# PERCEPTION OF BURN PATIENT REGERDING PHYSIOTHERAPY TREATMENT IN MUSCULOSKELITAL UNIT IN CRP-SAVAR, DHAKA


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

**PERCEPTION OF BURN PATIENT REGERDING PHYSIOTHERAPY TREATMENT IN MUSCULOSKELITAL UNIT IN CRP-SAVAR, DHAKA**

Submitted by Sonia Afrin, for the partial fulfillment of the requirement for the degree of Bachelor of Science in Physiotherapy (B.Sc.PT).

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# Declaration

I am Sonia Afrin, I declare that the research work presented here is my own. All sources used have been cited correctly. 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 and Head of the Physiotherapy department of Bangladesh Health Profession Institute.

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# Acronyms

| | |
|---|---|
| **ADL** | **: Activities of Daily Living** |
| **AROM** | **: Active Range of Motion** |
| **BHPI** | **: Bangladesh Health Profession Institute** |
| **BMRC** | **: Bangladesh Medical Research Council** |
| **CRP** | **: Centre for the Rehabilitation of Paralysed** |
| **IBR** | **: Institutional Review Board** |
| **PT** | **: Physiotherapy** |
| **PASI** | **: Psoriasis Area and Severity Index** |
| **QOL** | **: Quality of Life** |
| **TBSA** | **: Total Body Surface Area** |
| **WHO** | **: World Health Organization** |

## Abstract

***Purpose:*** The purpose of the study was to explore the perception about physiotherapy treatment among the burn participants. ***Objectives****:* The aim of the study was to find out the perceptions of burn patient regarding the physiotherapy treatment. To explore burn patients' expectations of and need for physiotherapy service. To find out whether or not they were satisfied with current physiotherapy services. To find out the reasons behind their satisfaction or dissatisfaction. To find out the patient opinion how the profession is developed. ***Study design****:* Qualitative research approach was applied with open ended question form. Convenient sampling methods was used to select sample. Total number of sample was 6. ***Setting:*** Centre for the rehabilitation of the paralysed. Savar, Dhaka. ***Result*****:** The participants had no idea about physiotherapy before they received it. They were satisfied with physiotherapy intervention. All of them wanted regular service in the community and they provide some valuable suggestion to improve the service. Some valuable suggestion's were, need more professional promoting activities, governmental influence and investment should needed, available physiotherapy treatment in every hospital, special burn care, promote the service and grow awareness among the general people. The themes were discussed in the discussion session. ***Conclusion:*** From the participants perspective physiotherapy was effective for all of them and they were satisfied because they improved physically and mentally And it is necessary for all burn patients to rehabilitate them properly.

***Keyword:*** Burn, Perception, Physiotherapy treatment, Musculoskeletal unit.

# CHAPTER-I INTRODUCTION

## 1.1Background

The research concerns perceptions of burn patients about physiotherapy intervention. As a care provider a physiotherapist should consider the issue around rehabilitation. Burn injury is a most common type of injury in Bangladesh. And the victims face numerous physical, psychological, social and economical problems. As they become isolated, because negative attitude of peoples towards them. Considering the number of victims the services towards them is not sufficient. To deliver quality care for the sufferers, theirs needs and expectation must be explored. The research will explore their needs, expectations and problems. The research will help the therapist to provide quality care. Also other health care professionals will be able to know the need of physiotherapy.

Every person has to desire to lead a healthy and normal life until the death. When an accident or sudden change occur, it is very hard to cope with it. In every daily life a person may face many accidents or undesirable event. Burn is one of them. A burn is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals. Skin injuries due to ultraviolet radiation, radioactivity, electricity or chemicals, as well as respiratory damage resulting from smoke inhalation, are also considered to be burns.

It is injury that causes destruction of skin and underling tissue. Whole soft tissue including nerve endings can all be damaged. It may be caused by a variety of physical agents. Severe burn injury is a medical emergency. Resultant complications of the injury are highly variable, depending on the tissue affected, the affected location, and the degree of severity. A burn victim may experience a number of potentially fatal complications. Other than physical complications, Burns results psychological distress.

Globally, burns are a serious public health problem (Anzarut et al., 2009). An estimated 265 000 deaths occur each year from fires alone, with more deaths from

scalds, electrical burns, and other forms of burns, for which global data are not. Over 96% of fatal fire-related burns occur in low-and middle-income countries.

Each year more than 300 000 people die from fire-related burn injuries. Millions more suffer from burn-related disabilities and disfigurements which have psychological, social and economic effects on both the survivors and their families. The burden of burn injury is one that falls predominantly on the worlds, poor 95% of fire-related burn deaths occur in lowand middle-income countries (LMICs) (Rosenberg at el., 2013).

Not only are burn deaths and injuries more common in people of lower socioeconomic status, but the survivors find their pre-injury poverty levels worsen after recovery.Burn wounds are classified according to the severity of the injury. Injury can also assess in terms of Total Body Surface Area (TBSA), which is the percentage affected by partial thickness or full thickness burns (Al-Mousawi at el., 2010). People who meet with burn injury have to undergo many difficulties throughout their life. There is a major risk of developing contractures in burns patients. Generally spontaneous epithelialization of burnwoundsand late skin grafting leads to scar deformations and contractures. Secondary contractures involve muscles and tendons, which develops after joint contractures. Ultimate result of a contracture at a joint site leads to reduction of AROM of the joint which restricts movements of extremities (Ebid at el., 2013).

Contractures of upper extremity have a major effect than in lower extremity. Involvement of shoulder, elbow and hand has large impact on ADL such as bathing, dressing and toileting etc. Not only major joints but also involvement of small joints of hand and wrist may cause severe limitations to patients' functional independence (Ahmed et al., 2011).

Hands are more vulnerable parts of human body. Hands represents 6% of burn injuries of all hand burn injuries. Patient without injury to other joints losses up to 54% function when he loses his hand function. Small joints of the hands are more vulnerable to form contractures which are very difficult to address during the

treatments program Thereforedeformities arevery common with hand burns. Web space contractures are common deformity in hand burns (Paratzetal., 2012). Limitations of joint AROM of hand and its'small. It is know that the ADL are very fundamental needs to a person's life (Disseldorp at el., 2012).

Percentage of burn depends on the total body surface area. Total body surface area (TBSA) is an assessment of injury to or disease of skin, such as burns or psoriasis. In adults, the Wallace rule of nines can be used to determine the total percentage of area burned for each major section of the body. In burn cases that involve partial body areas, or when dermatologists are evaluating the psoriasis area and severity index (PASI) score, the patients palm can serve a reference point roughly equivalent to 1% of the body surface area (Borsheim at el., 2010).

Different percentage are used because the ratio of the combined surface area of the head and neck to the surface area of the limb is typically larger in children than that of an adult (Omar at el., 2012). The role of physical therapy includes therapeutic exercises increasing muscle strength and endurance, decreasing pain, preventing contractures and deformity of limbs, alleviating gait problems, decreasing stress, instructing patients and family about their care, and assisting patients to return to their level of independence prior to admittance (Sharma at el., 2011).

In this research project the participants will express their perception about physiotherapy treatment (Richard et al., 2008). Perception may vary according to the participant's previous experience. It also may vary their satisfaction and it also may vary according to their culture, belief of the patient and his/her family and community. There fore knowing a patient's perception is very important in case of giving quality health service (Borena et al., 2011). And also to develop this profession client's satisfaction is the key point. And their suggestion also important.

From that it will be clear what they want and in which why they want. And the professional status will improved. So understanding patient perception is important as it gives the health provider appropriate direction to deliver services (Kennedy et al., 2006).

## 1.2Rationale

Now a day Burn injury is most commonly occurring condition in all developing and developed countries in the world and it is increase day by day due to lack of awareness. Injuries that are affecting the body part and complicated by physical damage are in important health problem in Bangladesh as they carry a high rate of morbidity and mortality. Bangladesh is a developing country and trying to develop health care delivery system. Few researches have done in this field in Bangladesh. At previous year two research have done but both of these were single case study. This two research focus on the effectiveness physiotherapy intervention. Though this reflects the perception of the participants to some extent, but it gives a singles ones view. But it is important to know the patient perception. As to deliver quality service it is important to know the patient expectation. The knowledge from the study will enable the physiotherapist to know the patients need expectation from physiotherapy. The treatment techniques that are being used to treat them and effectiveness the treatment also can be obtained from the study. Thus the research will help to improve participants psychological status and quality of life. And it also help physiotherapist to make their service more effective and help to develop the profession in our country.

### 1.3 Research question

What is the perception about burn patient regarding physiotherapy treatment in musculoskeletal unit in CRP savar, Dhaka?

## 1.4 Objectives:

### 1.4.1 General objective

To identify of burn patient perception about physiotherapy treatment.

### 1.4.2 Specific objective

1. To explore burn patients' expectations of and need for physiotherapy service.
2. To find out whether or not they are satisfied with current physiotherapy services.
3. To find out the reasons behind their satisfaction or dissatisfaction.
4. To find out the patient opinion how the profession is developed.

## 1.5 Operational definition

### Burn

Burn is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals.

### Physiotherapy

Physiotherapy is an autonomous health care profession. It is also known as physical therapy. It is a prescription given by professionals through a comprehensive process for a particular patients concern to solve certain problems in order to prevention of impairment, disability, handicap along with other comprehensive problem to fulfill widespread various kinds of therapeutic purpose.

### Perception

Perception is the ability to see, hear, or become aware of something through the sense or the way in which something is regarded, understood, or interpreted.Perception is a particular attitude towards something or a way of thinking about something or the ability to think about problems and decision in a reasonable way without exaggerating their importance.

Perspective is the theory of cognition is the choice of context or a reference from which to sense, categorize, measure or codify experience, cohesively forming a coherent belief, typically for comparing with another.

## CHAPTER-II LITERATURE REVIEW

A burn is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals. Skin injuries due to ultraviolet radiation, radioactivity, electricity or chemicals, as well as respiratory damage resulting from smoke inhalation, are also considered to be burns. Globally, burns are a serious public health problem. An estimated 265 000 deaths occur each year from fires alone, with more deaths from scalds, electrical burns, and other forms of burns, for which global data are not available.

Over 96% of fatal fire-related burns occur in low-and middle-income countries. In addition to those who die, millions more are left with life long disabilities and disfigurements, often with resulting stigma and rejection. The suffering caused by burns is even more tragic as burns are so eminently preventable. High-income countries have made considerable progress in lowering rates of burn deaths, through combination of proven prevention strategies and through improvements in the care of burn victims. Most of these advances in prevention and care have been incompletely applied in low-and middle-income countries. Increased efforts to do so would likely lead to significant reductions in rates of burn-related death and disability (WHO, 2015).

Throughout the country, an estimated 1% of the population suffers from different types of burns each year. The common causes of burns in Bangladesh are as follows. Flame burn, 75% of incidences occur due to flame injury. Accidental, this occur mainly in the home during household working like cooking, specially gas leakage, burn stoves, setting clothes alight, particularly women and children wearing Shari. Trapped in the burning house, Using fire pots in the winter, especially old and children, Warming the lower part of the body after delivery specially women in remote village area, Homicidal and suicidal, Pouring kerosene oil, diesels, gasoline or other inflammable liquids onto a human body and setting alight (Disseldorp et al., 2011). Electrical Burn every year in Bangladesh more than 365,000 people are injured by electrical, thermal and other causes of burn injuries. Among the total burn related injuries, 27,000 needed hospital admission and over 5,600 died. Thermal

burn was the major cause of burn injuries which constituted about two thirds of the total burn. Only about 3% were caused by chemicals and explosives, and about one third of the total burn injury in Bangladesh was due to electrical injures (Modammadi et al., 2008).

Acid burn (chemical burn), These are almost all homicidal cases except a very few reported cases of accident. Nitric acid, sulfuric acid and hydrochloric acid are the most common examples. This constitutes 20% of total burn cases. The incidence of chemical burn, so called acid burn a recent, deadful man made crisis has been arising and gradually occupying in alarming position In the beginning, it was women who were the targets of these sorts of violence, however, these attacks have spread beyond the gender limit and now a days, a considerable number of men as well as children are reported as victims. There are no real statistics to state how many victims becoming physically disabled and becoming the burden of the society each year (Nagoba et al., 2013).

Others, 5% burns occurs due to electric burn. The cause of electric burn is mainly accidental. The majority of such cases occur due to electric short circuits in garments factories or other small factories, congested markets and slum areas ( Sen& Rashid, 2003).

Mechanisms of injury may thermal or non–thermal. Flame burns-50%, Scalds from hot liquids e.g. boiling water, cooking oil-40%, Contact burn e.g. stoves, heaters, irons. Electrical burn e.g. electrocution. Chemical Burns e.g. Hydrofluoric Acid. Friction, Raditionburn (Esselman, 2007).

Review of the Skin-Cutaneous membrane which covers the surface of the body, Largest organ of the body in terms of weight and surface area. Epidermis-Superficial layer, Composed of epithelial tissue, Avascular, Deepest layer (Stratum Basale) contains ‘Stem cells’ Capable of regeneration, New skin cannot regenerate if injury destroys a large portion of this layer.

Dermis- 1.Deeper, thicker layer, 2.Connective tissue, 3.Contains blood vessels, nerves, glands and hair follicles. Subcutaneous layer- 1.Areolar and adipose tissue, 2.Storage for fat/insulation, 3.Contains large blood vessels, 4.Attaches to underlying facia, Connective tissue overlying muscle and bone (Paratz et al., 2012).

Classification of burn, Determining burn depth is important. Things to consider are temperature, mechanism, duration of contact, blood flow to skin, and anatomic location. Epidermal depth varies with body surface, which can offer varying degrees of thermal protection. Older adults and young children also have thinner skin. First degree: Includes only the outer layer of skin, the epidermis, Skin is usually red and very painful, Equivalent to superficial sunburn without blisters, Dry in appearance, Healing occurs in 3-5 days, injured epithelium peels away from the healthy skin (Alloju et al., 2008). Hospitalization is for pain control and maybe fluid imbalance. Second degree: Can be classified as partial or full thickness. A. Partial thickness, Blisters can be present, Involve the entire epidermis and upper layers of the dermis, Wound will be pink, red in color, painful and wet appearing, Wound will blanch when pressure is applied, Should heal in several weeks (10-21 days) without grafting, scarring is usually minimal B.Full thickness-Can be red or white in appearance, but will appear dry. Involves the destruction of the entire epidermis and most of the dermis. Sensation can be present, but diminished. Blanching is sluggish or absent. Full thickness will most likely need excision & skin grafting to heal (Shevchenko & Santin, 2014). Third degree: All layers of the skin is destroyed, Extend into the subcutaneous tissues, Areas can appear, black or white and will be dry, Can appear leathery in texture, Will not blanch when pressure is applied, No pain, Fourth degree**:** Full thickness that extends into muscle and bone (Wang et al., 2014).

Physiology of Burns: An in depth knowledge of pathophysiology of burns, and their effects both locally and systemically is necessary to ensure effective management of a patient with a burn injury. The local effect involves three burn zones. Zone of Coagulation: The point of maximum damage, Irreversible tissue loss due to coagulation of constituent proteins.

Zone of Stasis: Characterised by decreased tissue perfusion, Potential to rescue the tissue in this zone, Problems such as prolonged hypotension, infection or oedema can convert this area into one of complete tissue loss. Zone of Hyperaemia: The tissue here will invariably recover unless there is severe sepsis or prolonged hypoperfusion. The depth of the wound develops over time: The burn process peaks at approximately three days. Progression is 3D-zone of coagulation both increases in depth and width (Paratz et al., 2012).

Systemic effects, Once the burn covers more than 30% of TBSA, the injury has a systemic effect due to 1. Molecular structural alterations 2. Release of toxic metabolites, 3.Release of antigen and immuno modulatory agents, Histamine, Serotonin, Bradykinin, Nitric oxide, etc. Causes systemic shock cardiovascular, respiratory and renal failure, immunosuppression and hypermetabolism (Ahmed et al., 2011).

Cardiovasculareffect 1. Myocardial depression, Myocardial contractility decreased 2.Oedema formation, capillary permeability is increased, leads to loss of intravascular proteins and fluids to the interstitial compartment 3. Hypovolemia, secondary to oedema and rapid fluid loss from surface of wound 4. Peripheral and splanchnic vasoconstriction occurs, May cause renal failure, These changes may lead to systemic hypotension and end organ hypoperfusion.

Respiratory Changes Inflammatory mediators cause bronchoconstriction and pulmonary oedema, severely burnt adults acute respiratory distress syndrome (ARDS) can occur, Exacerbated in the case of inhalation injury (Goertz et al., 2013). Metabolic Changes Hypermetabolism begins approximately five days post burn 1. Metabolic state is initially suppressed by the effects of acute shock 2. Can persist for up to two years post injury,Inflammatory, hormonal and cytokine milieu cause, Increased body temperature, Increased oxygen and glucose consumption, Increased $CO_2$ and minute ventilation, Increased heart rate for up to 2 years post burn.

This hyper metabolic state leads to energy substrate release from protein and fat stores Protein catabolism. Loss of lean muscle mass and wasting. Potentially fatal if structure and function of organs are compromised. In adults with burns of 25% TBSA, metabolic rate ranges from 118-210% that of predicted values. At 40% TBSA, the resting metabolic rate in a thermoneutral environment is 180% at acute admission, 150% at full healing, 140% post 6 months, 120% at 9 months, 110% at 10 months, Gastrointestinal Changes, Impaired gastrointestinal motility, Impaired digestion and absorption, Increased intragastric pH, Feeding difficulties exacerbate effects of hyper metabolism (Willis et al., 2011).

Immunological Changes, Immune deficiency occurs despite the activation of the immune system. High risk of infection, particularly while wounds are open. Complications of Burn Patients, Oedema: Oedema may increase post burn for up to 36 hours, Increased vascular permeability which occurs during the inflammatory response. Exacerbated if the burn is severe enough to warrant fluid resuscitation. Vascular Insufficiency: Where oedema and compartment syndrome is causing vascular insufficiency, the following symptoms may be present. Pain, Loss of sensation. Pale white skin on the dorsum of the hand/distal to eschar. Loss of peripheral pulses (Kamolz et al., 2009).

Oedema and the Hand-Oedema in the hand results in the position of intrinsic minus

Wrist flexion, MCP extension, PIP/DIP flexion, MCP joint extension primary position assumed. Joint contact areas minimized. Joint capsules and ligaments lax. Therefore in this position, the joint accommodates. Therefore, in this position, the joint accommodates. The maximum amount of intra articular fluid. Increases tension in finger/wrist flexors, relaxes extensors. Joint predisposed to contracture. May have significant functional implications. ven after wound healing appears complete, sub-acute and chronic oedema may be caused by scar maturation and contraction: therefore, oedema management is a long term concern (Yen et al., 2008).

Hypertrophic scarring- Hypertrophic scars are a common complication of burn injuries. A healing wound requires a balance of several opposing reactions. Degradation of necrotic tissue/proliferation of new cells, Building up/breaking down of collagen, Creating/controlling of new blood supplies, Disequilibrium of any of these processes may result in abnormal scarring. There is a high risk of a scar becoming hypertrophic if early wound closure is not achieved. Estimates for optimal closure time vary from 10 days (ANZBA 2007) to 21 days (Richardson & Mustard, 2009). Identifying Hypertrophic scarring, Shapes and sizes depend on location on the body and nature of injury, Edges are raised and end abruptly, Initially may be red or pink in colour. Blanch over time, as the scar matures. Never returns to original colour/texture. May exceed the limits of the original injury (Keloid scars).

Burn Associated Pain 84% of major burn patients suffer "severe or excruciating pain" 100% suffer daily pain 92% are woken at night with pain. Types of Pain in Burns Procedural pain (Primary mechanical hyperalgesia) intense burning and stinging that continues to a lesser degree, but may be accompanied by intermittent physiotherapy/occupational therapy. Throbbing, excruciating pain may be associated with positioning of burned extremities (i.e. positioned below the level of the heart) this is thought to be related to pressure associated with inflamed, oedematous tissue. Procedural pain is the most intense and most undertreated pain associated with burn injuries.

Procedural pain (Primary mechanical hyperalgesia) intense burning and stinging that continues to a lesser degree, but may be accompanied by intermittent sharp pain for minutes or hours following dressing changes or physiotherapy/occupational therapy. Throbbing, excruciating pain may be associated with positioning of burned extremities (i.e. positioned below the level of the heart) this is thought to be related to pressure associated with inflamed, oedematous tissue. Procedural pain is the most intense and most undertreated pain associated with burn injuries (Hoffman et al., 2011).

Background painpatients with high anxiety have increased levels of background pain. There is a wide variability in the pain intensity following injury. Background pain is characterised by prolonged duration, relatively constant mild-moderate intensity pain. The pain has been described as continuous burning or throbbing, present even when the patient is relatively immobile. This pain is best treated with regularly scheduled analgesics.

Breakthrough pain transient worsening of pain frequently associated with movement. Patients also report spontaneous pain that may be related to changing mechanisms of pain, over time or inadequate analgesia. The pain can be described as stinging, shooting, pricking or pounding. Pain following movement can be associated with primary mechanical hyperalgesia, but most care providers for those with burns consider pain with movement to be breakthrough pain. Breakthrough pain can be much worse following periods of immobility, particularly if skin over joints is affected. For optimal analgesia, it is recommended that patients are assessed for each type of pain separately and repeatedly throughout the course of the recovery.

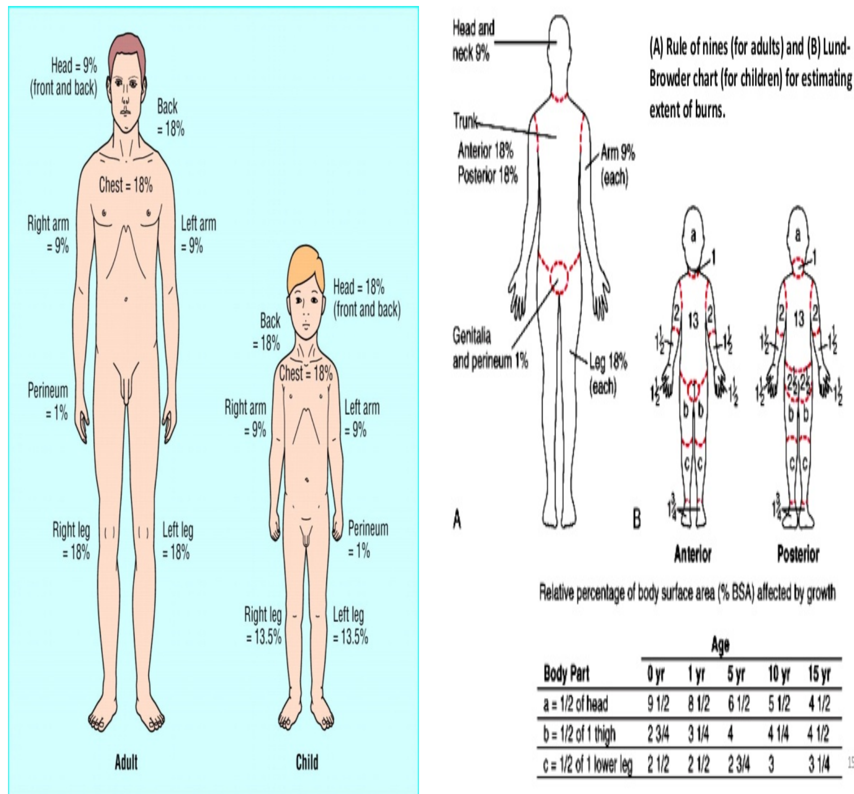
Pain Mechanisms The pain mechanisms associated with the inflammation process post burn are Primary hyperalgesia, Secondary hyperalgesia, Neuropathic pain, Chronic pain, Other factors to consider in pain are Painintensity, As the inflammation recedes, the quality of the pain may change. The reporting of pain intensity varies widely and is reported highest in areas of upper/mid-dermal skin loss, such as areas of skin donation and decreases with wound closure. Infection may result in increased pain again following revival of the inflammatory process. Growth of new tissue is associated with paraesthesia and local discomfort. The healed areas show enhanced mechanical hyperalgesia following subsequent injury (Schneider & QU, 2011).

Physiotherapy Assessment of the Burn Patient, The physiotherapist must be aware of the importance of an early and adequate assessment of Burn patients for optimal functional and cosmetic outcomes to minimize the impact of the trauma long term. They must have a concise knowledge of the assessment procedure through from Accident and Emergency to the ward, onto the rehabilitation setting and out in the community. The following information is gathered through assessment, and a treatment plan is formulated, constantly reassessed and revised (Kazis et al., 2012). Physiotherapy aims**,** 1. Prevent respiratory complications 2. Control Oedema 3. Maintain Joint ROM 4. Maintain Strength 5. Prevent Excessive Scarring. Injury factor:Inhalation injury; burn area-systemic inflammatory reaction syndrome involving the lungs, depth of burn and scarring Patient factor, Reduced ambulation and mobility, increased bed rest, increased, Pain pre-existing co-morbidities Iatrogenic factors, Skin reconstruction surgery, invasive monitoring and procedures, management in critical care.

Database/Subjective Assessment The following pieces of information should be included in the physiotherapists database. Presenting Complaint Inhalation injury There should be a high index of suspicion if the patient was injured in an enclosed space and/or had a reduced level of consciousness-aggressive respiratory treatment to commence immediately (British Burn Association 2005, Eisenmann-Klein, 2010).

**Total Body Surface Area (TBSA):** The rule of nine or the Lund and Brower chart are used to assess the TBSA.

The Lund and Brower Charts are considered to be more accurate than rule of nines, but both are commonly used.




| Body Part | Age | | | | |
|---|---|---|---|---|---|
| | 0 yr | 1 yr | 5 yr | 10 yr | 15 yr |
| a = 1/2 of head | 9 1/2 | 8 1/2 | 6 1/2 | 5 1/2 | 4 1/2 |
| b = 1/2 of 1 thigh | 2 3/4 | 3 1/4 | 4 | 4 1/4 | 4 1/2 |
| c = 1/2 of 1 lower leg | 2 1/2 | 2 1/2 | 2 3/4 | 3 | 3 1/4 |

**Fig-Relative Percentage of Body Surface Area.**

| Area | Age 0 | 1 year | 5 year | 10 year | 15 year | Adult |
|---|---|---|---|---|---|---|
| A= (½ of head) % | 9 ½ | 8 ½ | 6 ½ | 5 ½ | 4 ½ | 3 ½ |
| B= (½ of one thigh) % | 2 ¾ | 3 ¼ | 4 | 4 ½ | 4 ½ | 4 ¾ |
| C= (½ of one lower leg) % | 2 ½ | 2 ½ | 2 ¾ | 3 | 3 ¼ | |

Table 1: An adjustment for age: Hettiaratchy and Papini (2006)

- Measure burn wound areas by mapping wound – 1% TBSA ≅ patient's hand (palm and fingers included)
- Note: when calculating burn size area, oedema should not be included
- A burn of > 20 – 25% TBSA creates a global or systemic inflammatory reaction affecting all body organs and indicates a significant risk for the respiratory system.

**Burn Type and Depth:**

- It is important to monitor extent of tissue destruction as it alters for at least 48 hours post burn injury.
  Jacksons' burn wound model.
- It is rare that a burn will present with a single depth.
- Likely to change depending on the early management e.g. appropriate first aid and other Burn patient factors (Borsheim et al., 2010).

Burn Site and Impact develop awareness of the implication of burn to special areas of the body. The following require specialized treatment 1.Hands 2.Face 3.Perineum 4.Joints. This is in consideration of the complexity of the post burn reconstruction and potential functional impact of inappropriate management of these important body areas.Medical and Surgical History Any surgical or medical management1. Pain medication 2.Debridement 3.Escharectomy 4.Flaps/grafts 5.Any particular MDT instructions to be followed.

Past Medical/Drug History, Social History Basic ADL e.g-dressing, bathing, eating and Instrumental ADL e.g-shopping, driving, home maintenance. Past physical function e.g-mobility, climbing stairs, reaching, lifting, Past physical fitness e.g-strength, flexibility, endurance, balance. Social support and home situation. Occupation. Particularly important for hand burns. Psychosocial/Yellow Flags Self-image, Coping style, Mental health, Emotional behavior. Considerations for the Assessment of Hand Burns The area of the hand that is injured has a huge impact on recovery. A burn on the hand can have detrimental effects for ADLs and functioning. Dependent on the area and depth of the burn, it may lead to significant deformity. Assessment Evaluation and classification of the size and depth of the burn of the hand. Post burn Hand Deformities.

Considerations Pre Physiotherapy Treatment, Pain relief is key. Timing physiotherapy to correspond with analgesia is essential for the patient, particularly to avoid the pain-anxiety avoided. Knowledge of pain medications, short-acting pain relief may be required in addition to long-acting background pain relief prior to physiotherapy. Also, the side-effects possible due to the medications, and vigilance for signs of these. Daily assessment of therapy input and pain management to ensure on-going management of pain (Lateur et al., 2007).

| CHAPTER-III | METHODOLOGY |
| --- | --- |

### 3.0 Study design:

The major aim of the study was to find out about burn patient, perceptions of the intervention of physiotherapy. The researcher has used a qualitative methodology for this study, as this is the most appropriate method for finding out about these perception. The question pertains to impact, benefits and experience of the participants about physiotherapy intervention according to each individual perspective. Qualitative methods is the best methods to fulfill the research objectives as the research question pertains to understanding or describing phenomenon about which little is known. Qualitative research will enable the researchers to gain an understanding of an individual's attitude and behavior."The methods used by qualitative researchers exemplify common belief that they can provide a deeper understanding of social phenomenon then would be obtain from purely qualitative data" (Silverman, 2000).

**3.1 Study setting**: Musculoskeletalunit of the centre for the rehabilitation of the paralysed(CRP) at Savar, Dhaka-1343, Bangladesh.

**3.2 Population:** All burn patient's of centre for the rehabilitation of the paralysed(CRP).

**3.3 Sample size:** 6 samples with burn patient from musculoskeletal unit of centre for the rehabilitation of the paralysed (CRP) outpatient physiotherapy department were included in this study. For this study small sample size was taken. Sothe researcher could analyze the data from the participants deeply & easily. Only 6 participants was taken as sample until data saturation point was reached. Small numbers of potential study participants are appropriate for a qualitative methodology (Frankle & wallen, 2008).

**3.4 Sampling procedure:** convenience sampling technique was used for this study. By using this sampling procedure can make a judgment about sample & able to collect in depth data from participant according to research needs. Convenience sampling strategies are designed to enhance the understanding of selected individual or group experience or for developing theories & concepts.

**3.5 Inclusion criteria:**

1. Patient having at least 5 session physiotherapy treatment–because the usual treatment is 6 session,so after 5 session it can be easily understandable the treatment out come.
2. Participants with any age group.
3. Male and female both were the participants.
4. Both literate and illiterate patient were included on the study.
5. Participants who took physiotherapy treatment.

**3.6Exclusion criteria:**

1.Participant who are not interested.

2.Mental challenged people.

3.ICU patient /medically unstable patient.

4.paralysedpatient.

5.Acute burn patient.

**3.7 Data collection:** The researcher took qualitative data with respect to the subject of the study.

**3.8 Materials:** A tape recorder was used during the interviews to records the conversation simultaneously pen and papers were also used to write down field notes.

**3.9 Methods of data collection:** Interview of the participants were held by providing a open ended questionnaire form.

**3.10 Duration of data collection:** Data was collected in between 30 August 2015-15 September 2015. Each data was collected carefully and confidentiality is maintained. Each participant provided particular time to collect data. Each questionnaire took approximately 15-20 minutes to completes.

**3.11 Procedure of data collection:** Data collection is the strong point of any research which maintains the research's validity & reliability. Qualitative data places an emphasis on peoples lived experience & are thus well suited for identifying & locating the meanings people place on the events, process, and structures of their lives. All the data were collected by the researcher herself. The data was collected in a natural setting. Open ended questions were used in this study. The interview was recorded using a phone call recorder by taking permission from the patients, with open ended questions, participants got much freedom to explain their feelings in their own words. Audio was used to record the all interviews to discover exact feeling, attitude, and emotion of the participants during interviews, the interview was conducted in bengali as though they can understand the questions easily. Every interview lasted for 15-20minutes.

**3.12 Data analysis:** The qualitative content analysis was used to analyze data perception of burn patient regarding physiotherapy treatment. The aim of data analysis was to find out actual meaning of information, which was collected according to the participant's opinion. In this study, data was analyzed by using content analysis. Content analysis is a methodology for determining the content of written, recorded, or published communications via a systemic, objective, & procedure. Thus, it is a set of procedure for collecting & organizing information in a standard format that follows analysts to draw inference about the characteristics & meaning of recorded material. At the first step of analysis, the recorded interviews listened in several times. After that the interview was transcribed into Bengali, and then reviewed the interviews with the transcript to ensure all the data was presented within the text. After that, verified those data sets and also read it several times to recognize what the participants wanted to say in the interviews. At the same time, the recorded interview listened to ensure the validity of data. Then Find out similarities and dissimilarities of data and try to categorize the data.

In the 2nd step, after categorizing the data started content analysis. Completing categorizes tried to find out the codes from participants answer. Then according to the categories the data was organized. Under those categories, all the information coded from participants interview. 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.

**3.13Ethicalconsideration:** The ethical guideline of WHO (World Health Organization), IRB (Institutional Review Board) & BMRC (Bangladesh Medical Research Council) was strictly followed. The research proposal was submitted to the ethical review committee of Bangladesh Health Professions Institute (BHPI) for approval & to CRP's ethical committee for getting permission for data collection. After the proposal was approved to carry on with the study the researcher had moved the study. Then collect the approval to carry out with the study from musculoskeletal unit of CRP. Data collection was started and complete within the allocated time frame. Researcher explains the title, objective, confidentiality &anonymity of the research project. The participant was also informed that, they were free to withdraw at any time**.** All the participants and authority were informed about the purpose of the Study. All the interviews were taken in a comfort feeling and confidential place. Researcher ensures the confidentiality of participants and shares the information with research supervisor. Before taking interview the researcher informed the participants about the study and verbally informed them this research may be published but their name and address would not be used in the study project only their information will be used in the study. The interview notes and recording world would not be shared or discussed with others. The study would not harm or embarrasses her or him in order to participate in the study. Participants also ensure that their participation was voluntary and they can reject or withdraw from the study any time.

Finally the study was reviewed & appropriate by the authorities. Considering all those ethical norms &values no ethical problem arises as there were some personal & sensitive questions. The participants were informed that they have the right to

withdraw consent & discontinue participation at any time without any prejudice to present or future treatment at musculoskeletal unit of CRP.

**3.14Rigor:** The rigorous manner was maintained to conduct the study. 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, never tried to influence the process by own value, perception and biases. Be accepted the answer of the questions whether they were of positive or negative impression. The participants information was coded accurately and checked by the supervisor to eliminate any possible errors. Try to kept all the participants related information and documents confidential. Researcher always tried not to influence the process by his own value and biases. No leading questions were asked or no important question is avoided. When conducting the study the author take help from her supervisor and follows his direction appropriately.

| CHAPTER-IV | RESULT |
|---|---|

**Data analysis:** The aim of the data analysis was to find meaning from the information collected. Data analysis is the process of systematically arranging & presenting information in order to search for ideas.

In the study all the participants were asked the same questions through semi-structured phone call recording interview. After transcribing the entire interview the data was organized according to interview questions. All transcripts were several times to gain the themes and find out what the participants wanted to say (Zhu, 2014).

**Thematic coding:**

The central idea of indexing is that the researcher applied a uniform set of indexing categories systematically and consistently to their idea.

Recommended in order to avoid the generation of multiple of codes, The researchers should initially apply codes relating to the themes and purpose of the study, whilst at the same time keeping an open mind about unexpected themes within the data (Treiman, 2014).

## Categories of the interview:

**Perception about physiotherapy:**

The researcher find out the perception of burn patients of physiotherapy, and want do they know about physiotherapy. All the participants were asked the same question and the participants gave the following answer.

All most all the participants said that they had no idea before, and now they thought this treatment is one kind of exercise without any use of medicine.

**The first participant said**, *I have no idea or experience about physiotherapy and it is totally new to me. I know about this treatment since I came here.*

*After taking physiotherapy treatment and their suggestion which they provide, my feeling is very good, Before treatment I cannot flex my fingers but after treatment my*

*problem is moderately resolved. And that time I understand physiotherapy is help improving my condition.*

**2nd participant said that**, *I do not know anything about physiotherapy, When I came into Dhaka medical first I know about physiotherapy, then I came to CRP for taking physiotherapy treatment. my feeling is very good taking physiotherapy treatment. I understood the effectiveness of physiotherapy as treatment. This treatment fulfill my demand but if taking more therapy, it may more good.*

**3rd participant said that**, *I do not know about physiotherapy, when I was in burn unit I could not move my hand and leg then some sir said me about physiotherapy after that I know about physiotherapy. Taking physiotherapy treatment my feeling is very good, for god blessing now I am fine cause this treatment is very effective, before I cannot bath, wear dress, eat now I can do easily.*

**4th&5th participants said that,** This participants also said that the same thing and they both were can not grip their hand, flex the fingers, cannot take anything after taking treatment they can do it.

**6th participant said that,** *physiotherapy term is known to me but I do not know about this treatment. when doctor referred here I came here and know about this treatment. I think physiotherapy is good treatment because before I do not do some work but now I can do easily. so physiotherapy is very effective treatment.*

**2.Effectiveness of physiotherapy:**

The researcher wanted to find out effectiveness of physiotherapy treatment from the patient view. The researcher wanted to know from the participants, Is the physiotherapy helpful to improve their condition and how? According to their answer it was very effective to them. The treatment is effective for the sufferers. They are getting better.

**1st, 2nd& 6th participant said that,** *This treatment helps them and improving their condition.*

**3rd participant said that,** *yesit helps me*, before I cannot wear dress, eat now I can do it.

**4th participant said that,** *yes obviously it helps me, because at first I cannot grip my hand, cannot take anything taking physiotherapy now i can do this and feel better.*

**5th participant said that**, *yes it helps me ,I cannot grip my fingers and flex my hands, now I can do this.*

**3.Meet the needs and satisfaction of the participant:** The researchers wanted to know whether the needs of the participants were met from physiotherapy? Whether they are satisfied or not with physiotherapy service. To find out the participant's satisfaction the researcher asked the participant to give answers.

Most of them were satisfied through their problems is not fully solved. They are satisfied with the therapist's behavior, approach.

**4th, 5th &6th participant said that,** *This treatment is not fulfill their full demand. They need more treatment, but they are satisfied with the service.*

**1st, 2nd, 3rd participant said that,** *This treatment fulfill my demand but if taking more therapy it may more good.* All of the participants said that they are satisfied with physiotherapy treatment.

**4.Acceptance of the service :**

In this section the researcher wanted to know how the participant accepted physiotherapy, what did they like or what did they not like? From their opinion it was found that there was nothing unpleasant to them axcept the cost. The participants accept physiotherapy very positively, and they are very happy with the friendly behavior of the therapist.

**1st participant said that,** *Those persons who give me the treatment, Their behavior, All rules and regulations are very nice.*

**2nd participant said that**, *I like the whole process of physiotherapy treatment.*

**3rd participant said that**, *I like the therapy and also their behavior.*

**4th participant said that,** *The environment and their behavior is very good.*

**5thparticipant said that**, *I like all things, They are very friendly to provide treatment.*

**5.Which thing participants did not like:**

**1st participant said,** *I am only taking hand therapy but I think, if they give me any electrical therapy it may more good for me.*

**2nd participant said,** *if all the treatment of burn patient get in one place it may good. such as operation in one hospital then taking therapy in another hospital, it creates some problems.*

**3rd, 4th, & 5th participant said,** they do not dislike anything.

**6th participant said,** *I think it should need more organized, Burn patient like me need some equipment but there not well set up.*

**6.Physiotherapy treatment needed in our country aspects:**

The researcher wanted to know the physiotherapy is needed in our country aspect? The participant opinion came from their answer.

**1st participant said,** *Our country aspect physiotherapy is very good because different type of treatment or medicine has side effect and also effect in kidney.*

**2nd participant said,** *Yes it need. Only taking drug is not appropriate for all treatment, it is necessary for burn patient like me.*

**4th participant said,** *Yes obviously it needs. Physiotherapy is must need for maintain daily living activity of burn patient*

**3rd, 5th, & 6th participant said,** *yes it needs our country aspects.*

**7.What type of importance of physiotherapy in burn patient:**

The researcher wanted to know the importance of physiotherapy in burn patient? The participant given their answer their own opinion.

**1st participant said***, participant opinion every hospital need physiotherapy treatment for burn patient, so that they can do daily living activities.*

**2nd participant said***, Everybody need physiotherapy treatment, most of the people do not know about this, I am also do not know about this but taking this therapy I am feeling good.*

**4th participant said***, burn patient like me most of them are less power to their hand, making more power to their hand therapy is very important.*

**5th participant said**, *without physiotherapy movement is not perfect.*

**6th participant said**, *Burn patient like me, physiotherapy is very important due to maintain daily living activity and self dependent.*

**8.*Suggestion to improve the service :***

*It was important to know the participants' suggestion to improve the physiotherapy services in Bangladesh, Their suggestions are important, regarding the improvement of the services in Bangladesh. The most important point is to recruit qualified physiotherapist and a good referral system.*

**1st participant said,** *From my opinion, government should need more investment for physiotherapy treatment as well as should be promoting so that we can know about this specially for the people of urban area, because most of them don't know about this. This type of promoting and developing awareness is really good for physiotherapy treatment.*

**2nd participant said,** *Needs more promoting and it needs establishing every where.*

**3rd participant said**, *For improving physiotherapy, It should be promoting and therapist should give more time provide their treatment.*

**4th participant said**, *For improving physiotherapy, it should be promoting and therapist should give more time provide their treatment.*

**5thparticipant said**, *For improving physiotherapy needs more equipment.*

**6th participant said***, It is not promoting, if it promote it may good because I can Also don't know about this .But after taking treatment I know about this. So I can think increase promoting work then people know about this and patient will come here.*

## Findings from the interview:

**Theme -1:**

- No idea about physiotherapy before receiving it:

**Theme -2:**

- Physiotherapy is an effective treatment.

**Theme -3:**

- Acceptable Profession.
- Intervention and behavior acceptable.
- Organized treatment.

**Theme -4:**

- Satisfied with current physiotherapy service.

**Theme -5:**

- Need more professional promoting activities:
- Governmental influence and Investment needed.
- Available physiotherapy treatment in every hospital.
- Special burn care.
- Promote the service and grow awareness among the general people.

| CHAPTER-V | DISCUSION |
|---|---|

**Theme -1:**

**No idea about physiotherapy before receiving treatment:**

The meaning of the theme is that the sufferers have no idea about physiotherapy before receiving it, after receiving physiotherapy, they know about this and understand physiotherapy treatment is effective treatment. In other study showed that “The burn victims’ view about physiotherapy treatment in Bangladesh suggests that the burn patients do not have any proper idea about physiotherapy treatment and the role of physiotherapist” (Harding et al., 2009).

**Theme -2:**

**Physiotherapy is an effective treatment**:

For all of the participant physiotherapy was effective. They improved physically and mentally also. The participant getting treatment in safe environment and regularly, so they can identify their improvement. Physiotherapy helps to grip hand, flex fingers, increase range of motion, prevent contracture, and improve daily living activities. So it was effective to them. In other study we found Muscular strength and lean body mass has been found to be significantly less in patients suffering from burns of >30% TBSA, particularly in exercises requiring a high velocity. Patients are still found to have significant strength, improve functional capacity and improve ADL by physiotherapy treatment (Ebid et al., 2012).

**Theme -3:**

**Acceptable profession:**

This theme means, physiotherapy is an acceptable profession to the participants. They like almost everything during treatment session.

**Intervention and behavior acceptable:**

The positive point of physiotherapy profession is the intervention and behavior, attitude of the therapists. The participants were happy with the therapist.

They fell comfortable with the intervention, as it has no side effects. The effectiveness of the treatment makes it acceptable to the participants. And the regular service provided by the therapist makes them satisfied. The participants accept physiotherapy profession, intervention and behavior, attitude of the therapists. And also they were satisfied with current physiotherapy service. From the participants' view, to improve the service in Bangladesh we need more qualified therapists through out the country and need a good referral system. "So there is a need to create more burn units in every city and town, thana health complex where victims get proper treatment of burnt parts." (Kannus, 2006)

**Organized treatment:** Some participants said that the physiotherapy department is not well set up, and not organized equipment for burn patient. Need special burn care.

**Theme -4:**

**Satisfied with current physiotherapy treatment:**

The participants are satisfied with current physiotherapy service. Though their needs from physiotherapy were not met, they are satisfied with the therapist's behavior, approach and also they are satisfied because they are benefits from physiotherapy. For their full satisfaction they want their problems to be solved. They also want available service whenever they need. In other study shows that the outcome supports the first hypothesis for the study namely that patients are generally satisfied with the quality of physiotherapy treatment they receive for their burn injury. This was largely due to the interactions between them and the physiotherapists. The majority (96.5%) of the patients agreed that they were satisfied with the physiotherapy service for injury they had received (Casey, 1993).

**Theme -5:**

**Need more professional promoting activities:**

The themes means for available physiotherapy service and the development of this profession, there should be more promoting activity and grow awareness of the physiotherapy treatment specially urban area.

**Government influence:**

Government should need more investment for physiotherapy treatment for developing the profession.

**Available physiotherapy service in every hospital:**

The participants want available service through the country. To meet their needs more physiotherapist should work. There should be available service in every district hospital. Qualified physiotherapist will get chance to work everywhere more efficiently. And the general people will get chance to know about physiotherapy and the role of physiotherapy.

**Burn care:**

Need individual special burn unit .because the whole treatment of burn patient taken one place. And every hospital should establish burn care unit.

**Promoting work and awareness among the general people:** For the developing profession, more and more promote full work should needed so that, everywhere know about physiotherapy and this type of treatment. Promoting work is most important to awareness of the people about physiotherapy.

Limitation of The study result can be more generalized if the sample size is become larger. This limitation occurs due to lack of availability of participants. Then another limitation is researcher skill to conduct interview. Though researchers is a student, her skill to conduct interview may influence to get depth information. If the researcher can use a skilled person to conduct interview then can get in depth information. Finally, no related study was found in this topic in Bangladeshi context and to discuss the study finding and some literature were used from different countries but those are not so much available.

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| CHAPTER-VI | CONCLUSION& RECOMMENDATION |
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## Conclusion

The physiotherapy treatment is effective for burn patients and the participants are satisfied. Burn is a significant issue in our country. The number of victims is increasing day by day. But for their proper rehabilitation, the number of physiotherapist is not increasing. It is a physiotherapist who can help the suffers by promoting maximal physical functioning. For proper rehabilitation of burn patient, physiotherapy is important.

Awareness is needed to stop violence, and also to improve the service in our country, as most people do not know about this profession. It is urgent to essential opportunities for physiotherapists to work in that field. Physiotherapy can minimize the deformity and disability after suffering burn. To meet the needs of sufferers more physiotherapists should work in that field. If the physiotherapist can provide appropriate service for patients it will help the profession to develop.

The study shows the positive perception of the sufferers towards physiotherapy, it's effectiveness, needs and demands of physiotherapy in the field of burn. So attention should be paid to recruit more physiotherapists through all over the country from both, the professionals and government aspects.

### Recommendation

The overall concepts of this research project was enhancement of quality of life. In conclusion it can be said that majority of the participants of are satisfied about physiotherapy treatment, this service fulfill their demand. Because burn affect their activity of daily living, they facing a lot of complication and problems but the service minimize their problems. According to the demand of few physiotherapists working in the field of burn, the number of physiotherapists working in that field should be increased. Therefore it is necessary to create posts for physiotherapists in all level. Awareness should be created about the need and effectiveness of physiotherapy. Publicity and a good referral system is needed to improve the service. The government should be aware of physiotherapists' professional status. Further study in this area is needed through out the country.

# REFERENCES

Ahmed, E.T., Abdel-aziem, A.A., and Ebid, A.A., (2011). Effect of isokinetic training on quadriceps peak torgue in healthy subjects and patients with burn injury. Journal of Rehabilitation Medicine, 43:930–100**4**

Alloju, S.M., Herndon, D.N., and McEntire, S.J., (2008). Assessment of muscle function in severely burnedchildren. Burns, 34:452–9.

Al-Mousawi, A.M., Williams, F.N.,andMlcak, R.P., (2010).Effects of exercise training on resting energy expenditure and lean mass during burn rehabilitation. Journal of Burn Care Research, 31: 400-408.

Anzarut, A., Olson, J., and Singh, P.,(2009). The effectiveness of pressure garment therapy for the prevention of abnormal scarring after burn injury: A meta-analysis. Journal of Plastic Reconstructive Aesthetic Surgery, 62: 77-84.

Borena , B.M., Pawde, A.M., Amarpal, Aithal, H.P., Kinjavdekar, P.,and Singh, R., (2011).Evaluation of autologous bone marrow-derived nucleated cells for healing of full-thickness skin wounds inrabbits. Internatinal Wound of Journal.7:249-760.

Borsheim, E., Chinkes, D.L., and McEntire, S.J., (2010). Whole body protein kinetics measured with a noninvasive method in severely burned children. Burns,36:1006–1012.

Disseldorp, L.M., Mouton, L.J.,andTakken, T., (2012).Design of a cross sectional study on physical fitness and physical activity in children and adolescents after burn injury. BMC Pediatrics, 12: 195.

Disseldorp, L.M., Nieuwenhuis, M.K., Van Baar, M.E.,and Mouton, L.J., (2011). ‘Physical fitness in people after burn injury: A systematic review. Archives of Physical Medicine and Rehabilitation,92 :1501-1509

Ebid, A.A., El-Shamy, S.M.,andDraz, A.H., (2013). Effect of isokinetic training on muscle strength, size and gait after healed pediatric burn: A randomized controlled study. Burns, 39 : 599-609.

Esselman, P.C., (2007). ‘Burn Rehabilitation: An Overview. . Archives of Physical Medicine and Rehabilitation,88 (12): 3-6.

Fraenkel, J.R and Wallen, N.E., (2008). How to Design and Evaluate Research in Education. 4th ed., USA: McGraw Hill.

Goertz, O., Popp, A., Kolbenschlag,J., Daigeler, A., Ring, A., Lehnhardt, M., and Hisch, T,.(2013). Intravital pathophysiological comparison of acid- and alkali-burn injuries in a murine model .Journal of Surgical Research, 182(2): 347-352.

Grisbrook, T.L., Wallman, K.E., Elliot, C.M., Wood, F.M., Edgar, D.W., and Reid, S.L. (2012) ‘The effect of exercise training on pulmonary function and aerobic capacity in adults with burn. Burns,38 : 607-613.

Harding, j., Harding, k., Jamieson, p. and Petrenchik, T.M., (2009). Neurologic and musculoskeletal complications burn injuries: A pilot study.Canadian journal of Occupational Therapy, 76(3): 133-144.

Hoffman, H.G., Chambers, G.T., and Meyer, W.J.,(2011).Virtual reality as an adjunctive non-pharmacologic analgesic for acute burn pain during medical procedures. Annals of Behavior Medicine. 41:183-191.

Kamolz, L.P., Kitzinger, H.B., Karle, B. and Frey, M., (2009). ‘The treatment of hand burns. Burns, 35 (3): 327-337.

Kannus, P., (2006). Burn Rehabilitation. British Medical Journal, 314:205-206.

Kazis, L.E., Lee, A. F., and Hinson M.,(2012). Method for assessment of health outcome in children with burn injury : the multi-center Benchmarking study. Journal of trauma Acute Care Surgery. 73(3):179-188.

Kennedy, P.J., Young, W.M., and Deva, A.K., (2006). Burns and amputations: a 24-year experience. Journal of Burn Care Research.27(2):183–188.

Lateur, B.J., Magyar-Russell, G., and Bresnick, M.G., (2007). Augmented exercise in the treatment of deconditioning from major burn injury. Arch Phys Med Rehabil,88:18 23.

Modammadi, A. A., Amini,M., Mehrabni,D., Kiani ,Z., and Seddigh,A., (2008). A survey on 30 months electrical burns in Shiraz University of Medical Sciences Burn Hospital. Burn, 34(1): 111-113.

Nagoba, B.S., Selkar, S.P., Wadher, B.J., and Gandhi, R.C.,(2013). Acetic acid treatment of pseudomonal wound infections — a review.Journal of Infection and Public Health,6:410-415.

Omar, M.T., Hegazy ,F.A.,andMokashi, S.P.,(2012). Influences of purposeful activity versus rote exercise on improving pain and hand function in pediatric burn. Burns, 38: 261-268.

Paratz, J.D., Stockton, K., and Plaza, A., (2012). Intensive exercise after thermal injury improves physical, functional, and psychological outcomes. Journal of Trauma and Acute Care Surgery, 73:186–194.

.

Richard, R.L., Hedman, T.L., and Quick, C.D.,(2008). A clarion to recommit and reaffirm burn rehabilitation. Journal of  Burn Care and Resarch.29:425–432.

Richardson, P., and Mustard, L., (2009) "The management of pain in the burns unit". Burns, 35(7) :921-936.

Rosenberg, M., Celis, M.M., and Meyer, W., (2013).Effects of a hospital based wellness and exercise program on quality of life of children with severe burns. Burns, 39: 599-609.

Schneider, J.C., and QU, H.D., (2011). Neurologic And musculoskeletal complications of burn injuries. Physical Medicine and Rehabilitation Clinics of North America. (2011). 22:261-275.

Sen, S. L. and Rashid, M. A., (2003). Burn cases: A medical and social problem in Bangladesh. Dhaka: Dhaka Medical College Hospital. Available:http://www.orion-group.net [ accessed on 25 September 2015].

Sharma,V.P., O'Boyle, C.P., and Jeffery, S.L.,(2011). Man or machine? The clinimetric properties of laser Doppler imaging in burn depth assessment.Journal of Burn Care and Research. 32:143-149.

Shevchenko, R.V., and Santin, M., (2014). Pre-clinical evaluation of soybean based wound dressings and dermal substitute formulations in pig healing and non-healing in vivomodels. Burn Trauma , 2:187-95.

Wang, H., Yan, X., Shen, L., Li, S., Lin ,Y., and Wang, S.,(2014). Acceleration of wound healing in acute full-thickness skin wounds using a collagen-binding peptide with an affinity for MSCs. Burn Trauma, 2:181-206.

Willis, C.E., Grisbrook, T.L., Elliot, C.M., Wood, F.M., Wallman, K.E., and Reid, S.L., (2011) 'Pulmonary function, exercise capacity and physical activity participation in adults following burn. Burns, 37 :1326-1333.

World Health Organization, (2015). Violence and Injury Prevention. Geneva :WHO.Available:http://www.who.int[accessed on 25 September 2015].

Yen,C.H., Chan, W.L., Wong, J.W.C., and Mak, K.H., (2008). 'Clinical Results of early active mobilisation after flexor tendon repair'. Hand Surgery, 13(1) : 45-50.

# APENDIX

## Questionnaire

1.How are you?

2.In which occupation you are involving now?

3.what do you know about physiotherapy?

4.What are your feeling after taken physiotherapy treatment?

5.Did you think that physiotherapy is helping you to improve your condition?

6.were your needs met from physiotherapy?

7.Are you satisfied with physiotherapy treatment?

8.Which thing did you like most during your treatment?

9.During your treatment which thing you did not like?

10.Do you think that physiotherapy is needed in our country aspect?

11.What type of importance of physiotherapy treatment for burn patient like you, and how?

12. .Form your view what can be improved &How?

প্রশ্নপত্র

১।আপনিকেমনআছেন?

২।আপনিএখনকিপেশায়নিযুক্তআছেন ?

৩।ফিজিওথেরাপিসম্বন্ধেআপনিকিজানেন ?

৪।ফিজিওথেরাপিচিকিৎসানেয়ারপরআপনারঅনুভুতিকি ?

৫।আপনিকিমনেকরেনযেআপনারঅবস্থারউন্নতিরজন্যফিজিওথেরাপিআপনাকেসাহায্যকরেছে ?

৬।ফিজিওথেরাপিরকাছথেকেআপনারছাহিদাকিপূরণহয়েছে?

৭।আপনিকিসন্তুষ্ট ?

৮।চিকিৎসাচলাকালিনসময়েআপনিকোনজিনিসটিবেশিপছন্দকরেছেন?

৯।চিকিৎসাচলাকালিনসময়েআপনিকোনজিনিসটিবেশিঅপছন্দকরেছেন?

১০।আপনিকিমনেকরেনযেআমাদেরদেশেরপরিস্থিতিতেফিজিওথেরাপিচিকিৎসাপ্রয়োজন ?

১১। আপনার মত পুড়া রুগিদের জন্য ফিজিওথেরাপির কি ভুমিকা বা গুরুত্ত এবং কিভাবে?

## Permission letter

**August 29, 2015**

Head

Department of Physiotherapy

Centre for the Rehabilitation of the Paralysed (CRP)

Chapain, Savar, Dhaka-1343.

**Through:** Head, Department of Physiotherapy, BHPI.

**Subject:** Seeking permission of data collection to conduct my research project.

Dear Sir,

With due respect and humble submission to state that I am Sonia Afrin, student of 4th Professional B.Sc. in Physiotherapy at Bangladesh Health Professions Institute ( BHPI). The ethical committee has approved my research project titled on **" Perception of burn patient regarding physiotherapy treatment in musculoskeletal unit in CRP-Savar,Dhaka"** under the supervision of Md. Millat Hossain, lecturer, Department of Physiotherapy, CRP. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. I want to collect data for my research project from the patients of CRP. So, I need permission for data collection from the out patient of Physiotherapy department of CRP. I would like to assure that anything of my study will not be harmful for the participants.

I, therefore, pray & hope that you would be kind enough to grant my application & give me permission for data collection and obligue thereby.

Sincerely Yours

Sonia Afrin.

**Sonia Afrin.**

4th Professional B.Sc. in Physiotherapy

Roll-11, Session: 2010-2011

Bangladesh Health Professions Institute (BHPI)

CRP, Chapain, Savar, Dhaka-1343.

Forwarded for permission of data collection
29/08/15

Md. Obaidul Haque
Associate Professor & Head of the Department
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

Permission is given and contact with Ms. Naima Tanveen, clinical Physiotherapist, MS unit as a part of the data collection process.
29/08/15

Mohammad Anwar Hossain
Associate Professor &
Head of Physiotherapy Dept.
CRP, Chapain, Savar, Dhaka-1343