EFFECTIVENESS OF GROUP THERAPY WITH CONVENTIONAL THERAPY AMONG THE STROKE PATIENTS

Faruq Ahmed

Bachelor of Science in Physiotherapy (B.Sc.PT)

Session: 2006-2007

BHPI, CRP, Savar, Dhaka.

Bangladesh Health Professions Institute (BHPI)

Department of Physiotherapy

CRP, Savar, Dhaka-1343

Bangladesh

August, 2012

We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled

EFFECTIVENESS OF GROUP THERAPY WITH CONVENTIONAL THERAPY AMONG THE STROKE PATIENTS

Submitted by **Faruq Ahmed,** for the partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy (B.Sc.PT).

………………………….

Mohammad Anwar Hossain
B.Sc. PT (Hons.), Dip. Ortho. Med, MPH
Associate Professor of BHPI
Department of Physiotherapy
CRP, Savar, Dhaka
Supervisor

…………………………..

Md. Sohrab Hossain
B.Sc. PT (Hons.), Dip. Ortho. Med, MPH
Associate Professor of BHPI &
Head, Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

…………………………

Nasirul Islam
B.Sc. PT (Hons.), MPH
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

…………………………   ………………………………………..
Md. Shofiqul Islam   **Md. Obaidul Haque**
B.Sc.PT (Hons.), MPH   B.Sc. PT (Hons.), Dip. Ortho. Med, MPH
Lecturer   Associate Professor and Course Coordinator
Department of physiotherapy   Department of Physiotherapy
BHPI, CRP, Savar, Dhaka   BHPI, CRP, Savar, Dhaka

DECLERATION

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies are my own. I also declare that for any publication, presentation or dissemination of information of the study. I would be bound to take written consent from my supervisor.

Signature: **Date:**

Faruq Ahmed

Bachelor of Science in Physiotherapy (B. Sc PT)

Session: 2006 -2007

BHPI, CRP, Savar, Dhaka

Contents

Acknowledgement

Abbreviations

&:   And

BHPI: Bangladesh Health Professions Institute

CRP: Centre for the Rehabilitation of the Paralyzed.

CVA: Cerebrovascular Accident

FIM: Functional Independence Measurement

P: Probability

SPSS: Statistical Package for the Social Sciences

TIA: Transient Ischemic Attack

WHO: World Health Organization

List of Figures

Abstract

Purpose: The purpose of the study was effectiveness of group therapy with conventional therapy among the stroke patients. *Objectives*: To compare the initial and discharge functional level of the stroke patients, to explore the outcome of group therapy among the stroke patients, to find out the current clinical practice in group therapy for stroke patients, to identify the improvement of the stroke patient through group therapy and to analyze which factors were more or less influence this process. *Methodology:* Quasi-experimental study design was selected for the study. Total 10 participants with stroke patients were selected through convenience sampling from Neurology Department, CRP, Savar, Dhaka. *Results:* After one month's intervention significant changes found in functional activities by using paired sample 't' test and the significant level was (p=.005). In this pre experimental study 10 subjects with stroke were conveniently allocated to treatment group. From over all researchers can be said that group therapy with conventional therapy is effective for stroke patients. This group participates in the group therapy and also takes other therapy. The outcome was measured by FIM scale. So group therapy with conventional therapy is effective for stroke patients. *Conclusion:* From the small project it can be suggested that group therapy with conventional therapy is effective for stroke patients. This study highlighted the significant improvement of the stroke patients after group therapy. Without proper group therapy the proper recovery of stroke patients cannot be achieve. As a whole the stroke patients getting functional improvement after group therapy with conventional therapy and the result were significant.

*Key words***:** Group therapy, Conventional Therapy, Stroke.

CHAPTER: I	INTRODUCTION

1.1 Background

Strike is the third leading cause of death and disability in adults (Khaw, 1996 cited in Gert et al, 1999). "Stroke" can be also named as Cerebrovascular Accident (CVA). The epidemiologists classified the acute stroke patient in aetiology, subtype, topography on CT scan or MRI (Castillo & Bogoousslavsly, 1997 cited in Gert et al, 1999). Almost 9% caused by hemorrhage into the deeper parts of the brain and a comprehensive epidemiological study is found that the chance of getting stroke is increases with age ((Maria, 1998). In UK, someone getting stroke in every 53 seconds (Carol, 2002). The cause of disability in the elderly people can be caused by stroke in a combination with physical, mental and social consequences and the economic impact of stroke is more (Kauko, 2000).

Stroke is a common neurological condition was first recognized and described as the sudden onset of paralysis of muscles on one or both sides of the body, by the father of Western medicine Hippocrates, more than 2,400 years ago (Stroke, 2004). At that time it was thought that it was impossible to remove this strong disease, let alone survive in the world. But now it has been proved that is quite possible to survive, to recover and even to resume daily activities after following stroke by proper medical and therapeutic management where physiotherapy play a vital role (Bierman, 1993).

The brain is a thrilling area in neurology as it is complex in anatomy and in function. With the advance of age in addition to decay, the brain become more prone to get many complicated life frightening diseases, so it needs a proper timely connection. Stroke is one of such condition, which causes death and disability in the world as well in Bangladesh. Stroke treatment involves a multidisciplinary team. The team includes Physiatrist, Rehabilitation Nurses, Physiotherapists, Speech therapist, Social Worker, Psychologist and Vocational councilor (Stroke, 2006). Physiotherapy is such a major component of medical science for rehabilitation of stroke patient (Daviason & Waters, 2000). It was used to help patients recover as much of their original body function as possible (Gale, 2005).

The function which are affected by stroke are motor and sensory functions, autonomic nervous system, balance, ambulation, speech, perception, cognition and mood, the Activities of Daily Living (ADL) and social activities. In 70%-85% of acute stage, hemiperesis can most common characteristic symptoms (Rissanen, 1992 cited in Kauko, 2000). Sometimes hemiperesis combined with spasticity that may have an effect on the functional mobility and ADL activities (Kauko, 2000). A prospective epidemiological research in Netherlands found that about 58% post acute stroke patient further gain the ADL independence, where about 82% patient can walk again (Gert et al, 1999). From the epidemiological studies, there are also found that about 60% - 70% stroke patients have ADL independence (D'Allesanda et al, 1992 cited in Gert et al, 1999). It was about 70% -80% had independent walking ability (Hereman et al, 1982 cited in Gert et al, 1999).

There is an intensive co-operation between Physiotherapists and patients (Talvitie et al, 2002). The therapist can help the patient to learn about the demanding tasks such as bathing, dressing, using a toilet also encourage the patient to use their impaired limbs during engaging those tasks (www.ninds.nih.gov, 2004). There are some important types of intervention such as joint mobilization, stretching, strengthening training, gait and balance exercises, proprioceptive training and also cardiovascular training (Carol, 2002).

"Stroke has afflicted man kind since earliest times and studied the remains of ancient Egyptian mummies has shown that individuals of this era suffered strokes. Hence In the past, strokes were referred to as apoplexy meaning a sudden shock to the senses. Modern and surgical techniques, state of the art rehabilitation programs and knowledge of risk factors control now make this even truer (Bierman, 2009). But now in our country the real situation is totally different. Every year the number of attack is increasing stroke is the first major cause of death resulted from neurological diseases and most frequent cause of all death cases. At least 50% of neurological disorders in a general hospital are strokes. A study showed that, stroke is more common in male and above the age of 50 years where male to female ratio is 2.3:1 and death due to stroke is 34.74% of all death cases (Rahman et al, 2002)

1.2 Rationale

Stroke is the leading cause of disability worldwide. In under developed countries like Bangladesh stroke also causes death where health support system including rehabilitation is not available. For proper rehabilitation of stroke patient need group therapy as well as. In this condition, only medical management is not enough rather than the group therapy is also essential for stroke management. But many of us are not aware about effectiveness of group therapy for the stroke patient. For that, stroke patient cannot fully perform his activities of daily living properly. Although some studies have dealt with group therapy among stroke patients in other countries, the exact nature and effectiveness of this of this important has not been studied before in Bangladesh. This study was formulated to fill the gap of knowledge in this area. Besides it will help to establish right guidelines for patients, and environment conditions which are mandatory for stroke patients. It will also have to discover the lacking area of career, especially about their posture before doing any activities. The identification of effectiveness of group therapy among the stroke patients give proper education and idea of stroke. This study also helps to play more attention to perform group therapy and to provide important platform for therapists. It will help to discover the role and important of physiotherapy in every sector of Bangladesh.

1.3 Research Question

What is the outcome of group therapy among the stroke patients?

1.4 Aims

- To explore the outcome of group therapy among the stroke patients.

- **1.5 Objective**

1.5.1 General objective

- To find out the current clinical practice in group therapy for stroke patients.

1.5.2 Specific objective

- To find out the outcome of group therapy for stroke patient.

- To identify the improvement of the stroke patient through group therapy.

- To analyze which factors are more or less influence this process.

1.6 Operational definitions

Stroke

The world Health Organization the stroke as: A rapidly developed clinical sign of focal disturbance of cerebral function of presumed vascular origin and of more than 24 hours duration.

Group therapy

Group therapy is the combination of structured, adapted group process and tasks or activities aimed at fostering change and adaptation in people with acute and chronic illness, impairment or disabilities.

Effectiveness

Effectiveness is the capability of producing a desired result. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep, vivid impression.

The 'stroke' usually refers to the patients who have had Cerebrovascular Accident (CVA) as the results in circulatory defects in which the symptoms have continued for more than 24 hours and it is due to a lesion affecting the opposite side of the cerebrum (Carr & Shepherd, 2003).

The nerve cells are responsible for controlling various parts and processes within the body. If the cells cannot function properly, the body parts they are responsible for controlling also cannot functioning properly (Ryan, 2006).About a third of all strokes are preceded by transient ischemic attacks (TIA), or mini-strokes, that temporarily interrupt blood flow to the brain. While TIAs cause similar symptoms (such as sudden vision loss, or temporary weakness in a limb), they abate much more quickly than full fledged strokes, usually within a few hours- sometimes as quickly as a few minutes (Bruno, 2004).

There is no standardized classification of stroke subtypes. CVA can be classified according to pathological type or temporal factors or their course of progression and each type has different causes (Bierman, 1993). Ischemic stroke is the most common type of stroke. Ischemic ("is-skeem-ic") stroke occurs when an artery to the brain is blocked. Almost 80% of all strokes are Ischemic stroke. If an artery is blocked, the brain cells cannot make enough emergency and will eventually strop working. If the artery remains blocked for more than a few minutes, the brain cells may die (NINDS, 2004).The most common type of stroke occurs when a blood clot, or thrombus, forms within the brain itself, blocking blood flow through the affected vessel. This is usually due to atherosclerosis of brain arteries, caused by a buildup of fatty deposits inside the blood vessels. Cerebral thrombosis occurs most often at night or early in the morning, and is often preceded by a TIA. Recognizing the occurrence of a TIA, and seeking immediate treatment, is an important step in stroke prevention (Stroke Forum 2006).

The French word "lacune" meaning "gap" or "cavity". A lacunar stroke is one type of stroke when thrombosis occurs in small-vessel involves one of the brains, yet deeper penetrating arteries commonly lacunar strokes produces purely motor deficits purely sensory deficits or a combination of motor and sensory deficits (Bierman, 1993).

Embolic stroke is caused by an embolus. When an embolus forms in a blood vessel away from the brain, most often in the heart causes cerebral embolism. The embolus travels through the blood stream until it lodges in an artery leading to or in the brain, thus blocking blood flow to the brain. The most common cause of such emboli is blood clots that form during arterial fibrillation. Embolism usually develops quite rapidly, within 10-20 seconds and without warning (Avillion, 2002).

A haemorrhagic stroke occurs when an artery in the brain bursts and blood spews out into the surrounding tissue and upset not only the blood supply but the delicate chemical balance neurons require to function. Approximately 20% account for this type of all strokes. Haemorragic can occur in several ways. Common causes are bleeding aneurysm, a weak or thin spot on an artery wall, when arterial walls break open (NINDS 2004). In intracerebral stroke, blood spills into the subarachnoid space between the brain and cranium. As fluid builds up, pressure into the brain increases, impairing its function. Hypertension is a frequent cause of these types of strokes, but vessel with pre-existing defects, such as an aneurysm, are also at risk of rupture. Aneurysms are most likely to burst when blood pressure is height, and controlling blood pressure is an important preventing strategy. Subarachnoid haemorrhage account for about 7% of all strokes (Stroke Forum 2006). Intracerebral haemorrhage is bleeding directly into the brain tissue, forming a gradually enlarging haematoma. It generally occurs in small arteries or arterioles and is commonly due to hypertension, trauma, bleeding disorders, amyloid angiopathy, illicit drug use and vascular malformations. ICH has a mortality rate of 44% after 30 days, higher than ischemic stroke or even the very deadly subarachnoid hemorrhage.

Stroke Rehabilitation Information (2005) has described the following effects of brain attack- weakness or paralysis on one side of the body that may affect the whole side or just arm or leg and the weakness or paralysis is on the side of the body opposite the side of the brain affected by the stroke, spasticity, stiffness in muscles, painful muscles spasms, problems with balance or co-ordination, problem using language, including having difficulty understanding speech or writing (aphasia); and knowing the right words but having trouble saying them clearly (dysarthria), being unaware of or ignoring sensations on one side of the body , pain, numbness or odd sensations, problem with memory, thinking, attention or stroke, being unaware of the effects of a

stroke, trouble swallowing (dysphasia), problem with bowel or bladder control, fatigue, difficulty controlling emotion, depression and difficulties with daily tasks.

The major factors a person has, the greater the chance that he or she will have a stroke (The Stroke Center 2006).There are some modifiable or preventable risk factors for stroke. These are -diet and nutrition, physical inability, smoking, substance/alcohol abuse, certain medical condition including: abnormal blood vessel connections, cerebral aneurysms, low cholesterol level, diabetes , hardening of the arteries ,heart disease, high blood pressure, obesity, Transient Ischemic Attacks(TIA). And some non modifiable risk factors are age, ethnicity, heredity/family history of stroke and gender (Plaza Medical Center of Fort Worth, 2006).

According to National Stroke Association prognosis of stroke is 10% of the stroke victims recover almost completely, 25% of stroke victims recover with minor impairments, 40% of stroke victims experience moderate to severe impairments requiring special care, 10% of stroke victims require care in nursing home or other long term care facility and approximately 14% of people who have a stroke or TIA will have another within a year (Lkmes, 2002 cited in Begum 2004).The imaging studies are used for diagnosis of stroke by Computed Tomography (CT) scan, Magnetic Resonance Imaging (MRI), Magnetic Resonance angiography (MRA), Electroencephalography (EEG), Cerebra Blood Flow Studies (Bruno, 2004).

"Group treatment is the combination of structured, adapted group process and tasks or activities aimed at fostering change and adaptation in people with acute and chronic illness, impairment or disabilities" (Bower, 2001). "Group play therapy model is very structured especially at the outside of the intervention and is designed for use with stroke who exhibit significant difficulties with respect to their pair interaction" (O'connor, 1991). The therapist use of group process requires knowledge of theories of group process and group dynamics, understanding of conceptual models that describe group principle and parallel therapeutic techniques. This structured group works to treat or train a specific area of function. Group therapist must be able to use this information, along with their knowledge of diagnosis, illness, and reason about the individual patient in the group context. Group integrate the gross motor, fine motor perceptual, speech and language activities, but with more focus any one of the areas (Bower, 2001).

Physiotherapy should start at once whether the patient is in intensive care, in a word or at home. The aims of physiotherapy is to minimize the effects of the stroke and to regains as much functional independence as possible physiotherapy management has been done usually in early and later stage. Early stage treatment are usually given as respiratory care to maintain normal airway, positioning to maintain correct posture, passive movement to maintain normal range of motion of all joints, bed mobility exercise rolling, bridging, lying to sitting and late stage treatment are given as active assisted movement of affected side, gradually active resisted movement will be encouraged, dynamic sitting balance practice, transferring practice, standing balance practice, walking practice, stair ring practice, gait re-education (Thompson et al,1991).

Groups can be as small as three or four people, but group therapy sessions generally involve around seven to twelve individuals. The session might begin with each member of the group introducing themselves and sharing why they are in group therapy. The specific manner of the session depends largely on the goals of the group and the style of the therapist. According to Oded Manor "the minimum number of group therapy sessions is usually around six, but a full year of sessions is more common." There are many benefits of group therapy such as: the group can afford the opportunity to be real with others in an environment of safety and respect. Members are able to try out new behaviors. The group can allow members the chance to explore and better understand themselves. In group, members can learn new social techniques, ways of relating, and how to better cope with difficulties (Cherry, 2011).

CHAPTER:III	METHODOLOGY

3.1. Study design

The purpose of the study was to find out the effectiveness of group therapy with conventional therapy among the stroke patients. Pre-post experimental design of quantitative research was selected for this study. The researcher was conducted the study with a single group. The design had no have a control group to compare with the experimental group (Bowling, 1997).

3.2 Study population

A population is the total group or set of events or totally of the observation on which a research is carried out. In this study, sample population was selected from the participants of CRP, Dhaka.

3.3 Study site

The study was done on Center for the Rehabilitation of the Paralyzed (CRP). It is a non-government organization working for the development of health care delivery system of Bangladesh through providing Physiotherapy, Occupational therapy, Speech and Language therapy services in indoor and outdoor programs.

3.4 Study area

The study area was selected at Neurology Department at Center for the Rehabilitation of the Paralyzed (CRP).

3.5 Sample Size

For this study the researcher was taken a small sample size so that the researcher could analyze the data from the participants deeply and easily that are come. Researcher was taken only 10 participants as sample. This small number of participants provides a representative picture of the study. Due to time limitation the researcher was chosen 10 participants to conduct his study; within the short time it could not be possible to conduct the study with a large number of the population.

3.6 Sampling Technique

Purposive sampling procedure used for this study. This sampling procedure allowed the researcher to choose a typical case for the study. By using this sample procedure the researcher could make a judgment about sample and able to collect in-depth data from participant according to research needs. As the study aim was to find out the effectiveness of group therapy among the stroke patients. According to parent's perception the researcher used purposive sampling procedure for appropriate data. For this reason the researcher collected data from those parents who are more appropriate and fulfilled the study purpose according to inclusion criteria. Purposive sampling strategies are designed to enhance the understanding of selected individual or group experiences or for developing theories and concepts (Frankel & Wallen, 2000). So the researcher was taken 10 participants as a sample group by using purposive sampling to represent the population group for this study.

3.7 Inclusion criteria

- Subject was selected from CRP at Savar, Dhaka.
- Both male and female was selected who had stroke.
- Selected age was within the range of 30 to 70 years old.
- Duration of stroke onset 2 month to 2 year.
- Subject who was willing to participate in the study.
- Medically stable patients who could done minimum functional activity.

3.8 Exclusion Criteria

- Medically unstable patients.
- Patient who have cognitive problem.
- Patient who are not able to communicate.

3.9 Data collection tools

To conduct the study the researcher collected data through using different types of data collection tools. The researcher organized the materials to successfully complete the interview session. The organized material was questionnaires, consent forms, a tape recorder, paper, pen & a pencil. Some semi-structured questions were designed to conduct the interviews; during the interview instrument was paper, pen & pencil to write field notes.

3.10 Data collection procedure

The researcher was collected data through semi-structured, face to face interviews with open ended question. Because semi-structure interview will be helpful for the researcher to obtain all the required information at the same time giving freedom to the participants to responds and illustrates the concept. In semi-structured interviews it is easier to guide the interview without fix ordering of questions (Minichiello et al, 1997). A semi-structured open ended questionnaire was developed so that the researcher can find out the actual information from every aspect of the participant.

Semi-structured interview was used when the researchers knows the questions asked could not predict the answers. With semi-structured questionnaires, participants get more freedom to explain their opinions. Face to face interviews helped the researcher to determine 10 participants understanding of the questions by observed their facial expressions. Questionnaires used both English and Bengal for easy understanding of the participants.

3.11 Ethical consideration

The researcher was taken initial permission from BHPI research ethical committee and supervision of the research project and also the course coordinator before conducting this study. The participant ensured that their comments would not affect their occupational role. Participants were explained exactly and clearly about the whole research process. For this study, the researcher was not interfered with their clients and clinical practice. When researcher was received an approval letter from the ethical committee then data collection was started.

3.12 Informed Consent

Before conducting research with the respondents, it is necessary to gain consent from the subjects (Baily, 1997). For this study researcher was given a consent form and the purpose of the research and consent forms was explained to the subject verbally. Researcher was told those participants are fully voluntary and they have the right to withdraw at any time. Researcher was also told them confidentiality would be maintained. Information might be published in any presentations or writing but they would not be identified. The study results might not have any direct effects on them but the members of Physiotherapy population may be benefited from the study in future. They would not be embarrassed by the study. At any time the researcher would be available to answer any additional questions in regard to the study.

3.13 Limitation of the Study

- As it was the first research of the researcher, so the researcher might overtake some mistakes.
- There was no control group.
- The researcher could not compare the study with other due to lack of studies about present practice of stroke.
- The researcher was taken small number of sample.
- The researcher was collected data from the neurology department at CRP. So the result of this study could not generalize of all stroke patients in Bangladesh.

3.14 Rigor

During the data collection and data analysis the author was always tried not to influence the process by his own perspectives, values and biases. No leading questions were asked and judgments were avoided. When conduct the study the researcher was taken help from the supervisor when needed. The other researchers could use the results in their related area.

4.1 Socio-demographic characteristics

Age range

Analysis revealed that among the 10 participants 70% participants were less or equal of fifty years of old and 30% participants were more than fifty years of old. Among 10 participants mean age of the participant was 50.50 (SD± 5.061).
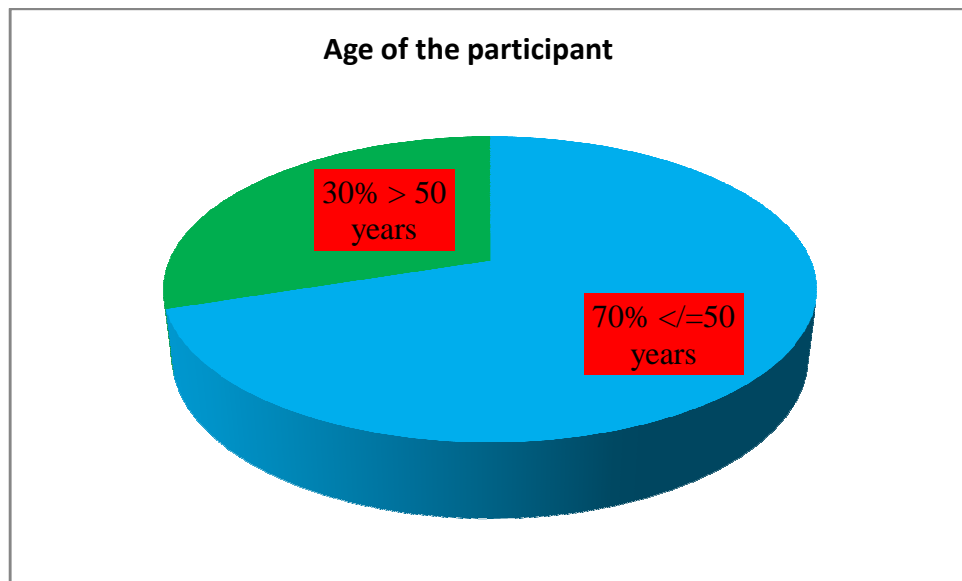
Figure 1: Age of the participant

Sex

Among all the participants approximately 90% (9 of 10) were male and 10% (1 of 10) were female. Here result showed that male is more affected than the female.
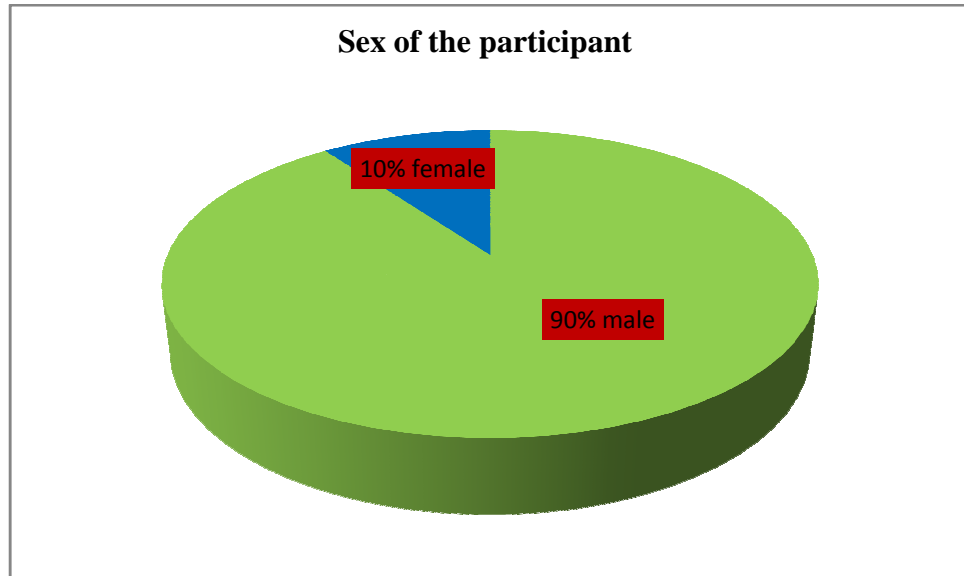
Figure 2: Sex of the participants

Religion

Analysis revealed that among all the participants 80% (8 of 10) participants were Muslims and 20% (2 of 10) participants were Hindus.
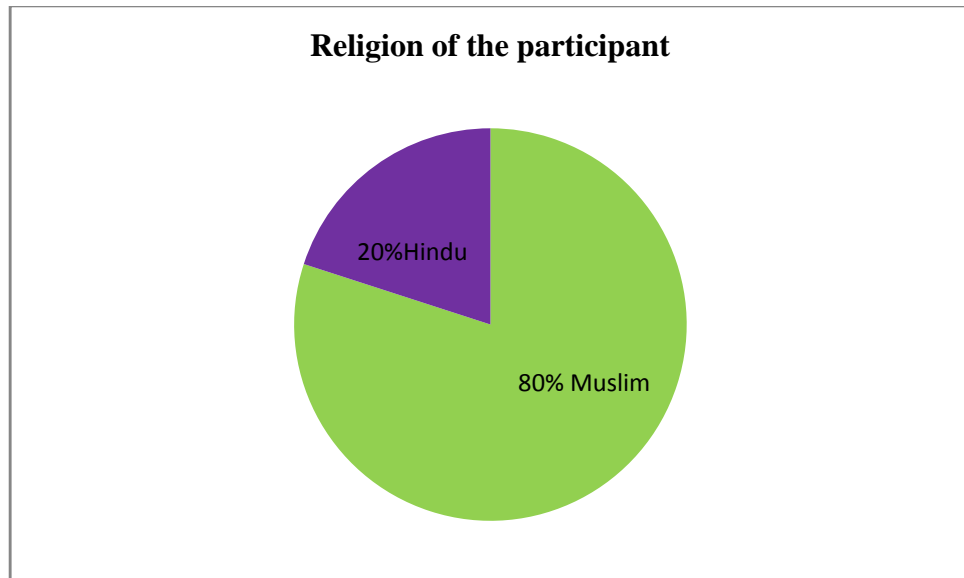
Figure 3: Religion of the participant

Living area

Among all the participants research found that 70% (7 of 10) were urban and 30% (3 of 10) participants were rural.

Living area of the participant

30% rural

70% urban
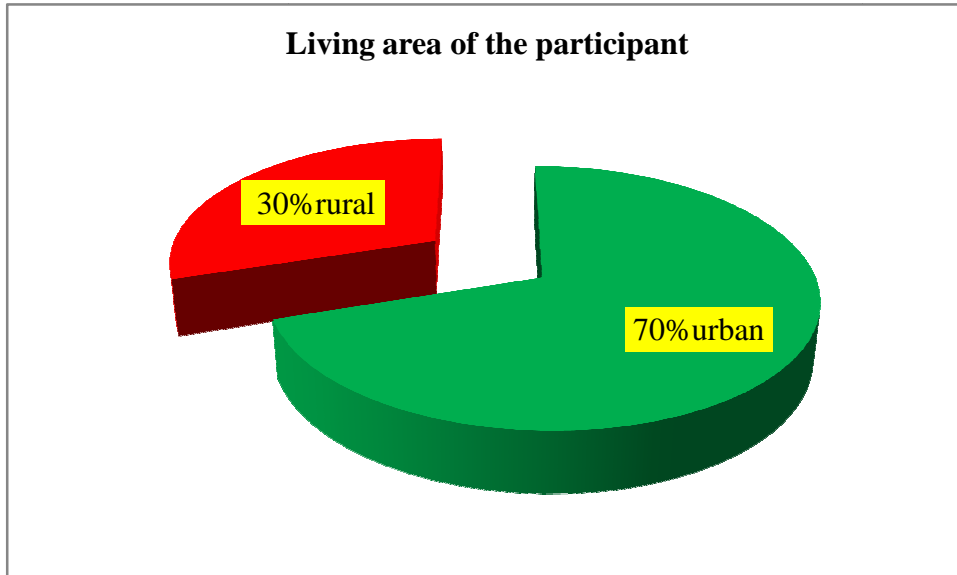
Figure 4: Living area of the participant

Family status

Among 10 participants mean living area of the participant was 1.70 and standard deviation was 0.483 and 3(30%) participant were nuclear family and 7 (70%) participants were extended family.
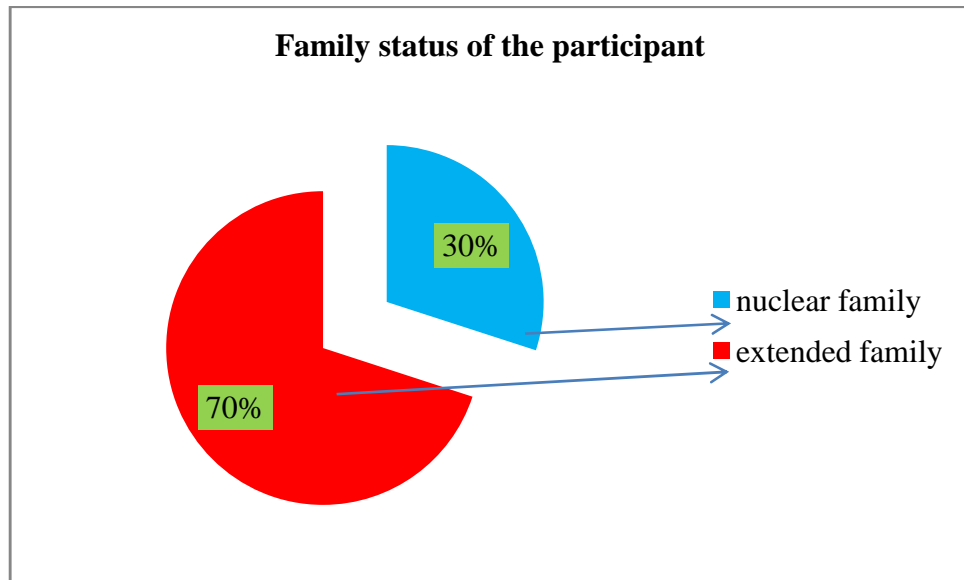
Figure 5: Family status of the participant

Marital Status

Among all the participants approximately 90% (9 of 10) was married and approximately 10% (1 of 10) was unmarried. Result showed that married were more affected than unmarried person.
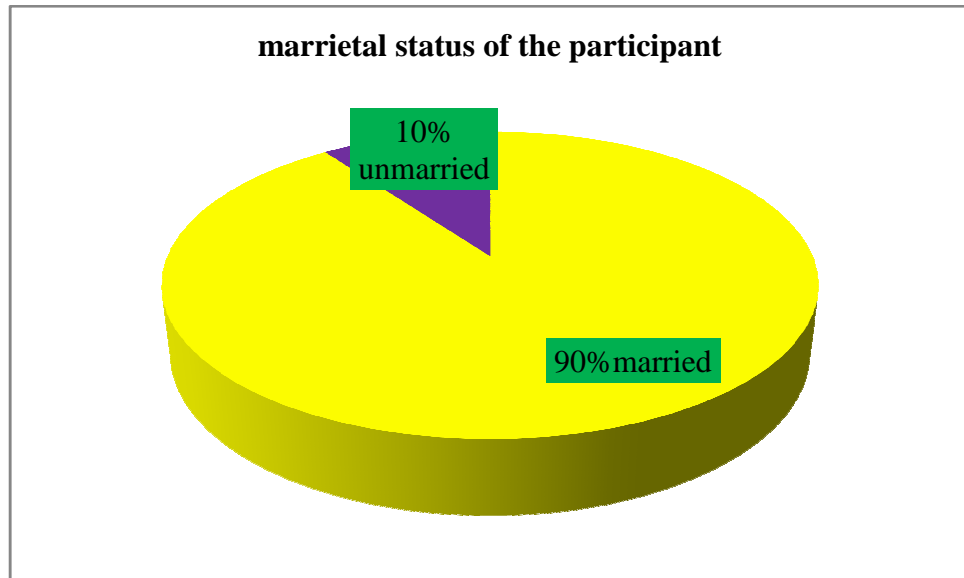
Figure 6: Marital Status of the participant

Educational status

Among all the participant approximately 10% (1 of 10) participant was primary level , 20% (2 of 10) were secondary level, 20%(2 of 10) were S.S.C pass , 30%(3 of 10) were H.S.C pass and 20% (2 of 10) were Honors pass.

Educational status of the participant

Primary	Secondary	S.S.C	H.S.C	Honors
10%	20%	20%	30%	20%
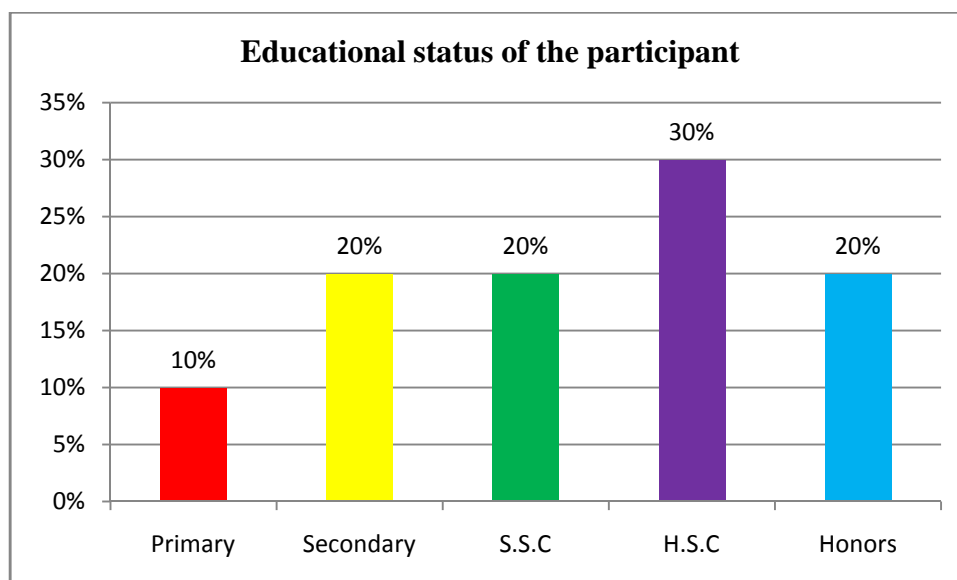
Figure 7: Educational status of the participant

4.2 Effect of group therapy on functional level measurement by FIM Scale

Selective movement of upper limb

Research point out that pre test score of selective movement of upper limb was 3.80and in post test score it changed to 4.60. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly (p<0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Selective movement of lower limb

It found that mean functional level score of selective movement of lower limb before group therapy was 4.10. After group therapy the average score became 5.20. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than(p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Coordination:

It inspected that mean functional level score of coordination before group therapy was 3.90. After group therapy the average score became 5.10. When we compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Rolling supine to prone

It clarify that mean functional level score of rolling from supine to prone before group therapy was 5.30. After group therapy the average score became 6.40. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and it failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Rolling prone to supine

It implied that mean functional level score of rolling from prone to supine before group therapy was 5.40. After group therapy the average score became 6.40. When compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Rolling right to left

It interpreted that mean functional level score of rolling from right to left before group therapy was 5.40. After group therapy the average score became 6.40. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Rolling left to right

It identified that mean functional level score of rolling from left to right before group therapy was 5.30. After group therapy the average score became 6.40. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Bridging

It point out that that mean functional level score of bridging before group therapy was 4.80. After group therapy the average score became 5.70. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Lying to sitting

It measured that mean functional level score of lying to sitting before group therapy was 5.00. After group therapy the average score became 5.90. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly ($p=0.004$) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Static sitting balance

It found that mean functional level score of static sitting balance before group therapy was 5.80. After group therapy the average score became 6.20. When it compared this changes in a paired sample t-test, we found that changes in functional level score due to group therapy with conventional therapy differ significantly ($p=0.037$) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Dynamic sitting balance

It stated that mean functional level score of dynamic sitting balance before group therapy was 4.60. After group therapy the average score became 5.90. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than ($p=0.001$) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Sitting to standing

It analyzed that mean functional level score of sitting to standing before group therapy was 4.90. After group therapy the average score became 5.90. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than ($p=0.001$) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Standing to sitting

It identified that mean functional level score of standing to sitting before group therapy was 5.60. After group therapy the average score became 5.80. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly (p=0.168) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Static standing balance

It summarized that mean functional level score of static standing balance before group therapy was 5.80. After group therapy the average score became 6.00. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly (p=0.168) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Dynamic standing balance

It extracted that mean functional level score of dynamic standing balance before group therapy was 4.40. After group therapy the average score became 5.70. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Gross grasp and release ability

It clarified that mean functional level score of gross grasp and release ability before group therapy was 3.50. After group therapy the average score became 4.80. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Walking

It inspected that mean functional level score of walking before group therapy was 4.70. After group therapy the average score became 5.70. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

Stairs

It clarified that mean functional level score of stairs before group therapy was 3.70. After group therapy the average score became 4.80. When it compared this changes in a paired sample t-test and found that changes in functional level score due to group therapy with conventional therapy differ significantly less than (p=0.001) and failed to reject the null hypothesis. So there is a significant difference in functional level due to group therapy.

The purpose of the study was to evaluate the effectiveness of group therapy with conventional therapy among the stroke patients and objective was to compare the score of before and after group therapy of functional level of the stroke patients. In this pre experimental study 10 subjects with stroke were conveniently allocated to treatment group. This group participates in the group therapy and also takes other therapy. Each subject of the group had participated one month of group therapy session with conventional therapy at stroke rehabilitation unit at CRP. The outcome was measured by FIM scale.

In this study it was tried to explore the effectiveness of group therapy for stroke patients to improve their functional activities. The findings of the study showed that following one month of intervention there was a marked difference in pre test and post test score. Initial score was measured at the beginning of patient management to get idea about the participants functional ability as selective movement of upper limb, selective movement of lower limb, coordination, rolling supine to prone, prone to supine, right to left, left to right, bridging, lying to sitting, static sitting balance, dynamic sitting balance, sitting to standing, standing to sitting, static standing balance, dynamic standing balance, gross grasp and release ability, walking and stairs. After completion of one month intervention the post test score was measured.

Before group therapy the mean score of selective movement of upper limb was 3.80 and after group therapy score was 4.60 and P value was $p < 0.001$. Initial mean score of selective movement of lower limb was 4.10 and discharge score was 5.20 and $p < 0.001$. Initial mean score of coordination was 3.90 and discharge score was 5.10 and $p < 0.001$. Initial mean score of rolling supine to prone was 5.30 and discharge score was 6.40 and $p < 0.001$. Initial mean score of rolling prone to supine was 5.40 and discharge was 6.40 and $p < 0.001$. Initial mean score of rolling right to left was 5.40 and discharge was 6.40 and P value was $p < 0.001$. Initial mean score of rolling left to right was 5.30 and discharge was 6.40 in which $p < 0.001$. Initial mean score of bridging was 4.80 and discharge was 5.70 with $p < 0.001$. Initial mean score of lying to sitting was 5.00 and discharge score was 5.90 and $p = 0.004$. Initial mean score of

static sitting balance was 5.80 and discharge score was 6.20 where p value was =0.037. Initial mean score of dynamic sitting balance was 4.60 and discharge was 5.90 and p <0.001. Initial mean score of sitting to standing was 4.90 and discharge was 5.90 and P value was p <0.001. Initial mean score of standing to sitting was 5.60 and discharge was 5.80 where p= 0.168. The pretest mean score of static standing balance was 5.80 and posttest was 6.00 where p= 0.168.The pretest mean score of dynamic standing balance was 4.40 and post test score was 5.70 where p <0.001. The pre test score of gross grasp and release ability was 3.50 and post test score was 5.80 where p <0.001. The pretest mean score of walking was 4.70 and post test was 5.70 where p < 0.001. The pre test score of stairs was 3.70 and post test score was 4.80 and P value was p <0.001.

In this research researcher found that among the participant 90% (9) were male and 10% (1) participants were female. Male and female ratio was 9:1. In this study found that among the participants mean age of the participant was 50.50 and standard deviation was 5.061. 70% participants were less or equal of fifty years old and 30% participants were more than fifty years of old. In case of this study 70% (7 of 10) participants were live in urban area and 30% (3 of 10) were live in rural area.

One study on the people of Bangladesh shows that 75.59% of all stroke patients are male and 24.41% are female (Hayee, 2002). A study shows that, stroke is more common in male and above the age of 50 years where male to female ratio is 2.3:1 (Rahman et al. 2002). The World health Organization (WHO) estimated that in 2001 there were over 20.5 million strokes worldwide. Europe approximates 650,000 people deaths each year by stroke. At all ages, 40,000 more women than men have a stroke. About 47% of stroke deaths occur of hospital. About 47 million stroke survivors are alive today (Anon 2004 cited in Debnath, 2005). Bangladesh is a South Asian country and one of the most densely populated country in the world (Momin, 1995). More than 150 million people in this independent country (CRP annual 2004-05).About 80% of the population live in villages and 60% of the total labour forces are employed in agriculture (Zaman, 1994). In the world of globalization, all the countries of the world are trying to confirmation their ability to remain in the competitive world. For this reason there is no scope of neglecting any sector to be considered like economy, education, health, culture etc. Among them health sector is very important issue

(Begum, 2005). Another study shows that people in urban area are more prone (60%) to stroke than rural area in United States (Gelber et al, 2000). Low socioeconomic status is a reliable correlate of poor physical health. Individuals who are less educated, have lower status jobs, and earn less or no incomes are at greater risk for poor health than their higher socioeconomic status counterpart (Matthews &Gallo, 2011).

From over all discussion researcher can be said that group therapy with conventional therapy is effective for stroke patients. Alternative hypothesis of this study is group therapy with conventional therapy is not effective for the stroke patients. But in this study it is proved that group therapy with conventional therapy is significantly effective for stroke patient. So null hypothesis is rejected in this study.

CHAPTER:VI	**CONCLUSION**

Stroke is the major cause of disability, and there is need to identify the effective physiotherapy interventions that will increase the functional activities of patients. Some Physiotherapy clinic and hospital provide physiotherapy for the treatment of stroke patients. Bangladeshi people are not fully concerned about basic health care. Health services in Government and Non Government sector are not sufficient. For that most of the people in our country not get proper treatment facilities. Some private clinic and hospitals are now trying to provide latest medical services, but nothing to be mentioned is about physiotherapy treatment. People in our country think that physiotherapy treatment is some form of exercise. But it plays great rules in medical sector and many people become disable due to lack of awareness of physiotherapy. Physiotherapy is considered as an important treatment process in the develop countries. Here is an important term that is group therapy. Besides the conventional therapy group therapy is very effective. It encourage the patients to willing participate in the treatment session and dramatically outcome can be observed. So the study was aiming to "Effectiveness of group therapy with conventional therapy among the stroke patients." For the fulfillment of the study a quasi-experimental method was designed and collected 1o stroke patients as sample. Than a pre-test and post-test was done and score measured. This study highlighted the significant improvement of the stroke patients after group therapy. Without proper group therapy the proper recovery of stroke patients cannot be achieve. As a whole the stroke patients getting functional improvement after group therapy with conventional therapy and the result were significant. Last of all this study was try to represent the strong evidence of the effectiveness of group therapy with conventional therapy among the stroke patients.

By conducting the study the researcher found effectiveness of group therapy with conventional therapy among the stroke patients at CRP's neurology unit. But it is not always possible to gain complete achievement from every work. Same things happened in the study, what the researcher wanted to gain from the study not achieved fully. So, some further steps that might be taken for better accomplishment for further research. The researcher recommended the following things -the next generation of physiotherapy members continues regarding this area which may involve outcome of

group therapy followed by stroke patients and should take more samples for generalizing the result and make the research more valid and reliable. Sample should collect from different hospital, clinic, institute and organization in different area of Bangladesh to generate the result. This is an undergraduate study, and suggests to do the same study at graduate education level will give more precise output.

REFERENCES

- Avillion AE, 2002, Stroke: Pathophysiology Treatment and Rehabilitation, available: http://www.onlinece.net/courses.asp?discipline=physical+therapist&action=list, [Retrieved on November 30].

- Bailey DM, 1997, Research for the Health Professional: A Practical Guide, F. A. Davis Company, Philadelphia.

- Begum A, 2005, Effectiveness of Physiotherapy on Functional Recovery of upper limbs after Stroke, Science, 78(12):23-45.

- Bierman SN, 1993, Cerebrovascular Accident, Williams & Wilkins, London.

- Bower E, 2001, A randomized controlled trial of different intensities of physiotherapy and collaborative goal-setting in children with cerebral palsy, available: http://www.ReFeR.nhs.uk/VIEWRecord.asp?ID=579, [Retrieved on 6th may 2012].

- Bowling A, 1997, Research Method in Health: Investigating and Health Services, Open University Press, Buckingham.

- Bruno AA, 2004, Motor Recovery in Stroke, Health on the Net Foundation, available: http://www.emedicine.com/pmr/topic234.htm, [Retrieved November 30 2006].

- Carr J, and Shepherd R, 1998, Stroke Rehabilitation: Guideliness for Exercise and Training to Optimize Motor Skill, Butterworth Heinemann, Oxford.

- Davidson I, and Waters K, 2000, Physiotherapy working with stroke patients, Physiotherapy, 11(12):56-57.

- Debnath M, 2005, To evaluate the standing balance recovery of upper limbs after stroke, B.Sc. dissertation, University of Dhaka. Retrieved September 18, 2006, from Library of Bangladesh Health Profession's Institute.

- Frankel JR, and Wallen N, 2000, How to design & Evaluate research in education, 4th edn, Mc Graw Hill, London.

- Gale T, 2005, Stroke, available: http://www.faqs.org/health/SickV4/Stroke.html, [Retrieved December 06, 2006].

- Gelber AC, Hochberg MC, Wead LA, Wang N, Wigley FM, and Klag MJ, 1998, Joint injury in the young adults and Risk for shoulder subluxation, available: http//www.anals.orgg/content/133/5/321.full.pdf+html, [retrived on 4th January 2012].

- Hayee MA, Pedro H, and Kaliper M, 2002, Aetiology of Young Ischemic Stroke in Bangladesh, Annals internal medicine, 18(2): 16-17.

- Kauko P, 2000, Stroke Rehabilitation in the elderly: controlled study of the effectiveness and costs of a multidimensional intervention, University of Kuopio, Nagasaki.

- LKmes, N et al 2002, National Stroke Association, NSA publication, Newzeland.

- Maria P, 1998, Neurological Physiotherapy, Mosby, London, Philadelphia.

- Matthews KA, and Gallo LC, 2011, Psychological perspectives on pathways linking socioeconomic status and physical health, Annual Review of psychology, 62:501.

- Minichiello E, and Alaxandr L, 1997, In department interviewing, 2nd ed, Wesley Longman Australia pity Limited , South Melbourne.

- Momin AKM, 1995, Option for the development of Therapy Services for the Disabled in Bangladesh, Nuffield Institute for Health, 26:29.

- National Institute of Neurological Disorders and Stroke (NINDS), 2004, Stroke: Hope Through Research, available: http://www.ninds.nih.gov/disorders/stroke/stroke. html, [Retrieved July 11, 2006].

- O'Connor K, 1991, The play therapy primer, John Wiley and Sons Inc., New York.

- Rahman KM, Selim H, and Karim R, 2002, Study on Neurological disease in 7689 Hospital admitted patients –Retrospective Study in Mymensingh Medical College Hospital Bangladesh, Bangladesh Journal of Neuroscience 18(1):28-31.

- Stroke, 2006, Mayo Foundation for Medical Education and Research, available: http://www.mayoclinic..com/health/stroke/DS00150/DSECTION=9, [Retrieved December 02].

- Sunder S, 2002, Stroke, Textbook of Rehabilitation, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, India.

- Thompson SBN, and Morgan M, 1990, Occupational therapy for Stroke Rehabilitation, Champan & Hall, Landon.

- Zaman SS, 1994, Scientific study on developmental disabilities in Bangladesh, 1st edn, Bangladesh Protibondhi Foundation, Dhaka.

A-01 Inform Consent (Bangla)

(   )

A-02 Inform Consent (English)

Informed consent

Clinical setting: Centre for Rehabilitation of the paralyzed (CRP) – Savar

The study entitled "Effectiveness of group therapy with conventional therapy among stroke patients" is a research project. The researcher is a student of Bangladesh Health Professions Institute (BHPI), CRP in 4th year B.Sc. in Physiotherapy and it's a part of his study. The participant is request to participate in study after reading the following information.

The study being conducted on, "Effectiveness of group therapy with conventional therapy among stroke patient". The aim of the research topic is to determine the Effectiveness of group therapy with conventional therapy among stroke patients at CRP in Bangladesh. This will be a cross sectional type of study and will be helpful for patients.

For the kind information Bangladesh Health Professions Institute (BHPI), CRP has permitted the researcher to do the research. The conversation time will be 20-25 minutes. The participant reserves the right to refuse the study at anytime. The information obtained from the study would be kept confidential and at the time of publishing the result of the study, personal identification of the participants would not be published.

I …………………………………………………..declare that I am giving my consent to participating in the study after being informed about all the information in details

Signature of the participant   _____

Signature of the Interviewer   _____

Signature of the Therapist (witness)   _____

A-03 Questionnaire (Bangla)

1P

! # $ % & & ' ' (') *

Q HHHHHHH   R HHHHHHHSHHHHHHHHHHSHHHHHHHHHHHHHHHHH

$! HHHHHHHHHHHHHHHHHHHHHHHHHHHH

A

%- — ! ; ; -R& T '&

U9 C   HHHHHHHHHHHH

F9 . V

U: *   F: ! /.

I 9 B!

U: ! . !   F: /W   I : XY   =: Z[

=9   ; C

U: /   F:

\9   B

U: 8   F:]

^9 ₋ / %

U: /

F: %   /

I :   .

=:   .

\:   B

`9   ) &

U: 1 3! $

F: a

I : 8 8

=: 83 8

\: %

^: ! 4   < 8

%- HR # $ % & & '   ' ('   )   *   ; & '&

U	/)&>b ; C C' ; % !
F	c /)&1C; 7 $F\ ; !9
I	!d S%B /)&1C; 7 $\G ; !9
=	%K /)&1C; 7 $`\ ; !9
\	) 1C;
^	8 - N B$; !
`	N B$; !

-	! S	' e	' e
U	/ [b b		
F	[b b		
I	! fC B		
=	' 6 b /<C		
\	6 b ' /<C		
^	Q ' ! g		
`	! ' Q g		
h	! 6i		
j	C '		
UG	% C ! &		
UU	% C . ! ! &		

36

UF	' b		
UI	b '		
U=	b % C !&		
U\	b % C .! !&		
U^	/ C B < > b !'&		
U`	/Б !		
Uh	ib iC 6A		

" %- / ; & B & Ik

Questionnaire

Title: Effectiveness of group therapy with conventional therapy among the stroke patients

Code no: Date:

Patient's Name:

Address:

Part-A: Socio-demographic information

1. Age: _____

2. Gender:

a. Male   b. Female

3. Religion:

a. Muslim   b. Hindu   c. Buddha   d. Christian

4. Living area:

a. Urban   b. Rural

5. Family type:

a. Nuclear family   b. Extended family

6. Education level:

a. Primary pass

b. Secondary pass

c. S S C

d. H S C

e. Honors

f. Masters and above

7. Marital status:

a. Married

b. Unmarried

c. Separated

d. Divorced

e. Widowed

Part-B: This part is designed to determine the effectiveness of group therapy with conventional therapy.

FIM Scale

1	Total assistance or unplaceable in position
2	Maximum assistance required (child does 25% of work)
3	Moderate assistance required (child does 50% of work)
4	Minimum assistance required (child does 75% of work)
5	Required supervision
6	Modified independence (abnormal movement patterns or not able to dynamically moved from the base of support)
7	Complete independence (full dynamic movement and able to maintain balance for 30 second)

No	Starting position	Pre test score	Post test score
1.	Selective movement of upper limb		
2.	Selective movement of lower limb		
3.	Coordination		
4.	Rolling supine to prone		
5.	Rolling prone to supine		
6.	Rolling right to left		
7.	Rolling left to right		
8.	Bridging		
9.	Lying to sitting		
10.	Static sitting balance		
11.	Dynamic sitting balance		
12	Sitting to standing		
13	Standing to sitting		
14	Static standing balance		

15	Dynamic standing balance		
16	Gross grasp and release ability		
17	Walking		
18	Stairs		

''Thank you for your participation''

Date: 01/10/2012

To,

The head of the Physiotherapy Department,

Centre for the Rehabilitation of Paralyzed (CRP),

Savar, Dhaka-1343.

Subject: Application for permission of data collection from neurology department of CRP for the research project.

Dear Sir,

I beg most respectfully to state that, I am a student of 4th year B. Sc in physiotherapy at Bangladesh Health Professions Institute (BHPI) under the University of Dhaka. I am conducting research on "effectiveness of group therapy with conventional therapy among stroke patients" as a part of our course curriculum, under supervision of Muhammad Anwar Hossain, Assisstant Professor, BHPI. So I need to collect data from neurology department of CRP.

I therefore, pray and hope that you would be kind enough to grant me and thus oblige thereby.

Sincerely yours,

Faruq Ahmed

Faruq Ahmed

B.Sc in physiotherapy

4th year, Roll-11,

Session: 2006-2007

BHPI, CRP, Savar, Dhaka.

Md. Sohrab Hossain
BPT, DU, D'Orthopaedics Cyriax (Belgium), MPH
Mechanical Diagnosis & Therapy A,B (UK)
Assistant Professor Physiotherapy, BHPI
Head of the Physiotherapy Department, CRP