহায্যকারী দেওয়ার সম্পর্কে ধারণা জানতে সাহায্য করবে।

গবেষণার সাথে সম্পর্ক যুক্ত কিছু প্রশ্ন নিয়ে আপনার একটি সাক্ষাৎকার নেয়া হবে যা অডিও টেপ দ্বারা সংরক্ষন করা হবে। আপনার কাছ থেকে প্রাপ্ত তথ্য গোপনীয়তার সাথে রাখা হবে, শুধু গবেষক এবং তার তত্ত্বাবধায়ক তথ্য গুলো ব্যবহার করতে পারবেন। আপনার এবং আপনার শিশুর পরিচয় গবেষণার কোথাও প্রকাশ করা হবে না। গবেষণা সংক্রান্ত আপনার যদি কোন রূপ প্রশ্ন থাকে তাহলে আমাকে দ্বিধাহীনভাবে জিজ্ঞাসা করতে পারেন। গবেষণা বিষয়ক সকল প্রশ্নের উত্তর দেবার জন্য আমি সচেষ্ট থাকব।

নাজনীন আখতার

বি.এস.সি. ইন অকুপেশনাল থেরাপী

অকুপেশনাল থেরাপী বিভাগ

বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট ( বিএইচপিআই) সি আর পি, চাম্পেয়েইন, সাভার,ঢাকা-১৩৪৩

## Appendix - 5: Consent form in Bangla

### সম্মতি পত্র

এই গবেষণাটি অকুপেশনাল থেরাপি কোর্সের একটি অংশ এবং গবেষকের নাম হল নাজনীন আখতার, ৪র্থ বর্ষ, বি এস সি ইন অকুপেশনাল থেরাপি, বাংলাদেশ হেলথ প্রফেশনাল ইনস্টিটিউট, পক্ষাঘাত গ্রন্থীদের পুনর্বাসন কেন্দ্র, চাপাইন, সাভার ১৩৪৩। গবেষণার বিষয় হল সেরেব্রাল পলসি বাচ্চার মায়েদের ধারণা তাদের বাচ্চার জন্য যে সাহায্যকারী ব্যবহার করে তা নিয়ে।

এ গবেষণায় আমি \_\_\_\_\_, একজন অংশগ্রহনকারী এবং এ গবেষণার উদ্দেশ্য আমি পরিষ্কারভাবে জানি। আমি যে কোন সময় এ গবেষণা থেকে নিজেকে সরিয়ে নিতে পারি। আমি কারও কাছে উত্তর দিতে বাধ্য থাকিব না।

আমি আরও অবগত হয়েছি যে, সকল তথ্য সাক্ষাৎকারের মাধ্যমে সংগ্রহ করা হবে এবং তথ্য গুলো নিরাপদে এবং এর গোপনীয়তা দৃঢ়ভাবে বজায় রাখা হবে। এ তথ্য গুলো একমাত্র গবেষক তার প্রকাশনায় ব্যবহার করতে পারবে এবং এ গবেষণার কোন স্থানে কোন নাম আথবা ঠিকানা প্রকাশিত হবে না।

আমি গবেষক এবং গবেষণা তত্ত্বাবধায়কের সাথে গবেষণার প্রক্রিয়া এবং গবেষণা সম্পর্কিত যে কোন প্রশ্নের উত্তর পেতে পরামর্শ করতে পারব।

এ গবেষণাটির ফলে আমার কোন ক্ষতি হবে না এবং আমি সম্মতির সাথে জানাচ্ছি যে, আমি স্বেচ্ছায় এ গবেষণায় অংশগ্রহন করতে ইচ্ছুক।

অংশগ্রহনকারীর স্বাক্ষর	তারিখঃ
গবেষকের স্বাক্ষর	তারিখঃ

## Appendix - 6: Questions (Bangla and English)

**Objective 1:** To explore difficulties of the mothers for their children on physical mobility by using functional mobility aids in their physical environment.

### Questions:

1. What kinds of mobility aids do you use for your children?
4. Do you use any mobility aids regularly for your child? If not, will you please tell me the reasons?
5. Do you face any difficulties to use mobility aids in your house? If yes, what are the problems?

১। আপনার বাচ্চার জন্য কি ধরনের সহায়ক উপকরণ ব্যবহার করেন?

৪। আপনার বাচ্চার জন্য সহায়ক উপকরণ কি নিয়মিত ব্যবহার করেন? যদি না হয়, তবে কারন গুলি বলবেন ?

৫। আপনার বাচ্চার জন্য কি বাড়িতে সহায়ক উপকরণ ব্যবহার করতে কোন সমস্যা হয়? যদি হয়, সমস্যাগুলি কি ধরনের ?

**Objective 2:** To explore difficulties of the mothers for their children on social activity by using functional mobility aids in their social environment.

### Questions:

2. Do you go to school with your child by using mobility aids? If you don't go by using mobility aids, will you tell me the reasons?
3. Do you face any problems to go to school by using mobility aids for your child? If you face any problem will you please tell me?
6. Do you face any difficulty with your child's mobility aids to engage with other children? If you face, please tell me the reasons.
7. What's the attitude of your neighbors towards your child with CP?
8. Do you go to your relative's house by using mobility aids for your child?
  - If you don't go, please tell the reasons.
  - If you go to your relative's house, do you feel satisfied? If not satisfied, tell the reasons please.

- ২। আপনার বাচ্চাকে কি নিয়মিত সহায়ক উপকরণ ব্যবহার করিয়ে স্কুলে নিয়ে যান? যদি না যেয়ে থাকেন তবে কেন একটু বলবেন?
- ৩। আপনার বাচ্চার জন্য সহায়ক উপকরণ ব্যবহার করিয়ে স্কুলে যেতে কি কোন সমস্যা হচ্ছে? হলে কি কি সমস্যা হচ্ছে একটু বলবেন?
- ৬। আপনার বাচ্চার সহায়ক উপকরণ ব্যবহার করিয়ে বাইরের বাচ্চাদের সাথে মিশতে কি কোন সমস্যা হয়? যদি হয়, তবে কারনগুলি বলবেন?
- ৭। আপনার অসুস্থ বাচ্চার প্রতি প্রতিবেশীদের আচরণ কেমন?
- ৮। আপনার বাচ্চার জন্য সহায়ক উপকরণ ব্যবহার করে আপনি কি অতীত-স্বজন দের বাড়িতে যান?
- যদি না যেয়ে থাকেন, তবে কারনগুলি একটু বলবেন?
  - অতীত-স্বজন দের বাড়িতে যদি যেয়ে থাকেন, যেতে পেরে কি আপনি সন্তুষ্ট? যদি সন্তুষ্ট না থাকেন তবে কারনগুলি একটু বলবেন?

**Objective 3:** To explore status of the mothers for their children on attending cultural program by using functional mobility aids.

### **Questions**

9. Do you go outside with your child by using mobility aids to see play?
10. Do you encourage your child to participate in play by using mobility aids?
- If you don't encourage, please tell me the reasons.
  - While you engage your child, then, how do you feel like?
11. Do you encourage your child to participate or facilitate in the cultural programs of school by using mobility aids?
- If you don't encourage, tell the reasons.
  - While you engage your child, then, how do you feel like?
12. Do you go to any fair?
13. Do you go with your child to the fairs through using mobility aids?
- If you don't go, please tell the reasons.
  - If you use mobility aids to go to any fair for your child, do you feel satisfied?
- ৯। আপনার বাচ্চাকে কি সহায়ক উপকরণ ব্যবহার করিয়ে বাইরে খেলা দেখতে যান?

১০। আপনার বাচ্চাকে কি সহায়ক উপকরণ ব্যবহার করিয়ে খেলাধুলায় অংশগ্রহণ করতে অনুপ্রাণিত করেন?

- যদি অনুপ্রাণিত না করে থাকেন তবে, দয়াকরে কারনগুলো একটু বলবেন?
- যখন অংশগ্রহণ করিয়ে থাকেন, তখন কেমন লাগে ?

১১। আপনার বাচ্চাকে কি সহায়ক উপকরণ ব্যবহার করিয়ে স্কুলের কোন সাংস্কৃতিক অনুষ্ঠান এ অংশগ্রহণ করান বা অনুপ্রাণিত করেন?

- যদি অনুপ্রাণিত না করান, তবে কারনগুলো একটু বলবেন?
- যখন অংশগ্রহণ করিয়ে থাকেন, তখন কেমন লাগে?

১২। আপনি কি মেলায় যান?

১৩। আপনার বাচ্চাকে কি সহায়ক উপকরণ ব্যবহার করিয়ে কোন মেলায় নিয়ে যান?

- যদি না যেয়ে থাকেন তবে কেন?
- আর যদি সহায়ক উপকরণ ব্যবহার করিয়ে মেলায় যেয়ে থাকেন, তবে কি আপনি সন্তুষ্ট?