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HEALTH RELATED QUALITY OF LIFE OF STROKE PATIENTS AFTER RECEIVING REHABILITATION SERVICE FROM SPECIALIZED REHABILITATION CENTRE

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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

HEALTH RELATED QUALITY OF LIFE OF STROKE PATIENTS AFTER RECEIVING REHABILITATION SERVICE FROM SPECIALIZED REHABILITATION CENTRE

Submitted by **Ruma Akter**, for the partial fulfilment of the requirement for the degree of Bachelor of Science in Physiotherapy (B.Sc. PT).

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DECLARATION

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 decline that same any publication, presentation or dissemination of information of the study. I would bind to take consent from the department of Physiotherapy of Bangladesh Health Profession Institute (BHPI).

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CONTENTS

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Acronyms

ADL	Activities of Daily Living
BHPI	Bangladesh Health Professions Institute
CRP	Centre for the Rehabilitation of the Paralysed
CVA	Cerebrovascular Accident
GH	General Health
HRQOL	Health related quality of life
IRB	Institutional Review Board
MH	Mental health
PF	Physical Functioning
PH	Physical Health
QoL	Quality of Life
SF	Social Functioning
SF - 36	Short Form- 36
SPSS	Statistical Package for Social Sciences
VT	Vitality
WHO	World Health Organization

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Abstract

Purpose: The study was conducted to identify health related quality of life of stroke patient's after receiving rehabilitation service from specialized rehabilitation Centre.

Specific Objective. To find out the demographic status of the participants. To explore the physical status of the participants. To observe the mental health status of the participants. To observe the social functioning of the participants. To find out association between demographic factors with HRQoL. To find out the association between physical, mental, and social factors of HRQoL.

Method: The cross-sectional study conducted by using convenience sampling procedure. The study population was all the stroke people who have completed treatment at CRP. Total 115 participants were selected conveniently for this study within 30 to 70 of age range. Data was collected by using SF-36 questionnaire. Data were analyzed through SPSS 20 version.

Result: In this research minimum age of the participants was 30 years and maximum age was 70 years. This study was found that male participants about 64.3% and 35.7%% were female. Males were more affected than female. Health Related Quality of life of survivors was detected by a questionnaire SF-36 and there was 8 dimensions, from these dimensions the mean score of physical functioning was 2.23%, Role limitation due to physical health was 2.18%, Role limitation due to emotional problem was 2.63%, Energy or fatigue was 2.56%, Emotional well-being was 2.41%, Social functioning was 3.26%, Pain was 2.82%, and lastly general health was 2.37%. According to SF-36 score range their physical health was poor and mental health was fair.

Conclusion: Study shows that the health related Quality of Life of Persons with Stroke was fair and poor. This study measured the HRQoL in patients affected by Stroke using SF-36 questionnaire, which is a patient-measured and validated method in terms of reliability and reproducibility.

Keyword: Stroke, Health related quality of life, Rehabilitation service.

CHAPTER – I INTRODUCTION

1.1 Background

The global burden of disease has shifted in the last few decades from infectious and nutritional disorders to non-communicable disease. The incidence of stroke has been increasing throughout the world and is particularly prevalent in developing countries where it is now the second leading cause of death. The numbers relating to stroke related deaths and disability are extremely high in developing countries. Globally, developing countries account for approximately 75% of stroke related deaths and 81% of stroke related disability-adjusted life-years (DALYs) (Mamin et al., 2017).

The concept of health-related quality of life (HRQoL) is highly important in the assessment of the multifaceted effect of disease on the patient's life and evaluation of the utility and disability associated with various health states. (Salter et al., 2008). HRQoL measures encompass emotional, physical, social, and subjective feelings of well-being and hence, can be used in identifying and prioritizing areas of need of individual patients and patients with special needs. (Hopman et al., 2017). HRQoL measures are also useful in the evaluation of the effectiveness and cost benefit of various old and emerging prophylactic, therapeutic, and rehabilitative interventions (Salter et al., 2008).

Stroke is one of the most spontaneous causes of death, along with harmful cancers and diseases of the heart and blood vessels (Aydin et al., 2016), but stroke is a preventable and treatable disease. Stroke is currently the main most common health problem in the world. (Srivastava et al., 2010). It is the vital reason for adult disability and the second leading cause of death (Van et al., 2015). Stroke is defined by WHO as rapidly developed clinical signs of focal disturbance of cerebral function lasting for more than 24 hours or leading to death without any apparent cause other than vascular origin (Hossain et al., 2011).

Stroke causes sufficient decrease in quality of life even among those who have no post stroke disability (Aikins et al., 2016). In other populations multiple risk factors including

age, gender dependency in activities of daily living ADL, disability, social support, depression and diabetes have been associated with poorer HRQoL in stroke survivors. (Owolabi et al., 2009). According to the World Health Organization, every year 15 million people hurt by the stroke, from them 5 million expired and left 5 million are completely disabled (Aydin et al., 2016). The occurrence of disability among stroke survivor is between 24–54% (Srivastava et al., 2010)

Stroke is one of the leading vital of death and disability worldwide and more so in backward Countries like, where expected treatment is available including rehabilitation The primary initiative of the rehabilitation approach may be able to make a return on the nervous function and improve long-term results and quality of life (Hossain et al., 2011).

The World Health Organization (WHO) ranks mortality due to stroke in Bangladesh as number 84 in the world (Islam et al., 2013). In most stroke patients, between 6-9 months and 5 years after stroke, disability is stabilized. In Framingham studies, the following obstructions occurred among the elderly patients within 6 months after stroke: 50% had some hemiparesis, 30% could not walk without some assistance, 26% were dependent on ADL, 19% had aphasia, 35% had depression symptoms, 26% were existing in a nursing home (Carod & Egido, 2009).

The mortality rate progressively decreases in the last few decades, and residual impairments and disabilities are subsequent increase and decrease functional outcome and quality of life. The strongest impact of poor quality of life among stroke patients is Depression. Post-stroke depression (PSD) is one of the common emotional complaints affecting stroke patient (Srivastava et al., 2010).

Most South Asian studies compared to Western countries have reported a high percentage of hemorrhagic stroke (19-46%). This discovery may be related to the high prevalence of high blood pressure in South Asia and poor control. The prevalence of intracerebral hemorrhage (ICH) is particularly high in younger patients (15-45 years of age) with stroke (32-43%). The high frequency of ICH reported in Bangladesh (31-33%). Cardio embolic Stroke is less common in South Asia compared to Western countries (Wasay et al., 2014).

The number of stroke-related burdens is expected to increase over the next two decades but there is an impressive development discover in the medical management of stroke (Langhorne et al., 2011). By the year 2050 year, there is a possibility to increase stroke patient a huge number. 50 % patients need special help for their daily living activity within 12 months (Van et al., 2015).

Worldwide, stroke is the second leading cause of death, responsible for at least 4.4 million (9%) of the total of 50.5 million deaths each year (Sudlow & Warlow, 2009). According to the World Health Organization, 15 million people suffer from stroke worldwide each year, 5 million people die and another 5 million people are permanently disabled (Engstrom et al., 2011). The incidence of disability among stroke survivors is between 24 and 54% (Srivastava et al., 2010).

The most common diagnosis among patients treated by rehabilitation therapists is cerebrovascular accident. There are 2 main types of stroke: ischemic and hemorrhagic. A major long-term problem of post-stroke is the presence of motor and sensory deficits that are directly associated with balance impairments. Balance problems are very common after a stroke and are related to poor recovery from activities of daily living (ADL) and mobility and an increased risk of falls (Tyson et al., 2006).

The results of the patient's progress and rehabilitation are evaluated by various functional status steps; The FIM (effective independent measurement) score among them is the most common. These scores can be managed easily for a reliable measurement and periodic evaluation of patient performance changes (Andersson et al., 2008).

Quality of life means,"Person's perception of position in their life within the context of the culture and value systems in which they lives and in relation to their goals, expectations, standards, and concerns. The person's physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to the environment consists the Quality of Life" (WHO, 1995).

Despite the remarkable progression in the treatment of stroke, the life quality and social-related events caused by stroke received limited attentions. Most studies have shown that the QOL in stroke survivors were decreased. However, there is still no report about the

dynamic change of QOL in patients with stroke after treatment. Chronic diseases, such as stroke, are related to deteriorate QOL (Pulman & Buckley, 2013).

Many factors are known to influence negatively health related quality of life the outcome for patients with stroke. (Bétoux et al., 1996) showed that health related quality of life in stroke may deteriorate over time even if the disability level remains unchanged, whereas poor social interaction and clinical depression play a vital role in such deterioration. Also, many others factors like age, gender, comorbidities including diabetes, depression and institutionalization have been associated with poor health related quality of life in literature. However, the findings of these studies are inconclusive either for the heterogeneity of health related quality of life measures used and the lack of homogeneity of the stroke populations studied.

After stroke for the recovery of stroke patients, various therapeutic methods were invented. The most common neurophysiological method, which increases motor functions and orthopedic procedures that increase the performance of the force of the affected limb and the motor relearning system (Chan et al., 2006). Several systemic reviews showed that the recovery is improved for high intensity therapies. Although there is no clear guide to the best stage of practice, the importance of increasing knowledge formation is widely accepted. Rehabilitation should begin as soon as possible after the stroke. After the formal rehabilitation period, recovery can continue for months or even years after the stroke. In recent years, there has been an increased focus on improving outcomes after acute stroke. This interest is inspired by advances in knowledge of the mechanisms of recovery and the role of neuronal plasticity (Van et al., 2015)

1.2 Rationale

Stroke is a major global health concern which affects the health-related quality of life (HRQOL). Stroke affects patient's mobility, self-care, physical functioning, and social functioning, as well as mental status also. As the prevalence of stroke is increasing especially in lower-middle income countries, it is vital to identify the factors associated with the HRQOL of affected individuals.

To date, there has been no study examining the health-related quality of life after receiving rehabilitation service of stroke in Bangladeshi population. My study is the first to look at HRQOL among stroke survivors across the vast spectrum of stroke severity ranging from mild to severe. I also aimed to identify variables that led to decreased HRQOL in this cohort when compared to healthy adults.

Health related Quality of life is not only concept of illness, functional status, mental health and comfort. The aim of the study is to find out the quality of life of stroke survivor, factors that influence it and how it compares. Only medical management is not enough for stroke patient. Rehabilitation plays very important role for stroke survivors to improve their life style. This study will be helpful for Rehabilitation practitioner to make awareness among the patients having stroke. This study will also provide knowledge to the patients about his/her current health status after receiving therapy and they will gain some information's about their life style which is responsible for their quality of life. Rehab professional plays a vital role to develop the quality of life of stroke patients. It will also help other health professionals such as social workers, counselors, and Psychiatrists. So, it will be also helpful for professional to work in this area for delivering treatment.

1.3 Research Question

What is the health related quality of life of stroke patients after receiving rehabilitation service from specialized rehabilitation Centre?

1.4 Aims of the study

The aims of this study was to know that, to find out the health related quality of life of stroke patient's after receiving rehabilitation service from specialized rehabilitation Centre.

1.5 Objectives of the study

1) To find out the demographic status of the participants.

2) To explore the physical functioning status of the participants.

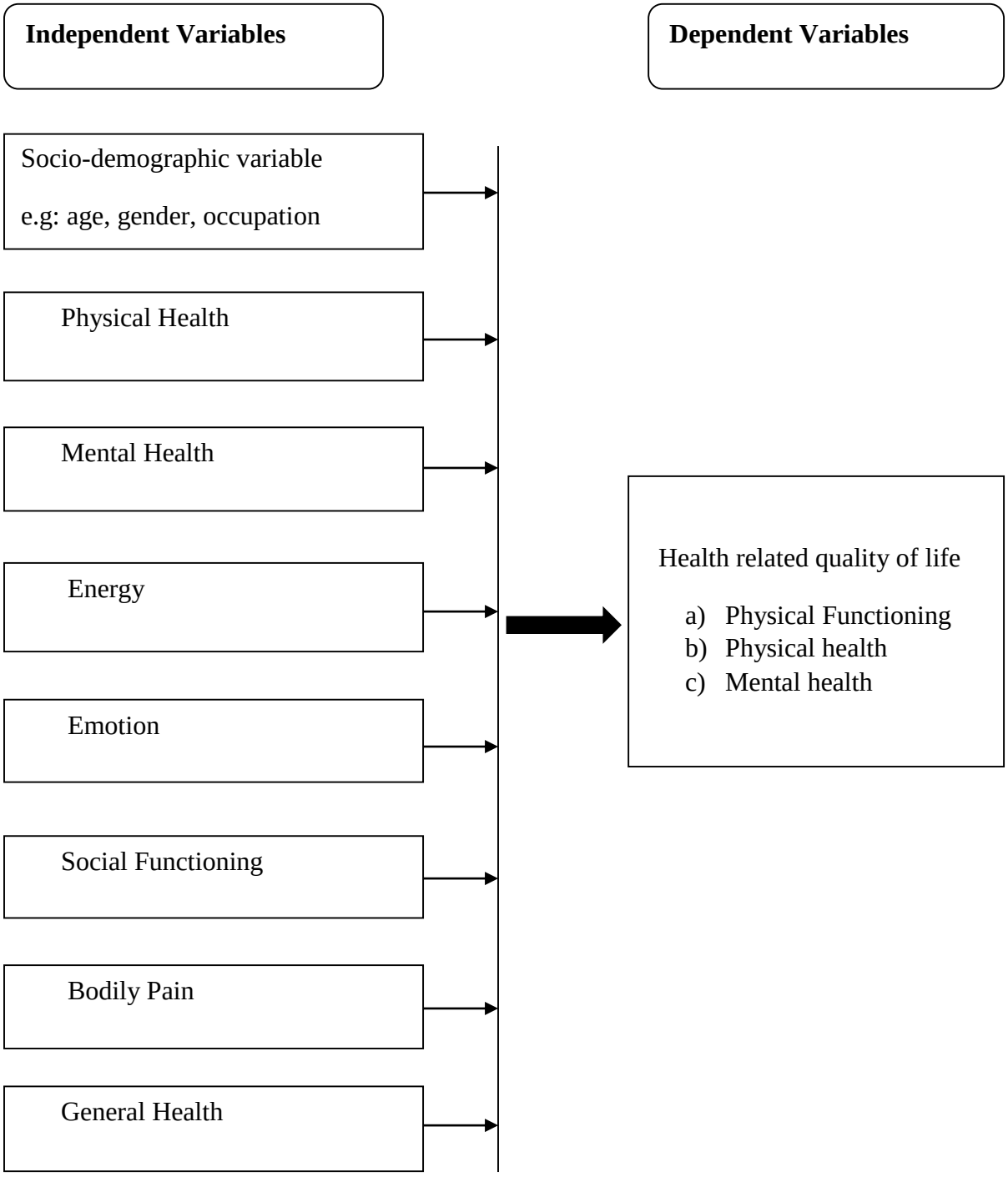
3) To observe the psychological status of the participants.

4) To observe the social functioning of the participants.

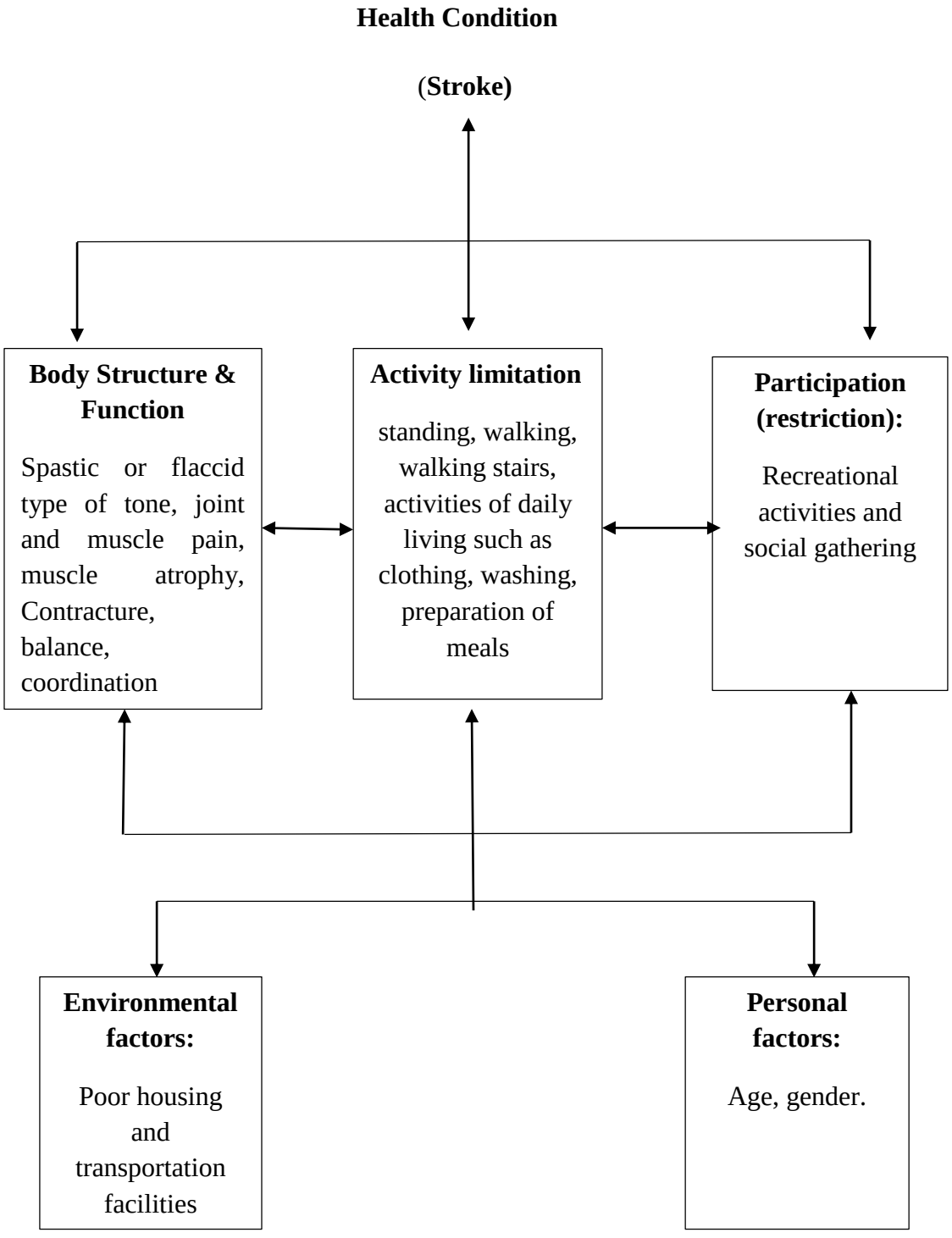
5) To find out association between demographic factors with HRQoL.

6) To find out the association between physical, psychological, and social factors of HRQoL.

1.6 Conceptual Framework



1.7 ICF model for stroke patients



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.

Stroke Rehabilitation

Stroke Rehabilitation is a progressive, dynamic, goal orientated process aimed at enabling a person with impairment to reach their optimal physical, cognitive, emotional, communicative, and social functional level.

Quality of Life

Quality of life (QOL) is the general well-being of individuals and societies, outlining negative and positive features of life. It observes life satisfaction, including everything from physical health, family, education, employment, wealth, religious beliefs, finance and the environment.

Health Related Quality of life

HRQoL has been defined as 'the value assigned to duration of life as modified by the impairment, functional state, perceptions and social opportunities that are influenced by the disease, injury, treatment or policy'

CHAPTER – II LITERATURE REVIEW

Stroke is the second leading cause of mortality and the third leading cause of disability worldwide (Murray et al., 2012). It is a major global health concern that affects the quality of life of affected individuals. (Feigin et al., 2015). The burden of stroke is expected to increase especially in the lower-middle income countries with the current epidemiological transition of diseases (Mukherjee & Patil, 2011). It is the leading cause of adult disability in the country and the risk of stroke is also increasing with the rising aged population (Rohde et al., 2019). Stroke related disabilities affect the individual persons, their families and finally the economy of the country. Stroke survivors encounter challenges to restore their health status within the limitations of the residual impairment (Badaru et al., 2015).

Cerebral stroke causes a significant worsening of health-related quality of life. After stroke, many patients report a reduction in the QoL and consequently to physical, emotional, and cognitive disabilities (Lo Buono et al., 2017). Quality of life (QOL) is an important health care issue following a stroke due to concurrent disabilities (Abubaka et al., 2011). Health-Related Quality of Life (HRQOL) reflects the "impact of a health state on a person's ability to lead a fulfilling life" (Badaru et al., 2015). Stroke can affect the physical, psycho- logical and social aspects of life while it has been associated with lowering the HRQOL (Haley et al., 2015). The factors that are associated with HRQOL of stroke survivors were identified by different authors using different assessment tools and had found different factors (Jeon et al., 2017).

Stroke is classically characterized as a neurological disorder which is imposed to an acute focal injury of the central nervous system (CNS) by a vascular cause, also including cerebral infarction, intracerebral hemorrhage (ICH), and subarachnoid hemorrhage (SAH), and worldwide it is a leading cause of disability and death. It is a "brain attack" and when it is happening blood flow to an area of brain is cut off. When this happens, brain cells are deprived of oxygen and begin to die. When brain cells die during a stroke,

the area of the brain who perform different types of function, also control different type of functions such as memory or muscle control are being lost (Sacco et al.2013).

According to WHO 2001, the death of stroke in low-income and middle-income countries was 85. 5% of stroke deaths worldwide. The evidence from the developed countries is that one in 20 adults (aged >14 years) is affected by stroke. Although stroke mortality and load rates vary greatly among the low-income countries (Feigin et al., 2015). Stroke is a longlasting disease, yet studies have focused on measuring short term results mainly in the domain of impairments and disability. In 1980 with the development of the international classification of impairments, disabilities and handicaps by the World Health Organization (WHO). In view of the result of stroke in 174 intense stroke tests, the number of deaths is 76%, impairment in 76%, disability in 42% and handicap in only 2% (Patel et al., 2006).

When a blood clot blocks a blood vessel that carries blood to the brain. This prevents blood from reaching the brain and an ischemic stroke occurs. Ischemic strokes account for about 87% of all strokes. Only about 15% of all strokes are hemorrhagic, as hemorrhagic strokes are less common but are responsible for about 40% of all stroke deaths. This stroke is either a brain aneurysm burst or a weakened blood vessel leak. Swelling and pressure creates, and blood spills into or around the brain and damaging cells and tissue in the brain (National Stroke Association, 2018).

The brain is an exciting area in neurology as it is complex in anatomy and in function. With the progression of age in addition to decay, the brain becomes more prone to get many complicated life threatening diseases, these will need appropriate attention in time. Stroke is one of such condition which is the burning topic in this new millennium since it is not only a major killer but also a major cause of disability in the world as well as in Bangladesh (Mohammad, 2011).

Patients with stroke bring about physical, psychological, social and economic burdens, and health related quality of life (QOL) of the patients are low. Despite the remarkable progression in the treatment of stroke, the life quality and social-related events caused by stroke received limited attentions. Most studies have shown that the QOL in stroke

patients were decreased. Chronic diseases, such as stroke, are related to deteriorated QOL (Chen et al., 2019).

(Islam et al., 2012) stated that hospital-based studies conducted in past decades have indicated that hypertension is the main cause of ischemic and hemorrhagic stroke in Bangladesh and others reason followed by heart disease (24%), diabetes mellitus (DM) (21%), and hyperlipidemia. In the vascular territory wise, it is very important to know the symptomatology of stroke but this is very complex. For the sake of simplicity, there has some common features which will help to recognize this condition. Stroke patients commonly present with such as hemiplegia/monoplegia which is most common in stroke patients, patient face difficulties in speech (dysarthia/dysphasia) and swallowing, headache, vomiting, Convulsion, blurring of vision/double vision etc. The prevalence and incidence of stroke is increasing day by day in Bangladesh in comparison to developed country (Mohammad, 2013).

Van et al., (2015) stated that within the 2050 year, there is a chance to increase stroke patient a huge number. Almost 50% stroke patients need special help for their daily living activity within 12 months. Stroke survivors face a new challenge, i.e., living with disabilities. Patients with physical and/or mental sequelae require specific rehabilitation to achieve functional recovery. Moreover, family, community and social reintegration, as well as maintenance of recovery level are of paramount importance for achieving good Quality of life.

Stroke is the leading cause of long-term disability in western countries, and functional outcome depends on stroke severity. The prevalence of stroke survivors with incomplete recovery has been estimated at 460/100,000, and one third require care in at least one activity of daily living (Bonita et al., 1997). Between 50 and 70% of stroke survivors regain functional independence, but 15–30% are permanently disabled, and 20% require institutional care at 3 months after onset (Rosamond et al., 2008). Upper limb impairment at stroke onset occurs in 85% of stroke patients, and at 3 months it persists in 55–75%. In most of stroke patients, disability remains stable between 6–9 months and 5 years after stroke. The following disabilities have been observed among older patients at 6 months after stroke in the Framingham study: 50% had some hemiparesis, 30% were unable to

walk without some assistance, 26% were dependent in the ADL, 19% had aphasia, 35% had depressive symptoms, 26% were institutionalized in a nursing home (Kelley- hayeset et al., 2003).

Stroke is a major cause of death in the United States, third for female and fourth for men. Stroke rates are slightly higher in man, but women's higher stroke death rates are overall (68 vs 44 per 100 000 in 2002) due to high average age of women. Many studies have found that women who have stroke have less positive results than male patients. Women have more physical impairments and limitations in activities of daily living (ADL), or basic components of self-care. Women face more mental impairment, depression, and fatigue and lower overall quality of life (QOL) than men after stroke (Gargano et al., 2007).

Stroke in the UK is also a major cause of a disease and death. About 110,000 stroke occurs in England, in recent studies, an incident was reported between 2002-2004 for 1.36 / 1000 / year and 1.62 / 1000 /year. A study in Scotland is responsible for the higher proportion of the elderly population of the population, which reports a high incident rate of 2.8 / 1000 / year. Although stroke has died in the last 40 years, in 2008, more than 46,000 people died in England and Wales (9% of all deaths). The current UK health policy emphasizes great on reducing stroke. These key risk factors, including high blood pressure, brain, high cholesterol, atrial fibrillation, and diabetes, require better management (Lee et al., 2011).

Every year, 200,000 people in Germany maintain their first stroke, and another 60,000 strokes after one or more of the pre-stroke; In almost five years almost a person can get a stroke at any time of his or her life. About 80% of stroke is ischemic and 20% is hemorrhagic. Under the age of 65 more than one-fourth of stroke patients are below Risk factors (Hypertension, smoking, lack of exercise, weights and other risk factors) are essential for the underlying stroke of vascular diseases. Medicines and lifestyle help with the necessary changes (Knecht et al., 2011).

In Singapore, stroke injury is 4.03% of the population of 1.8 / 1000 people over 50 years of age. Struggling with stroke will increase our population of rapid population in Singapore and stroke will further increase the outbreak of survivors. Almost 40% of strokes have survived from serious disabilities with the huge impact on social and health-related health. The Multidisciplinary team improves functional results following a stroke of rehabilitation, with the possibility of institutionalization and decrease of death (Ng et al., 2013).

In Thailand, stroke is the third major cause of death. Despite the initial resistance to progress, many consequences of stroke have deteriorated for survivors: About 50% of the 12-month stroke survivors depend on others for self-care and personal activity in daily life. It keeps a significant demand for healthcare through hospital readmissions, community support needs and rehabilitation organizations. Stroke patients lives with not only the problem of strokes, but also their functional impairments and their reduced social interactions (Van et al., 2015).

The estimated number of stroke outbreaks in India is 44 to 843 per 100,000 populations. Most of Pakistan's data come from hospital based case series. Annual stroke incidence in Pakistan is 250 per 100,000 populations, which is projected in a guess of 350,000 new cases every year. A recent study conducted in Karachi's urban slum estimates the prevalence of life expectancy of 21.8% of stroke and transient ischemic attack among people 35 years and older. Another population-based study showed 4.8% stroke outbreak using interviews with an elected ethnic group in northwestern Pakistan and Afghanistan, the average age of 45 years of stroke. In Pakistan, there is a female stroke of stroke, and the age of stroke in the stroke than the male is even smaller. In these two demographic studies, very high trends in stroke can be confusing and confusing due to case-specific problems. With the population of nearly 20 million people, the proportion of stroke in Sri Lanka, 9% of every 1000 population. Limited information is available in Bangladesh with stroke prevalence: A study shows a total outbreak of 3 people per 1,000 people. The estimated stroke of stroke shows slight changes across all South Asian countries. No information is available from Afghanistan, Nepal, Bhutan and Maldives (Wasay et al., 2014).

In Bangladesh there are 162·2 million people, 26% people lives in urban areas and the majority (74%) lives in rural areas. In Bangladesh, stroke has been ranked as the third chief cause of death after coronary heart disease and infectious diseases such as influenza and pneumonia. The mortality rate of stroke increased from 6·00% (in 2006) to 8·57%, (in 2011) with an age-adjusted mortality rate of 108·31 per 100,000 people (in 2011). The World Health Organization (WHO) ranks mortality rate due to stroke in Bangladesh as number 84 in the world (Islam et al., 2012).

In Bangladesh the occurrence of stroke has been estimated 0·20%, 0·30%, 0·20%, 1·00%, and 1·00% for the age groups 40–49 years, 50–59 years, 60–69 years, 70–79 years, and 80 years and above, respectively. The overall prevalence for stroke was 0·30%, and the ratio of male: female patients was 3·44: 2·41 (Islam et al., 2013). QOL as a construct has been assumed as a multidimensional approach which covers the physical, functional, psychological, and social health dimensions and derived its theoretical framework based on modifications from the WHO's International Classification of Impairment, Disabilities, and Handicaps (Mohammad et al., 2014).

In Bangladesh, stroke has been ranked as the third leading cause of death after coronary heart disease and infectious diseases such as influenza and pneumonia. The mortality rate of stroke increased from 6·00% to 8·57%, with an age-adjusted mortality rate of 108·31 per 100 000 people. The World Health Organization (WHO) ranks mortality due to stroke in Bangladesh as number 84 in the world. The crude death rate per 1000 people in Bangladesh is reported at 5·8%; the female and male life expectancies are reported as 64·4 years old and 65·1 years old, respectively (WHO, 2012).

Quality of life (QoL) has been defined by the WHO QOL group as 'individuals' perceptions of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. QoL can also be defined as a person's sense of well-being, purpose in life, autonomy, ability to assume worthwhile roles, and ability to participate in significant relationships (Carod & Egido, 2009).

According to the theory of Wilson and Cleary, health can be defined as a continuum with biological variables at one extreme and overall health reated quality of life at the other extreme (Wilson et al., 1995). QoL refers to a diverse range of a patient's perceptions and experiences of disease that are of central concern in terms of treatment goals. The 'objective' aspects of HRQoL cover the domain physical function, and this approach focuses upon the individual's ability to function physically in terms of mobility and performance in the ADL. 'Subjective' dimensions of HRQoL focus upon respondents' feelings and perceptions, and how patients feel about their health status. The increase in survival in stroke patients and the aging of the population mean that clinicians are likely to see long-term stroke survivors who are living longer with stroke sequelae (Carod-Artal et al., 2002).

Stroke patients commonly suffer from physical role alteration, mood disorders, cognitive impairment and decreased social interaction. When applied to stroke, a limiting factor of the biomedical approach is the emphasis on motor symptoms. In the social model of stroke, health related quality of life is a complex interplay between stroke severity, social support and health-promoting behaviors, including stroke secondary prevention. Assessment of HRQoL in stroke survivors should be multidimensional, comprising at least several domains: physical (i.e motor deficit, spasticity, ataxia, dysarthria, dysphagia, pain, sleep disturbances and fatigue), functional (mobility, care), mental (mood, cognition, satisfaction, and self-perception) and social (work, social network and social role), and requires a subjective rating by the patient (Carod-Artal et al., 2000).

Ischemic stroke results more favorable among young people than older patients. However, the disease is still notable. The follow-up studies have focused on death and on the repeat of Ischemic stroke, but there are a less number of health-related quality of life studies in the lives of young people with ischemic strokes. People with stroke need to provide information about the specific decisions about health related quality of life. Health related quality of life will have to evaluate at least physical, functioning, emotional and social health (Naess et al., 2006).

Factors and mortality are higher in women than men, compared to their growth of stroke, longevity and stroke event rates. In addition, stroke-related results, including disability

and quality of life (QOL) are poor among women, but their causes are not well understood. The social impact of women's poor stroke results is compounded by this increase that older women are more likely to live alone and socially isolate (Reeves et al., 2008).

Stroke rehabilitation usually involves a cyclical process by evaluation, patient identification and measurement; setting goals, setting real and progressive goals for improvement; intervention, help achieve goals; And reassessment, to assess progress against agreed goals. The most recognizable frustration caused by the motor impairment, in which the function muscle movement is restricted. Other common weaknesses include speech and language, swearing, sight, sensation, and consciousness (Langhorne et al., 2011).

Stroke Rehabilitation is a program that helps stroke victims overcome the inability of the brain to suffer from damage and after all spontaneous recovery from brain damage, despite their inability to help them to be physically, emotionally, and socially able. Early physical, occupational and speech therapy is the Proper rehabilitation of stroke patients (Nessa et al., 2009). Physiotherapy interventions provided by physiotherapists and try to improve balance, gait, and movement. Occupational therapy interventions provided by occupational therapists and they aimed at improving activities of daily living, occupation, and leisure activity. Interventions for speech and language therapy interventions provided by speech and language therapists and they usually aimed at improving language, communication, or swallowing abilities (Langhorne et al., 2011).

In general, quality of life (HRQoL or QOL) is the perceived quality of an individual's daily life that is an assessment of their well-being or lack thereof. This includes all emotional, social and physical aspects of the individual's life. Health-related quality of life (HRQoL) is an assessment of how the individual's well-being may be affected over time by a disease, disability or disorder. Quality of life is a model of integrated objective and subjective indicators. It is a broad range of life domains, and individual values. It takes account of concerns that externally derived norms should not be applied without reference to individual differences. Factors that play a role in quality of life vary according to personal preferences, but they often include financial security, job

satisfaction, family life, health and safety (WHO, 2013). Health related quality of life is a multidimensional construction, which measures a person's ability to physical function, mental and social awareness (Rezia et al., 2009).

CRP is a non-profitable organization in Bangladesh consisted of 100 beds for treating SCI patients. CRP is the only rehabilitation centre for the patient with SCI. CRP provides appropriate treatments such as medical, surgical and therapeutic. At CRP, patients get physiotherapy treatment not only for SCI and different neurological condition such as stroke, Parkinson disease, GBS (CRP Bangladesh, 2014).

The service is provided in both in-patients and out-patients. Physiotherapists in CRP are primary health care professionals so patients do not require a physician referral to visit a Physiotherapist. Physiotherapists at CRP have developed competency to perform differential diagnosis regarding each of the primary Physiotherapy areas including: Orthopedics, Neurology and Pediatrics. Over the years, CRP has developed its physiotherapy services through continuous professional developmental program. For having good international connection, standard of Physiotherapy practice and education offered by CRP are now world standard. Thousands of Patients have been benefited through receiving Physiotherapy from CRP. The Physiotherapy department has also launched a Sports Rehabilitation Unit and a Gymnasium. Specialist services are provided for the cases of stroke through Stroke Rehabilitation Unit. Critical and challenging patients' cares are provided by the clinical specialist once a week. Every year many people come to CRP after Stroke to take treatment. (Annual report of CRP, 2014).

SF-36 is one of the most commonly used scales worldwide. SF-36 includes 36 items and eight domains, namely, physical functioning (PF), role physical (RP), role emotional (RE), social functioning (SF), body pain (BP), general health (GH), vitality (VT), and mental health (MH). These scales are important for evaluating the health status of individuals. Compared with clinical diagnoses, these scales can help better characterize the physical, psychological, and functional states of individuals. (Liang et al., 2013)

SF-36 consists of eight scaled scores, which are the sum of the question in section. Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight (ware et al., 2000). In this study the scale 0-100 is subdivided into four section. Score 0-25 indicates very poor status, Score 26-50 indicates poor status, Score 51-75 indicates fair status and Score 76-100 indicates good status of all domains.

CHAPTER – III METHODOLOGY

This chapter represents the theoretical frameworks and analytical tools working to address the research objectives. Data requirements and data collection techniques employed are also discussed in this chapter. The aim of this chapter is to explore the research design according to the nature of this research purpose.

3.1 Study design

This study aimed to observe health related quality of life of stroke patient's after receiving rehabilitation service from specialized rehabilitation Centre. For this reason, a cross-sectional descriptive study design was used for the thesis. Researcher used this method so that the aim and objectives of the study can be fulfilled. This study design relatively inexpensive and takes up little time to conduct. Data can also be collected on individual characteristics, beside information about outcome. Levin (2006) stated that Cross-sectional studies are carried out at one-time point or over a short period. The objectives of the study demanded the association between demographic factors and quality of life, for this reason cross sectional study is the best way to find out the relation between those.

3.2 Study Site

Data were collected from the Neurological outpatient unit of Centre for the Rehabilitation of the Paralyzed (CRP) which is the largest rehabilitation centre for the Stroke patients in the Bangladesh.

3.3 Study Population

In this study the stroke people who have completed treatment at CRP was chosen as a sample population to carry out this study.

3.4 Sampling Technique

The study was conducted by using the convenience sampling methods because it was the easiest, cheapest and quicker method of sample selection (Bodnar et al., 2013). Through the convenience sampling procedure, it will be easy to get those subjects according to the criteria concerned with the study purpose.

3.5 Sample size:

The equation of sample size calculation is given below

$$n = \frac{Z^2 pq}{d^2}$$

Here,

n = sample size

Z = the standard normal deviation which is 1.96

P = expected prevalence which is 0.3 (Islam et al., 2013)

q = (1- p)

= (1- 0.3)

= 0.7

The actual sample size was, n= 323

As it is academic thesis, self-funding and data was collected from a single specialized hospital by considering the feasibility and time limitation due to Covid -19 lockdown situation 115 sample were selected conveniently.

3.6 Inclusion criteria

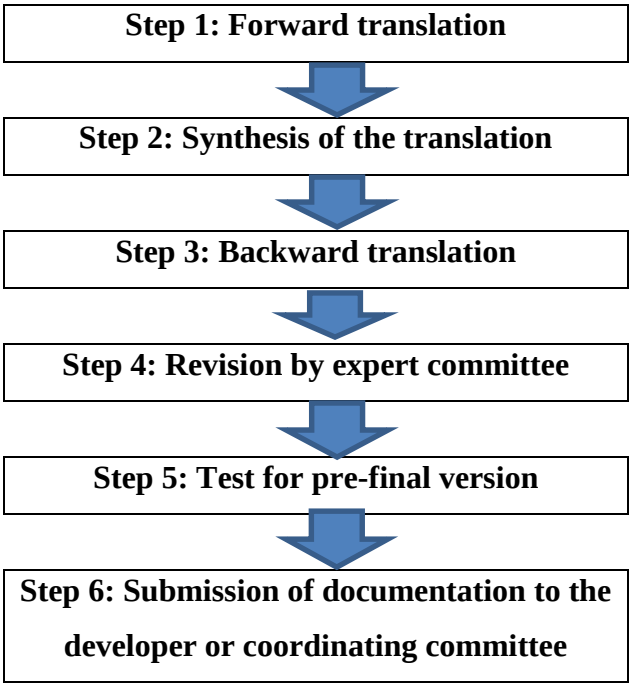
- Patient with stroke who have treated by a physiotherapist from CRP Neurology unit.
- Both male and female.
- Age range between 30-70 years.
- Duration of stroke at least 6 months.

3.7 Exclusion criteria

- Patient with cognitive problem.
- Patient suffering from serious pathological disease e.g. tumors, tuberculosis etc.
- Person who were not interested to attend the program at the time of data collection.

3.8 Data collection method and tools

In this study data were collected by using structured type questionnaire. There are three parts in the questionnaire – i) Personal Info ii) Patients personal physical information iii) Stroke and treatment related information
A pilot study would substantial before developing questionnaire.
Linguistic validation framework is given below-



(Nipa et al., 2019)

The forward translation was done by one undergraduate student of physiotherapy and one graduate physiotherapist. Both translators of forward translation compared their translation for synthesis and the researcher herself formed the third version of the translation. Then another undergraduate student of physiotherapy and one student of class 10 who is not related to this profession and both were also unaware of the real version of the questionnaire were invited to do the backward translation. After completing the backward translation a new harmonized translation was created by the expert committee that includes the supervisor of the researcher who is an lecturer of Department of Rehabilitation Science, both forward and backward translators, and the researcher. The pre-final Bengali version was tested through pilot study with 10 participants to ensure that the equivalence of adapted version remains stable in applied situation. For appraisal of the adaptation process, all the documents were submitted to the expert committee at the Centre for the Rehabilitation of the Paralysed (CRP) in order to verify the adaptation process. The linguistic validation process guideline was followed according to a research by Nipa et al., in 2019 which was done for the linguistic validation of Incontinence Severity Index (ISI) questionnaire in Bengali language.

SF-36 Questionnaire

The Short Form-36 (SF-36) is a 36 item questionnaire which measures Quality of Life (QOL) across eight domains, which are both physically and emotionally based and it is a structured, self-report questionnaire (Jenkinsonet al., 2014). The eight domains that the SF36 measures are as follows: physical functioning; role limitations due to physical health; role limitations due to emotional problems; energy/fatigue; emotional well-being; social functioning; pain; general health. It is the most widely used measures to predict health-related quality of life and it also help in showing the difference between subjects with variety of chronic conditions and between subjects with different level of severity of the same disease. The Test-retest reliability of sf-36 Bangla version has been tasted and the value of Test-retest reliability (.94-1.0) (Walton et al., 2012).

3.9 Data collection procedure

Data was collected from 01.06.2021 to 30.09.2021. At first the researcher had to find out the people with stroke who had discharged from CRP by taking permission from the ethical body of BHPI. Those participants of the research had to fulfilled inclusion. Data was collected by the questionnaire via phone call. The investigator stated about the conduct of particular in this study through phone call. Researcher accepted a verbal consent from every participant. In the questionnaire, there was participant's demographic information including Demographic information included age, sex, educational level, marital status, previous occupation, new job along with questionnaire of SF-36.

3.10 Duration of data collection

Data was collected carefully and confidentiality and maintained all ethical considerations. The researcher gave each participant a particular time to collect the data. Each questionnaire took approximately 15-20 minutes to complete.

3.11 Data analysis

After complete the initial data collection, every questionnaire was check again to find out any mistake or unclear information. Then data was analyzed through Statistical package of social science (SPSS) version 20 and data was levelled in Microsoft Excel work sheet and arranged in results. Then data was analyzed through descriptive statistics for find out the P value and chi square for association and level of significance between the socio demographic factors and domains of sf-36 as well as calculated as a percentages and presented by table, bar graph and pie charts etc. Microsoft office Excel 2013 is used to decorating the bar graph, pie charts and table. Chi square ($\chi 2$) Test is the most popular discrete data hypothesis testing method. It is a non-parametric test of statistical significance for bivariate tabular analysis with a contingency table. In this study Chi square ($\chi 2$) test was done to measure the associations between two variables. It was used to test the statistical significance of results reported in bivariate tables.

3.12 Ethical considerations

The proposal of the study was approved by IRB (Institutional Review Board) of BHPI (Bangladesh Health Professions Institute). The study had done by following the guide line given by local ethical review committee and also followed WHO and BMRC (Bangladesh Medical and Research Council) guidelines. Researcher maintained the confidentiality and all the interviews were taken in a confidential to maximize the participant's comfort and feelings of security.

3.13 Rigor of the study

The rigorous manner was maintained to conduct the study. The study was conducted in a clean and systemic way. During the data collection it was ensured participants were not influenced by experience. The answer was accepted whether they were in negative or positive impression. No leading questions were asked or no important questions were avoided. The participant information was coded accurately and checked by the supervisor to eliminate any possible errors. The entire information was handled with confidentiality. In the result section, outcome was not influenced by showing any personal interpretation. Every section of the study was checked and rechecked by the research supervisor.

CHAPTER – IV RESULTS

In the present study, HRQoL was assessed by using SF-36 among the stroke patients after receiving rehabilitation service from specialized rehabilitation Centre. The total number of participants was 115.

4.1 Socio demographic characteristic of stroke patients

4.1 Age Group of the participants

From the distribution of data, it was determined that the majority of the respondents, 35%(n= 40) were within the range of years of age 41-50. The second highest rate respondents 28%(n= 32) were within the age group of 51-60 years of age. The third highest age group was 61-70 years of age was 21%(n= 24). Only 16% respondents were within the age group of 30-40 years of age.

The minimum age range of participants was 30 and maximum age was 70.

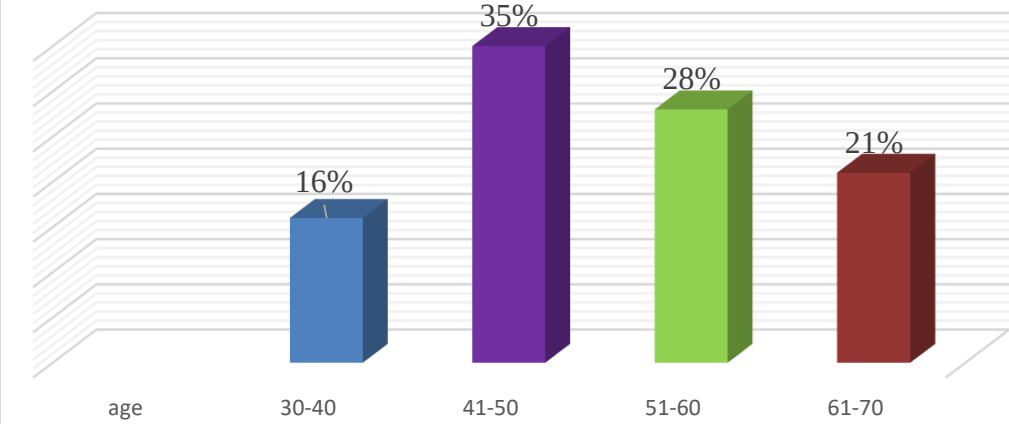


Figure 1: Age group of the Respondents

4.2 Gender of the participants

From the distribution of data, it was determined that the majority of the respondents, were male 65%(n= 74) and 35%(n= 41) were female.

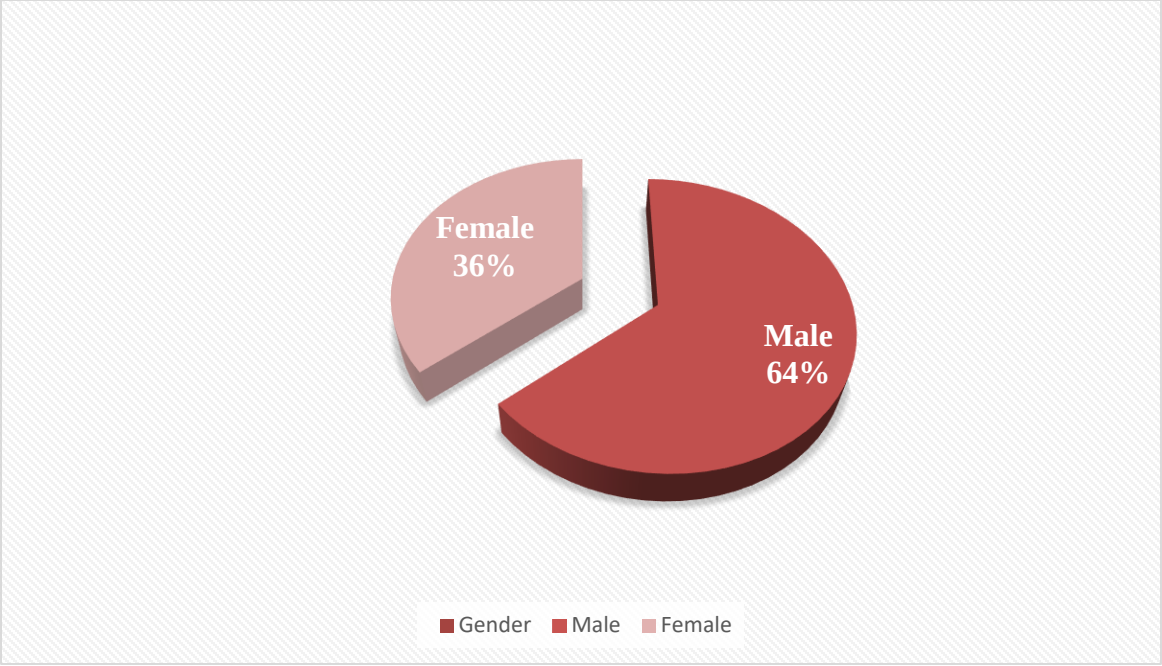


Figure 2: Gender of the Respondents

4.3 Family History of the participants

From the distribution of data, it was determined that among the 115 participants 48% (n=55) patients have family history of stroke and 52% (n=60) patients have no family history of stroke.

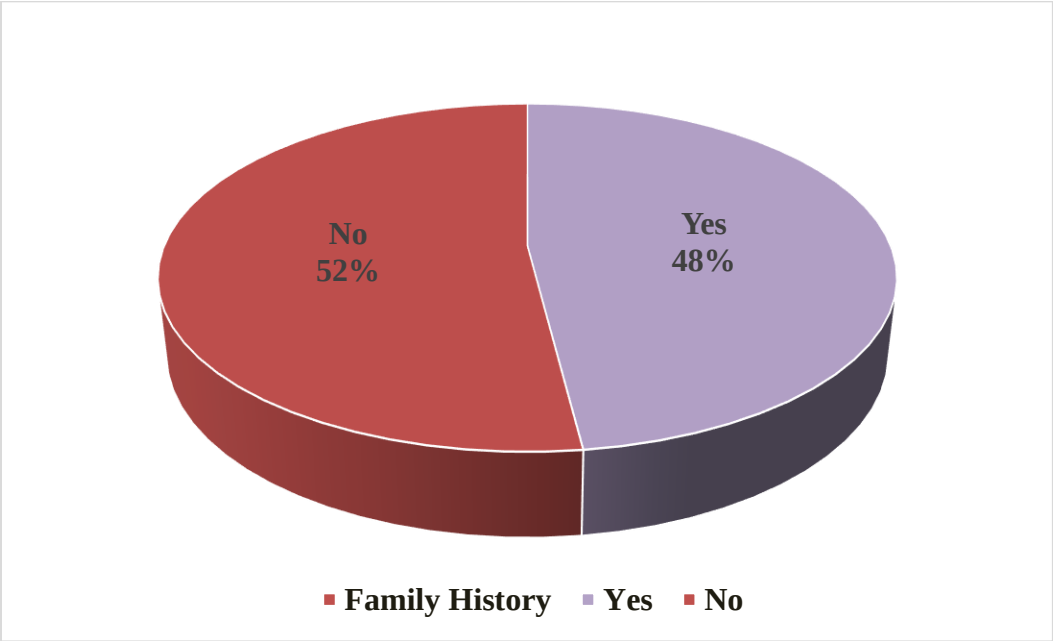


Figure 3: Family history of the participants

4.4 Participants Characteristics at a glance

Table 1: Socio-Demographic Characteristics of the participants

Characteristics	n (%)	Characteristics	n (%)
Age Group		**Occupation**	
30-40 years	19(16%)	Govt. job	10(8.7%)
41-50 years	40(35%)	Non Govt. job	12(10.7%)
51-60 years	32(28%)	Others	93(80.9%)
61-70 years	24(21%)	**Living Place**	
Gender		Rural Area	35(47.7%)
Male	74(64.3%)	Semi- urban Area	22(19.1%)
Female	41(35.7%)	Urban Area	38(33%)
Marital Status		**Educational Status**	
Married	97(84.3%)	No Formal Education	9(7.8%)
Unmarried	01(0.9%)	Primary education	20(17.4%)
Widow	17(14.8%)	Secondary Education	10(8.7%)
Type of stroke		Higher Education	48(41.7%)
Ischemic	63(54.8%)	Bachelor degree or above	28(24.3%)
Hemorrhagic	52(45.2%)	**Taking Cigarette per day**	
Affected side		No smoking	75(65.2%)
Right	56(48.7%)	5-10	10(8.7%)
Left	59(51.3%)	10-20	30(26.1%)
Smoking			
Yes	39(33.9%)		
No	76(66.1%)		

Among the 115 participants, it was determined that the majority of the respondents, 35%(n= 40) were within the range of years of age 41-50. The second highest rate respondents 28%(n= 32) were within the age group of 51-60 years of age. The third highest age group was 61-70 years of age was 21%(n= 24). Only 16% respondents were within the age group of 30-40 years of age. Here most of them were men 65%(n= 74) and 35%(n= 41) were women. Among the participants almost 84.3%(n= 97) were married, 0.9% (n=1) were unmarried and 14.8%(17) were widow. Among the 115 participants 8.7%(n= 10) were involved with govt. job and 10.7%(n= 12) were involve with non govt. job and 80.9%(n= 93) were involved with other professions. The data identified that among the total participants, the highest number of participants were from urban area. It had been observed that the percentage of participants from urban area was 33%(n= 38). The second highest were from rural area which was about 47.7% (n= 35) and the third highest of the participants were from semi-urban area which was 19.1% (n= 22). Among the 115 participants, 7.8% (n=9) were illiterate, 17.4% (n=20) were primary level, 8.7% (n=10) were completed their S.S.C level, 41.7% (n= 48) completed higher education and 24.3% (n=28) of the participants were completed their bachelor degree or above. From the distribution of data, it was determined that among the 115 participants 48% (n=55) patients have family history of stroke and 52% (n=60) patients have no family history of stroke. Among the 115 participants 63(54.8%) were attacked by ischemic stroke and 52(45.2%) were attacked by hemorrhagic stroke. And 56(48.7%) were right sided hemiplegic and 59(51.3%) were left sided hemiplegic. Among the total participants 50(43.5%) were affected by HTN, 5(4.3%) were affected by diabetes, 49(42.6%) were affected by HTN and diabetes mellitus. 5(4.3%) were affected by heart disease. 39(33.9%) participants were smoker. Among them 10(8.7%) participants taking 5-10 cigarrete per/day and 30(26.1%) participants taking 10-20 cigerrete per/day. 76(66.1%) participants were nonsmoker.

4.5 Past Medical history of the participants

The study showed that 50(43.5%) patients were affected by hypertension, 5(4.3%) patients were affected by diabetes mellitus, 49(42.6%) patients were affected by hypertension and diabetes mellitus. 6(5.2%) patients were affected by hypertension and heart disease. 5(4.3%) patients were affected by hypertension, diabetes mellitus and heart disease.

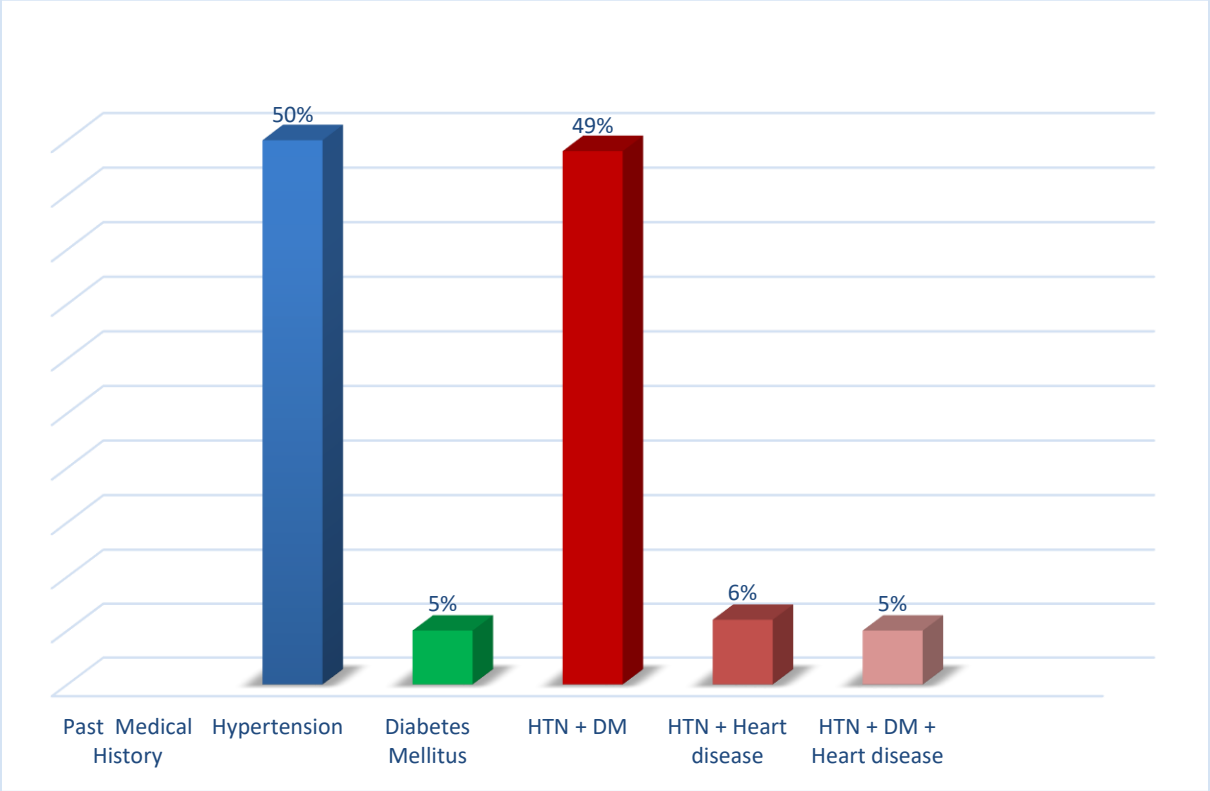


Figure 4: Past medical history of the participants

4.6 Physical Impairment Due to stroke

Analysis showed that 13(11.3%) stroke patients have speech difficulties. 14(12.2%) stroke patients have hearing difficulties and 88(76.5%) stroke patients have balance and coordination problem.

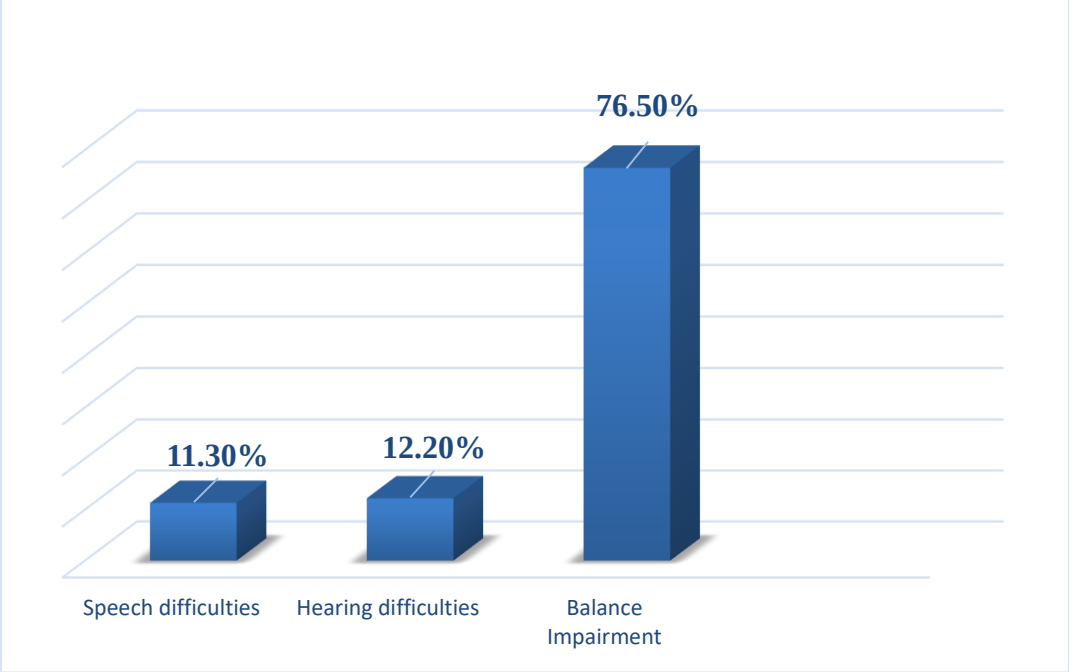


Figure 5: Physical impairment due to stroke

4.7 SF-36 Scoring among the respondents

Table 2: HRQoL status among the respondents as per SF- 36

Scale	Minimum	Maximum	Mean	Std. Deviation
Physical function	2	3	2.23	0.426
Role physical health	2	3	2.18	0.388
Role emotional	2	3	2.63	0.486
Vitality	2	3	2.56	0.499
Mental health	2	3	2.41	0.494
Social functioning	3	4	3.26	0.441
Bodily pain	2	3	2.82	0.388
General health	2	3	2.37	0.484

SF-36 consists of eight scaled scores, which are the sum of the question in section. Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight (ware et al., 2000). In this study the scale 0-100 is subdivided into four section. Score 1= (0-25) indicates very poor status, Score 2= (26-50) indicates poor status, Score 3= (51-75) indicates fair status and Score 4= (76-100) indicates good status of all domains. The SF 36 consists of eight scaled scores, which are the sums of the questions in their section. This data was also analyzed by using SPSS version 20. From 115 participants the minimum & maximum percentage of physical functioning was 2% & 3%, role limitation due to physical health was 2% & 3%, mental health was 2% & 3%, energy or fatigue was 2% & 3%, emotional wellbeing was 2% & 3%, social functioning was 3% & 4%, pain was 2% & 3%, general health was 2% & 3%. And from these section, the mean score of physical functioning was 2.23%, role limitation due to physical health was 2.18%, mental health 2.41%, energy or fatigue was 2.56%, emotional well-being was 2.63%, social functioning was 3.26%, pain was 2.82%, and lastly general health was 2.37%. And standard deviation of PF was 0.426%, RP was 0.388%, RE was 0.486%, VT was .499%, MH was 0.494%, SF was 0.441%, BP was 0.388%, and GH was 0.484%.%. When the score is near about 100, like 70,80,90, it means the quality of life of Survivors is good & when the score is poor like 30,40, it means the quality of life of Survivors is poor. So among the participants their physical health quality of life was poor and mental health quality of life was fair.

4.7 Physical Functioning

In SF-36 the domain physical functioning includes Vigorous activities, Moderate activities, carrying heavy object, climb several stair, Climb one stair, Forward bending, Walking more than a kilometer, Walking several hundred kilometer, Walking one hundred kilometer, Personal care. In this study, total participants were 115 and among them 100% (n=115) scored <50 at an average out of 100 which indicates poor physical functioning in the SF dimensions. Among the total participants 88(n=76.5%) stroke patients have poor physical functioning.27(n=23.5%) stroke patients have fair physical functioning.

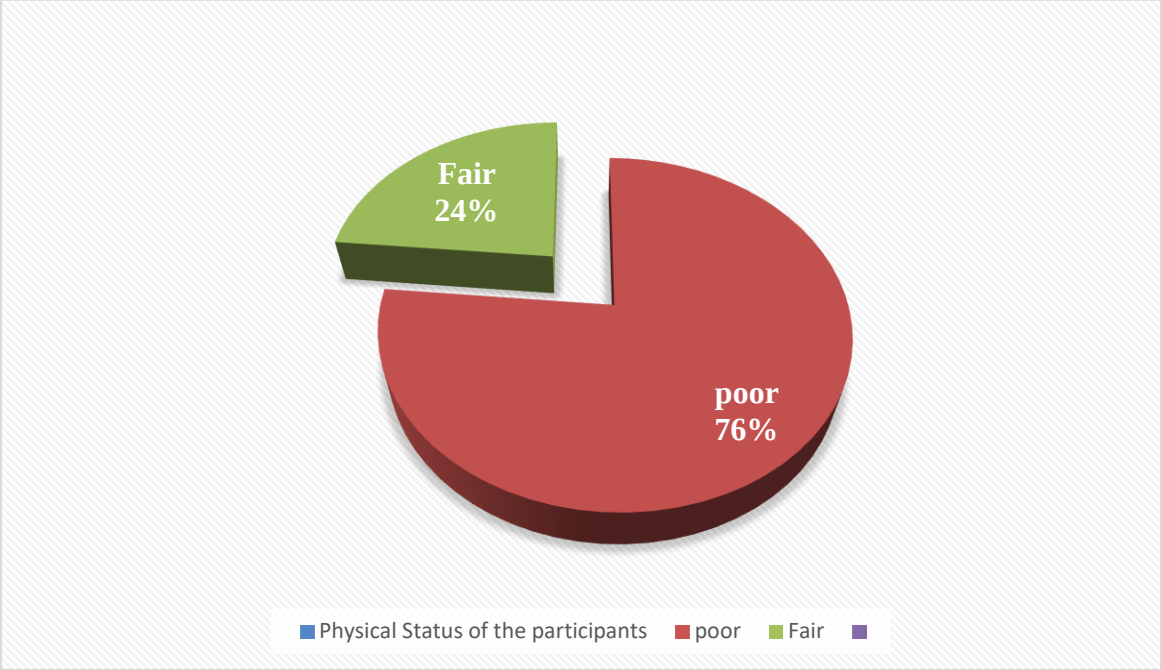


Figure 6: Physical Functioning of the participants

4.8 Mental health status of the participants

Among the 115 participants, 59%(n= 68) scored less than 50 at an average out of 100 which indicates Poor mental health. 41%(n= 47) stroke patients have Fair mental health through the short form-36 scoring system.

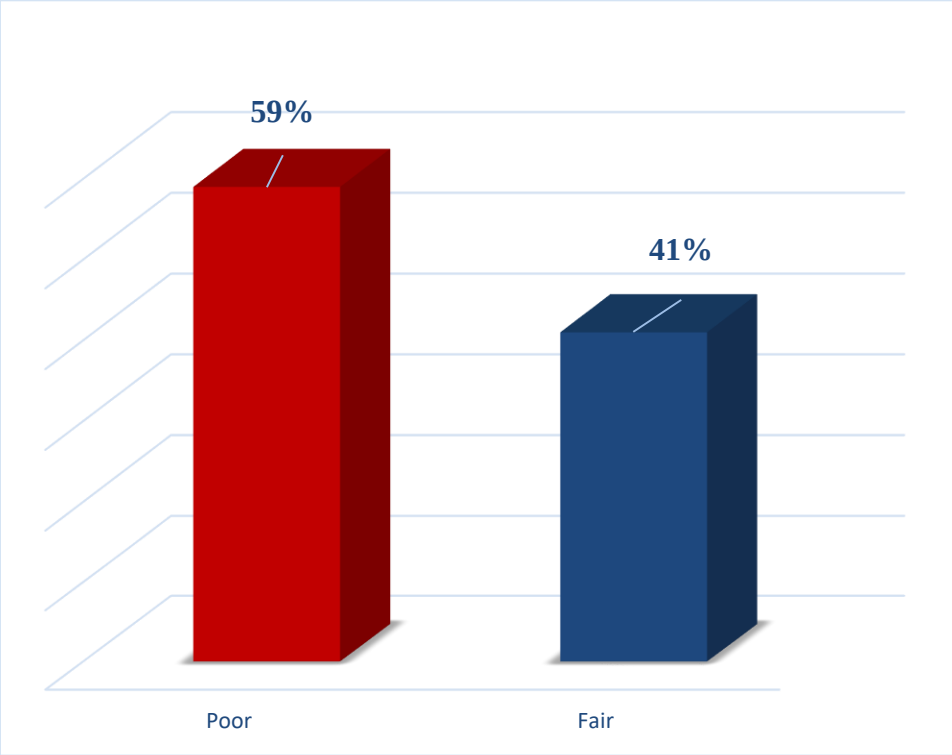


Figure: Mental health of the participants

4.9 Social functioning of the participants

Among the 115 participants, 74%(n=85) stroke patients have Fair social functioning. 26%(n=30) patients have Good social functioning through the short form-36 scoring system.

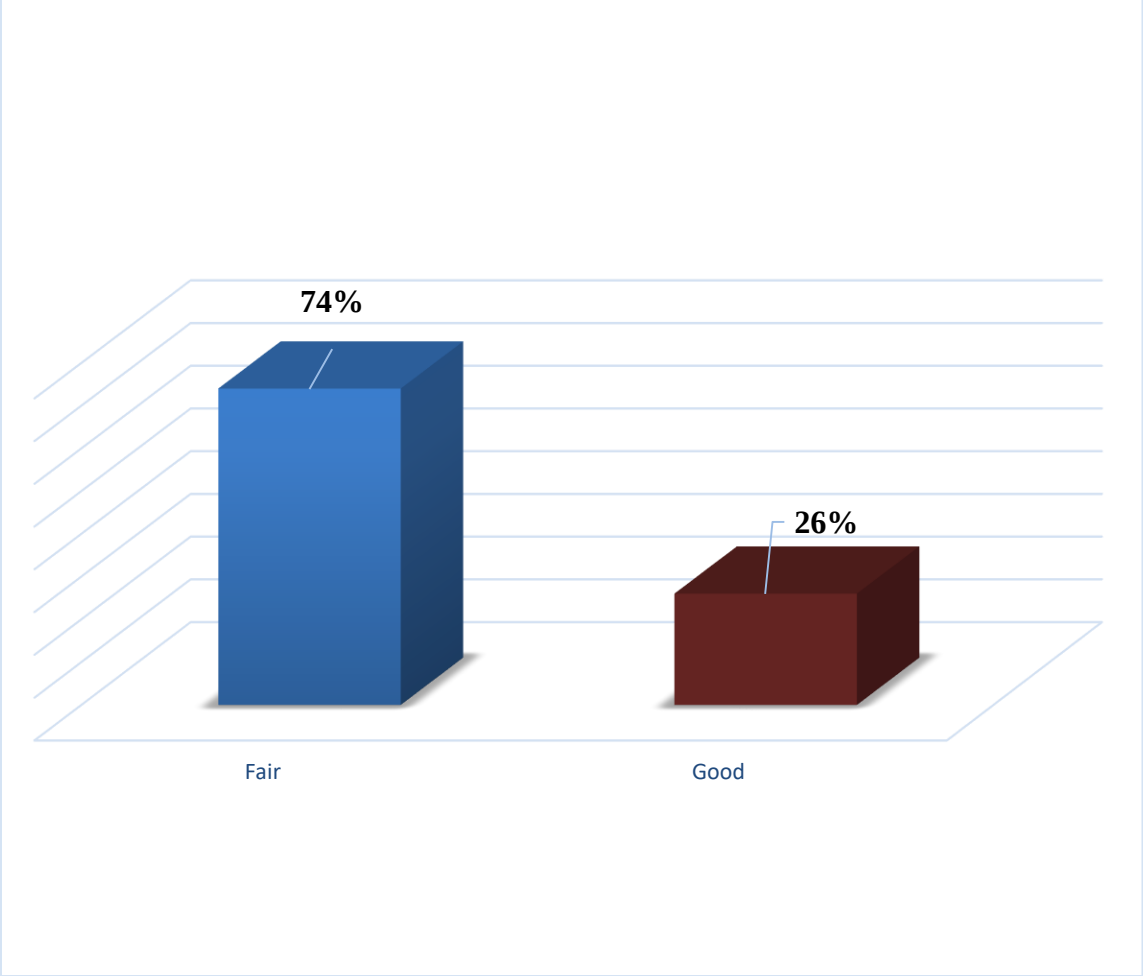


Figure: Social Functioning of the participants

4.10 Association between Socio-Demographic factors (Age) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (age) with the eight domains of SF-36.

Table 3: Association between Age and eight domains of SF-36

Age	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
30-40 years (n=19)	Physical functioning	8.297	0.040*
	Physical Health	26.306	0.195
41-50 years (n=40)	Mental Health	27.071	0.078
	Energy	32.457	0.116
51-60 years (n=32)	Emotion	23.430	0.797
	Social Functioning	15.525	0.626
61-70 years (n=24)	Pain	18.466	0.239
	General Health	27.134	0.166

P values less than or equal to .05 were considered statistically significant

Among the 115 participants, association had been found between age of the participants and physical functioning which was statistically significant ($P < 0.040$) ; Association found between Age of the participants and mental health which was closely statistically significant ($P > 0.078$); No association found between Age of the participants and physical health which was not statistically significant ($P > 0.195$). No association found between Age of the participants and energy which was not statistically significant ($P > 0.116$) ; No association found between Age of the participants and emotion which was not statistically significant ($P > 0.797$). No association found between Age of the participants and social functioning which was not statistically significant ($P > 0.626$); No association found between Age of the participants and bodily pain which was not statistically significant ($P > 0.239$). No association found between Age of the participants and general health which was not significant ($P >0.166$).

So, among all the components of SF-36 questionnaire, Association had been found between age of the participants and physical functioning and general health. No association had been found between age of the participants and components of SF-36 (Physical health, Mental health, Vitality, Role emotional, Social functioning and bodily pain).

4.11 Association between Socio-Demographic factors (Gender) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (Gender) with

the eight domains of SF-36.

Table 4: Association between Gender and eight domains of SF-36

Gender of the participants	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
Male	Physical functioning	15.819	0.105
	Physical Health	10.251	0.175
	Mental Health	7.514	0.276
	Energy	3.737	0.880
Female	Emotion	3.401	0.970
	Social Functioning	3.510	0.743
	Pain	11.393	0.044*
	General Health	6.448	0.488

P values less than or equal to .05 were considered statistically significant

Among the 115 participants, association had been found between gender of the participants and bodily pain (P < 0.04). P values less than or equal to .05 were considered statistically significant. In this study, no association had been found between gender of the participants and Physical functioning (P > 0.105). No association had been found between gender of the participants and Physical health (P > 0.175). No association had been found between gender of the participants and Mental health (P > 0.276). No association had been found between gender of the participants and Energy (P > 0.880). No association had been found between gender of the participants and Emotion (P >0.970). No association had been found between gender of the participants and Social functioning (P > 0.743). No association had been found between gender of the participants and General Health (P > 0.488).

So, no association had been found between gender of the participants and components of SF-36 (Physical functioning, Role Physical, General Health, Vitality, Social Functioning, Role Emotional, Mental Health).

4.12 Association between Socio-Demographic factors (family history) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (Family history) with the eight domains of SF-36.

Table 5: Association between Family History and eight domains of SF-36

Family history	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
Yes (n=55)	Physical functioning	5.019	0.025*
	Physical Health	0.000	0.983
	Mental Health	2.892	0.089
	Energy	4.104	0.043*
No (n=60)	Emotion	0.980	0.322
	Social Functioning	1.271	0.260
	Pain	2.163	0.141
	General Health	0.550	0.458

P values less than or equal to .05 were considered statistically significant

Association found between family history of the participants and physical functioning which was statistically significant (P < 0.025) ; Association found between family history of the participants and vitality which was statistically significant (P < 0.043); Association found between family history of the participants and mental health which was closely statistically significant (P < 0.089) ; No association found between family history of the participants and social functioning which was not statistically significant (P > 0.260) ; No association found between family history of the participants and Role emotional which was not statistically significant (P < 0.322) ; No association found between family history of the participants and role physical which was not statistically significant (P> 0.983). No association found between family history of the participants and general health which was not statistically significant (P < 0.458); No association found between family history of the participants and bodily pain which was not statistically significant (P < 0.141).

So, among all the components of SF-36 questionnaire, association had been found between family history of the participants and physical functioning and vitality. No association found between family history and components of SF-36 (General health, mental health, Vitality, Role emotional, role physical and bodily pain).

4.13 Association between Socio-Demographic factors (past medical history) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (past medical history) with the eight domains of sf-36.

Table 6: Association between PMH and eight domains of SF-36

Family history	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
Hypertension	Physical functioning	40.98	0.814
DM	Physical Health	22.88	0.943
HTN + DM	Mental Health	37.36	0.167
HTN + Heart disease	Energy	36.66	0.621
HTN + DM & Heart disease	Emotion	36.35	0.926
	Social Functioning	20.58	0.901
	Pain	12.24	0.985
	General Health	64.41	0.002*

P values less than or equal to .05 were considered statistically significant

Among the 115 participants, association had been found between past medical history of the participants and general health (P< 0.002). P values less than or equal to .05 were considered statistically significant. No association had been found between past medical history of the participants and Physical functioning (P > 0.814). No association had been found between past medical history of the participants and Physical health (P > 0.943). No association had been found between past medical history of the participants and Mental health (P > 0.167). No association had been found between past medical history of the participants and Energy (P > 0.621). No association had been found between past medical history of the participants and Emotion (P > 0.926). No association had been found between past medical history of the participants and Social functioning (P> 0.901). No association had been found between past medical history of the participants and Bodily Pain (P > 0.985).

So, no association had been found between past medical history of the participants and components of SF-36 (Physical functioning, Role Physical, Bodily Pain, Vitality, Social Functioning, Role Emotional, Mental Health).

4.14 Association between Socio-Demographic factors (Type of stroke) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (type of stroke) with the eight domains of sf-36.

Table 7: Association between Type of Stroke and eight domains of SF-36

Type of stroke	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
Ischemic	Physical Functioning	10.741	0.378
	Physical Health	4.561	0.713
	Mental Health	5.355	0.499
	Energy	12.682	0.123
Hemorrhagic	Emotion	10.459	0.401
	Social Functioning	2.779	0.836
	Pain	7.321	0.198
	General Health	8.189	0.316

P values less than or equal to .05 were considered statistically significant

Among the 115 participants, no association had been found between type of stroke of the participants and Physical functioning (P > 0.378). No association had been found between type of stroke of the participants and Physical health (P > 0.713). No association had been found between type of stroke of the participants and Mental health (P > 0.499). No association had been found between type of stroke of the participants and Energy (P > 0.123). No association had been found between type of stroke of the participants and Emotion (P > 0.401). No association had been found between type of stroke of the participants and Social functioning (P > 0.836). No association had been found between type of stroke of the participants and Bodily Pain (P > 0.198). No association had been found between type of stroke of the participants and General Health (P > 0.316).

So, no association had been found between type of stroke of the participants and components of SF-36 (Physical functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional, Mental Health).

4.15 Association between Socio-Demographic factors (Affected side) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (affected side) with the eight domains of sf-36.

Table 8: Association between Affected Side and eight domains of SF-36

Affected side	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
Right (n=56)	Physical functioning	3.990	0.948
	Physical Health	3.948	0.780
	Mental Health	5.237	0.514
	Energy	10.20	0.251
Left (n=59)	Emotion	10.56	0.392
	Social Functioning	2.058	0.914
	Pain	5.921	0.314
	General Health	11.199	0.130

P values less than or equal to .05 were considered statistically significant

Among the 115 participants, no association had been found between affected side of the participants and Physical Functioning (P > 0.948). No association had been found between affected side of the participants and Physical health (P > 0.780). No association had been found between type affected side of the participants and Mental health (P > 0.514). No association had been found between affected side of the participants and Energy (P > 0.251). No association had been found between affected side of the participants and Emotion (P > 0.392). No association had been found between affected side of the participants and Social Functioning (P > 0.914), No association had been found between affected side of the participants and Bodily Pain (P > 0.314). No association had been found between affected side of the participants and General Health (P > 0.130).

So, no association had been found between affected side of stroke of the participants and components of SF-36 (Physical functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional, Mental Health).

4.16 Association between Socio-Demographic factors (Physical impairment) with eight domains of SF-36:

The Chi-Square Test was performed between the socio-demographic factors (Physical impairment) with the eight domains of sf-36.

Table 9: Association between Physical Impairment and eight domains of SF-36

Physical Impairment	Component of SF-36v2	Chi-square value ($\chi 2$)	P-value
Speech Difficulties (n= 13)	Physical functioning	16.247	0.701
Hearing Difficulties (n= 14)	Physical Health	21.252	0.095
Balance Impairment (n= 88)	Mental Health	10.625	0.561
	Energy	29.530	0.021*
	Emotion	20.633	0.419
	Social Functioning	12.602	0.399
	Pain	9.617	0.475
	General Health	12.581	0.560

P values less than or equal to .05 were considered statistically significant

Among the 115 participants, association found between Physical impairments due to stroke of the participants and vitality which was statistically significant ($P < 0.021$). The other components of SF-36 was Physical functioning ($P > 0.701$), Physical health ($P > 0.095$), Mental health ($P > 0.561$), Emotion ($P > 0.419$), Social functioning ($P> 0.399$), Bodily Pain ($P > 0.475$), General Health ($P > 0.560$) which is more than the significant P-value.

So, among all the components of SF-36, Association had been found between Physical impairment due to stroke of the participants and vitality of the participants. No association had been found between physical impairment due to stroke of the participants and component of SF-36 (Physical functioning, Physical health, Mental health, Role emotional, Social functioning, bodily pain and general health).

4.17 Distribution of the respondents of association between physical health of the participants and mental health of the participants

The Chi-Square Test was performed between physical health and mental health of the participants.

Table 10: Association between physical health and mental health

Component	Chi-square value ($\chi 2$)	P-value
physical health	94.00	0.00*
Mental health		

P values less than or equal to .05 were considered statistically significant

In this study, total participants were 115 and among them 100% (n=115) scored <50 at an average out of 100 which indicates poor physical health in the SF dimensions. Among the total participants 81.7%(n=94) stroke patients have poor physical health and18.3% (n=21) stroke patients have fair physical health. Among the 115 participants, 59%(n=68) scored less than 50 at an average out of 100 which indicates Poor mental health and 41%(n=47) stroke patients have Fair mental health through the short form-36 scoring system. Here chi- Square test was done to determine the association between physical health and mental health. Here the observed chi-square value was 94.00 and P value was 0.00 which is less than 0.05. So the result was highly significant that indicate that there had been strong association between physical health and mental health.

4.18 Distribution of the respondents of association between physical health of the participants and social functioning of the participants

The Chi-Square Test was performed between physical health and social functioning of the participants.

Table 11: Association between physical health and social functioning

Component	Chi-square value ($\chi 2$)	P-value
physical health Social functioning	63.91	0.016*

P values less than or equal to .05 were considered statistically significant

In this study, total participants were 115 and among them 100% (n=115) scored <50 at an average out of 100 which indicates poor physical health in the SF dimensions. Among the total participants 81.7%(n=94) stroke patients have poor physical health and18.3% (n=21) stroke patients have fair physical health. Among the 115 participants, 74%(n=85) stroke patients have Fair social functioning. 26%(n=30) patients have Good social functioning through the short form-36 scoring system. Here chi- Square test was done to determine the association between physical health and mental health. Here the observed chi-square value was 63.91 and P value was 0.016 which is less than 0.05. So the result was significant that indicate there had been strong association between physical health and social functioning

4.19 Distribution of the respondents of association between mental health of the participants and social functioning of the participants

The Chi-Square Test was performed between mental health and social functioning of the participants.

Table 12: Association between mental health and social functioning

Component	Chi-square value ($\chi 2$)	P-value
Mental health Social functioning	55.79	0.019*

P values less than or equal to .05 were considered statistically significant

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Among the 115 participants, 19%(n=22) scored less than 50 at an average out of 100 which indicates Poor mental health and 81%(n=93) stroke patients have Fair mental health. From the distribution of data, 74%(n=85) stroke patients have Fair social functioning and 26%(n=30) patients have Good social functioning through the short form-36 scoring system. Here chi- Square test was done to determine the association between physical health and mental health. Here the observed chi-square value was 55.79 and P value was 0.019 which is less than 0.05. So the result was significant that indicate there had been strong association between mental health and social functioning.

CHAPTER – V DISCUSSION

The objectives of the study were to find out the health related quality of life of stroke patient's after receiving rehabilitation service from specialized rehabilitation Centre. In this study almost 35% of the participants were age group 41-50 years. In here highest age of the participants was 70 and lowest age was 30. Among these participants below 50 years was 51% and more than 50 years was 49%. In this study 65%(n=74) were male and 35%(n=41) were female.

In Germany, a study by Foerch et al. (2009) found that mean age was 74 years and 20% of the participants were below 64 years and 73% were more than 74 years. Hossain et al. (2011) has mentioned in their study in Bangladesh found that peak incidence was between 51 to 70 years (69%). In this Analysis almost 71% of the participants were male and 29% were female. Another study by Mondol et al. (2012) in Bangladesh stated that male patients were 73.4% and female were 26.6%.

In this study we found no formal education in 9(7.8%) participants, Primary education in 20(17.4%) participants, 10(8.7%) of them were SSC passed, 48(41.7%) of them were HSC passed and the other 28(24.3%) participants were Bachelor degree or above passed. A cross sectional study which was conducted by Hossain et al. (2011) in Bangladesh found that 31% patients received schooling, 19% patients received college education, only 13% went to university or similar institution and only 37% were never attended school.

Analysis stated that almost 97(84.3%) participants were married, 01(0.9%) were unmarried and 17(14.8%) were widow.10(8.7%) of them were Service holder, 12(10.4%) of them were housewife, 93(80.9%) of them were businessman and other profession. In a study by Hossain et al. (2011) in Bangladesh found that 17% patients were businessman, 16% were housewife and his study showed that 79% affected parson were working force of our society which indicate a serious impact on the families of the sufferers.

The study showed that 38(33%) participants came from urban area, 22(19.1%) from semi urban and 35(47.7%) were from rural area. Analysis showed that 55 (48%) participants

have family history of stroke and 60(52%) has no family history. 50(43.5%) patients were affected by HTN, 5(4.3%) patients were affected by diabetes, 49(42.6%) were affected by HTN and diabetes mellitus. 5(4.3%) were affected by heart disease. 39(33.9%) participants were smoker. Among them 10(8.7%) participants taking 5-10 cigarrete per/day and 30(26.1%) participants taking 10-20 cigerrete per/day. 76(66.1%) participants were nonsmoker. 63(54.8%) participants were attacked by ischemic stroke and 52(45.2%) participants were attacked by hemorrhagic stroke. And 56(48.7%) were right sided hemiplegic and 59(51.3%) were left sided hemiplegic.

In another study Hossain et al. (2011) mentioned that 63% HTN, 21% were diabetics and 12% were serum cholesterol problem. Another study by Mondol et al. (2012) found that 56.7% were affected by hypertension, diabetics was the next common entry 23%, ischemic heart disease was 17.7%, dyslipidemia was 5.1%, rheumatologic condition 6.6%, respiratory disease 3.6% chronic kidney disease 2.4%, electric imbalance 1.2%, dementia 1.2% and malignancy 0.2%. The high percentage of irregularly treated patients in all the studies seems to be due to lack of adequate knowledge or motivation for continuous treatment of hypertension.

A study by Nayeem et al. (2010) in Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka found that 44% patients have smoking habit. These study shows 87% were ischemic and 13% were hemorrhagic stroke among participant. Other study Hossain et al. (2011) stated that 61% were ischemic and 39% were hemorrhagic stroke at Faridpur medical college, Bangladesh. And also mentioned that higher rate of hemorrhagic stroke is also found in number of hospitals in Asian countries such as Singapore, Malaysia (33%) Thailand (30%),37 Korea (31%), Taiwan (31%). One of the cause of high incidence of hemorrhagic stroke in this hospital may be due to the acute admission is more related to hemorrhagic stroke.

In a study they took 144 stroke patients. The majority were men (90 patients, 62.5%). Their mean age was 65.10 ±11.56 years. 85 (59%) and 59 (41%) patients had hemiparesis on the right and left sides, respectively. The stroke types included ischemic (131 patients, 91%) and hemorrhagic (13 patients, 9%). Tobacco and alcohol use were reported by 60 (41%) and 38 (26%) patients, respectively (Aydin et al., 2016).

In this study, for the eight subscales, total scores may range from 0 to 100. Each scales ranging from 0 (presence all problems) to 100 (no problems at all) with in the dimension (Roux et al., 2004). The physical component summery scores mean of physical functioning (2.23), Role of physical (2.18), Bodily pain (2.82), General health (2.37) and the mental component summery score is vitality (2.56), social functioning (3.26), Role emotional (2.63) and mental health (2.41). The lowest score indicate the poor quality of life and highest score indicate the good quality of life.

The physical functioning domain assesses limitations in physical activities such as walking and climbing stairs. In SF-36 the domain physical functioning includes Vigorous activities, Moderate activities, Carrying heavy object, Climb several stair, Climb one stair, Forward bending, Walking more than a kilometer, Walking several hundred kilometer, Walking one hundred kilometer, Personal care. In this study, total participants were 115 and among them 88(n=76.5%) stroke patients have poor physical functioning and 27(n=23.5%) stroke patients have fair physical functioning. Here maximum physical functioning is 3% and minimum physical functioning is 2% and mean and standard deviation is 2.23 and 0.426.

In SF-36 the domain mental health includes nervous, peaceful, depressed and happy. Among the 115 participants, 19%(n=22) scored less than 50 at an average out of 100 which indicates Poor mental health. 81%(n=93) stroke patients have Fair mental health through the short form-36 scoring system. Here maximum mental health status of the participants is 3% and minimum mental health status of the participants is 2% and mean and standard deviation is 2.41 and 0.494.

The social functioning domain examines the effect of physical and emotional health on normal social activities. In SF-36 the domain social functioning includes social extent and social time. Among the 115 participants, 74%(n=85) stroke patients have Fair social functioning. 26%(n=30) patients have Good social functioning through the short form-36 scoring system. Here maximum social functioning of the participants is 4% and minimum physical functioning of the participants is 3% and mean and standard deviation is 3.26 and 0.441.

Association between socio-demographic factors (age, gender, occupation) and overall HRQOL of life:

Among the 115 participants, association had been found between age of the participants and physical functioning which was statistically significant (P < 0.040); Association found between Age of the participants and mental health which was closely statistically significant (P > 0.078); No association found between Age of the participants and physical health which was not statistically significant (P > 0.195). No association found between Age of the participants and energy which was not statistically significant (P > 0.116); No association found between Age of the participants and emotion which was not statistically significant (P > 0.797). No association found between Age of the participants and social functioning which was not statistically significant (P > 0.626); No association found between Age of the participants and bodily pain which was not statistically significant (P > 0.239). No association found between Age of the participants and general health which was not significant (P >0.166). So, among all the components of SF-36 questionnaire, Association had been found between age of the participants and physical functioning and general health. No association had been found between age of the participants and components of SF-36 (Physical health, Mental health, Vitality, Role emotional, Social functioning and bodily pain).

A study by Gurcay et al., (2009) mentioned that they took 67 post stroke survivors age ranged from between 33 to 81 years. Among them 36 (53.7%) were male and Female 31 (46.35%). In this study the researcher HRQOL was measured by Stroke Impact Scale-16 (SIS-16). Linear regression analysis showed that age was the major independent determinants affecting HRQOL (P < .002). In this study, we found that age had a powerful influence on HRQOL.

Among the 115 participants, association had been found between gender of the participants and bodily pain of the participants. In this study the observed P- Value was Physical functioning (P > 0.105), Physical health (P > 0.175), Mental health (P > 0.276), Energy (P > 0.880), Emotion (P >0.970), Social functioning (P > 0.743), Bodily Pain (P< 0.044), General Health (P > 0.488) which is more than the significant P-value. So, no association had been found between gender of the participants and components of SF-36

(Physical functioning, Role Physical, General Health, Vitality, Social Functioning, Role Emotional, Mental Health.

A study by Gurcay et al., (2009) mention that they took 67 post stroke survivors age ranged from between 33 to 81 years. Among them 36 (53.7%) were male and Female 31 (46.35%). In this study the researcher HRQOL was measured by Stroke Impact Scale-16 (SIS-16) and the result was (P > .683). That means no significant association between gender of the participants and HRQOL.

Association between stroke related factors (family history, past medical history, type of stroke, affected side) and overall HRQOL of life:

Association found between family history of the participants and physical functioning which was statistically significant (P < 0.025) ; Association found between family history of the participants and vitality which was statistically significant (P < 0.043); Association found between family history of the participants and mental health which was closely statistically significant (P < 0.089) ; No association found between family history of the participants and social functioning which was not statistically significant (P > 0.260) ; No association found between family history of the participants and Role emotional which was not statistically significant (P < 0.322) ; No association found between family history of the participants and role physical which was not statistically significant (P> 0.983). No association found between family history of the participants and general health which was not statistically significant (P < 0.458); No association found between family history of the participants and bodily pain which was not statistically significant (P < 0.141). So, among all the components of SF-36 questionnaire, association had been found between family history of the participants and physical functioning and vitality. No association found between family history and components of SF-36 (General health, mental health, Vitality, Role emotional, role physical and bodily pain).

In my study among the 115 participants, association had been found between past medical history of the participants and general health (P< 0.002). P values less than or equal to .05 were considered statistically significant. The others components Physical

functioning (P > 0.814), Physical health (P > 0.943), Mental health (P > 0.167), Energy (P > 0.621), Emotion (P > 0.926), Social functioning (P> 0.901) and Bodily Pain (P > 0.985). So, no association had been found between past medical history of the participants and components of SF-36 (Physical functioning, Role Physical, Bodily Pain, Vitality, Social Functioning, Role Emotional, Mental Health).

In another study showed that the comorbidities (e.g., hypertension, diabetes mellitus, cardiovascular diseases, lung disease) were divided by no comorbidity, one comorbidity or two or more comorbidities. Here patients had no comorbidities 11(16.4%), affected by one comorbidities 28(41.8%), and two or more comorbidities 28(41.8%). Here the observed P value was .194 that indicate there was no significant relationship between comorbidity and HRQOL (Gurcay et al., 2009)

Among the 115 participants, the observed P- Value was Physical functioning (P > 0.378), Physical health (P > 0.713), Mental health (P > 0.499), Energy (P > 0.123), Emotion (P > 0.401), Social functioning (P> 0.836), Bodily Pain (P > 0.198), and General Health (P > 0.316) which is more than the significant P-value. So, no association had been found between type of stroke of the participants and components of SF-36 (Physical functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional, Mental Health).

A study by Gurcay et al., (2009) mentioned that they took 67 post stroke survivors age ranged from between 33 to 81 years. Among them 55 (82.1%) patients have Ischemic stroke and 12 (17.9%) patients have hemorrhagic stroke. P values less than or equal to .05 were considered statistically significant. In this study the observed P value was .800 that indicate the result was not significant. So no relationship had been found between type of stroke of the participants and overall HRQOL.

In my study among the 115 participants, the observed P- Value was Physical functioning (P > 0.948), Physical health (P > 0.780), Mental health (P > 0.514), Energy (P > 0.251), Emotion (P > 0.392), Social functioning (P> 0.914), Bodily Pain (P > 0.314), General Health (P > 0.130) which is more than the significant P-value. So, no association had been found between affected side of stroke of the participants and components of SF-36

(Physical functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional, Mental Health).

A study by Gurcay et al., (2009) mentioned that they took 67 post stroke survivors age ranged from between 33 to 81 years. Among them 27 (40.3%) patients have right sided stroke and 40 (59.7%) patients have left sided stroke. P values less than or equal to .05 were considered statistically significant. In this study the observed P value was .461 that indicate the result was not significant. So no relationship had been found between affected side of stroke of the participants and overall HRQOL.

Association between physical health of the participants and mental health of the participants:

In my study among the 115 participants, the observed chi-square value was 94.00 and P value was 0.00 that is less than <0.05. So the result was significant that indicate there had been strong association between physical health and mental health. A study by Prlić et al., (2012) mentioned that many patients who have sustained stroke have restrictions in their physical and cognitive functions. Mental health, physical and cognitive impairment are related to decreased quality of life. The median of total physical health and mental health was higher in men than in women.

Another study showed that a number of stroke patients remain disabled or unable to return to work, recover, and regain independence in the activities of daily living. Physical defects in stroke survivors can also cause psychological changes, such as aggression, impatience, stress, negativism, and depression. Depression is the most common psychological disorder reported in stroke survivors, and might affect physiological defects (Ragot et al. 2017).

Association between physical health of the participants and social functioning of the participants:

Among the 115 participants, the observed chi-square value was 63.91 and P value was 0.016 that is less than <0.05. So the result was significant that indicate there had been strong association between physical health and social functioning. Another Study showed

that there is significant relation between physical health and social functioning. In another study among the 278 participants the observed chi- square value was P <0.025 that means there was strong association between physical health and social functioning. (Lai et al., 2003)

Association between mental health of the participants and social functioning of the participants:

Among the 115 participants, the observed chi-square value was 55.79 and P value was 0.019 that is less than < 0.05. So the result was significant that indicate there had been strong association between mental health and social functioning.

Limitation of the Study:

There were a number of limitations and barriers in this research project which had affect the accuracy of the study, these are as follow:

The samples were collected only from the CRP at Savar and the sample size was small, so the result of the study could not be generalized to the whole population of stroke in Bangladesh. There was little evidence to support the result of this project in the context to Bangladesh. A convenience sampling was used that was not reflecting the wider population under study. The research project was done under the COVID-19 pandemic situation and it was first research project for me. So the researcher had limited experience with techniques and strategies in terms of the practical aspects of research. In any study it is impossible to be extremely accurate. As it was the first research of the researcher so might be there were some mistakes.

CHAPTER – VI CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Despite the small sample and the drawbacks identified in this study, this research provides valuable insight into the quality of life for individuals following Stroke. Study shows that the health related Quality of Life of Persons with Stroke was fair and poor. Quality of life is a term used to evaluate individual's well-being in a wide range of contexts. For patients with Stroke, achieving a satisfactory HRQOL is a primary goal of treatment and rehabilitation. Along with greater awareness and proper counseling, necessary steps should be taken to improve the physical and mental health of persons with stroke, in order to improve their quality of life.

This study measured the HRQoL in patients affected by Stroke using SF-36 questionnaire, which is a patient-measured and validated method in terms of reliability and reproducibility. Future longitudinal studies with larger sample size and assessment of additional variables are required to assess HRQoL of the patient experienced with stroke.

6.2 Recommendations

The duration of the study was relatively short, so in future wider time would be taken for conducting the study. Investigator used 115 participants as the sample of this study, in future the sample size would be more. In this study, the investigator took the participants only from the one selected Rehabilitation centre of Savar as a sample for the study. So for further study investigator strongly recommended to include the Stroke patients from all over the Bangladesh to ensure the generalize ability of this study.

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CONSENT FORM

Please read out to the participants

Assalamualaikum, me Ruma Akter, 4th year student of B.Sc. in Physiotherapy program at Bangladesh Health Professions Institute (BHPI). For my study purpose I am conducting a study on stroke patients and my study title is "Health Related Quality of Life of Stroke Patients After Receiving Rehabilitation service From Specialized Rehabilitation Centre."

I would like to know about some personal and other related information regarding stroke. This will take approximately 20-30 minutes. This is an academic study and will not be used for any other purpose. The researcher is not directly related to neurology unit, so your participation in the research will have no impact on your present or future treatment in neurology unit. Researcher will maintain confidentiality of all procedures. Your data will never be used without your permission. Your participation in this study is voluntary and you may withdraw yourself at any time during this study therefore any type of remuneration will not be provided. No additional intervention will be provided.

If you have any query about the study or your right as a participant, you may contact with me or or my research supervisor, Shamima Islam Nipa, Lecturer, Department of rehabilitation science, Bangladesh Health Professions Institute (BHPI), CRP-Savar, Dhaka-1343.

So, may I have your consent to proceed with the interview?

Yes / No

Signature of the Participant ……Date……

Signature of the Interviewer …… Date ……..

Signature of the Researcher …….Date……

সম্মতিপত্র

(অংশগ্রহণকারীকে পড়ে শুনাতে হবে)

আসসালামু আলাইকুম ,আমার নাম রুমা আক্তার। আমি বাংলাদেশ হেলথ প্রফেশনাল ইন্সটিউট এর ফিজিওথেরাপি বিভাগের একজন ছাত্রী। আমার গবেষণা কাজের জন্য আমি স্ট্রোক রোগীদের উপর একটি গবেষণা পরিচালনা করছি এবং আমার অধ্যয়ণ শিরোনাম - " রিহ্যাবিলিটেশন সেন্টার থেকে ফিজিওথেরাপি চিকিৎসা নেওয়ার পর স্ট্রোক আক্রান্ত রোগীদের সাস্থ্য সম্পর্কিত জীবনযাত্রার মান "

এক্ষেত্রে আমি আপনার এবং স্ট্রোক সম্পর্কে আনুষাঙ্গিক কিছু তথ্য জানতে চাছি। এতে প্রায় ২০-৩০ মিনিট এর মত সময় লাগবে। এটি একটি শিক্ষাগত গবেষণা যা অন্য কোনো উদ্দেশ্যে ব্যাবহার করা হবে না। গবেষক সরাসরি নিউরলোজি ইউনিটের সাথে সম্পৃক্ত নয়, তাই গবেষণায় আপনার অংশগ্রহণ নিউরোলজি ইউনিটে আপনার বর্তমান বা ভবিষ্যতের চিকিৎসায় কোনো প্রভাব ফেলবে না। গবেষক গবেষণার প্রতিটি ধাপে গোপনীয়তা বজায় রাখবেন। আপনার তথ্য আপনার অনুমতি ছাড়া কোথাও ব্যাবহৃত হবে না। এই গবেষণায় আপনার অংশগ্রহণ সম্পূর্ণ ইচ্ছাকৃত এবং অধ্যয়ণের যে কোনো সময় নিজেকে প্রত্যাহার করতে পারবেন।

একজন অংশগ্রহনকারী হিসেবে আপনার এই অধ্যয়ন সম্পর্কে কোনো প্রশ্ন থাকলে আমার সাথে অথবা আমার শিক্ষক শামীমা ইসলাম নিপা (লেকচারার ,ডিপার্টমেন্ট অফ রিহ্যাবিলিটেশন সাইন্স-বিএইচপিআই)এর সঙ্গে যোগাযোগ করতে পারবেন |

আমি আপনার অনুমতি নিয়ে এই সাক্ষাতকার শুরু করতে চাচ্ছি?

হ্যা/না

অংশগ্রহনকারীর স্বাক্ষর .....তারিখ.....

উপাত্তসংগ্রহকারীর স্বাক্ষর..... তারিখ.....

গবেষকের স্বাক্ষর.....তারিখ.....

Questionniare (English)

1. Respondent Identification:

Name of Respondent:……Id no……..

Address:…….....

Contact number where possible: …….

2. Patients socio-demographic information

	Question	**Response**
2.1	Age	Year
2.2	Sex	Male female
2.3	Marital status	1=Married 2=Unmarried 3=Widow/widower 4=Divorcee
2.4	Educational status	1= No formal education 2=Primary education 3=Secondary education 4=Higher secondary 5=Bachelor degree or above
2.5	Occupation	
2.6	Living area	1=Rural 2=Semi Urban 3= Urban
2.7	Average monthly income of the person before stroke	
2.8	History of stroke in family	1=No 2=Yes

3. Patients Personal physical information

3.1	Alcohol consumption	1=No 2=Yes
3.2	Smoking	1=No 2=Yes
3.3	If yes, number of cigarette per day / year	
3.4	Past medical history	1=Hypertension 2=diabetes mellitus 3=heart disease 4=lung disease 5=Other Risk factor of stroke

4. Stroke and treatment related information

4.1	Date of stroke	
4.2	Type of stroke?	1= Ischemic 2= Hemorrhagic
4.3	Affected side?	1= Right 2 = Left

6. Quality Of Life Scale (SF-36 V2 Health Survey)

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

1. In general, would you say about your health related quality of life?

a. Excellent b. Very good c. Good d. Fair e. Poor

2. Compared to one year ago, how would you rate your health in general now?

a. Much better now than a year ago b. Somewhat better now than a year

c. About the same as one year ago d. Somewhat worse now than one year ago

e. Much worse now than one year ago

3. The following items are about activities you might to do during a typical day. Does your health now limit you in these activities? If so, how much?

3.1 Vigorous activities, such as running, lifting heavy object, participating in strenuous sports.

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.2 Moderate activates, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.3 Lifting or carrying groceries -

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.4 Climbing several flights of stairs

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.5 Climbing one flight of stairs.-

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.6 Forward bending, kneeling or stooping -

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.7 Walking more than a mile -

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.8 Walking several hundred yards -

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.9 Walking one hundred yards -

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

3.10 Bathing or dressing yourself -

a. Yes, limited a lot b. Yes, limited a little c. No, not limited at all

(4). During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of a physical health?

4.1 Cut down on the amount of time you spent on work or other activities

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

4.2 Accomplished less than you would like?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

4.3 Were limited in the kind of work or other activities?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

4.4 Had difficulty performing the work or other activities (for example, it took extra time)

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

(5). Have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depression or anxious)?

5.1 Cut down the amount of time you spent on work or other activities?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

5.2 Accomplished less than you would like?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

5.3 Didn't do work or other activities as carefully as usual -

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

6. What extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors or groups?

a. Not at all b. Slightly c. Moderately d. Quite a bit e. Extremely

7. How much bodily pain have you had during the past 4 week?

a. Not at all b. Slightly c. Moderately d. Quite a bit e. Extremely

8. How much pain interferes with your normal work (including both work outside the home and housework?

a. Not at all b. Slightly c. Moderately d. Quite a bit e. Extremely

(9). These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks.

9.1 Did you fell full of pep?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.2 Have you been a very nervous person?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.3 Have you felts so down in the dumps nothing could cheer you up?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.4 Have you felt calm and peaceful?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.5 Did you have a lot of energy?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.6 Have you felt downhearted and blue?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.7 Did you feel worn out?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.8 Have you been a happy person?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

9.9 Did you feel tired?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

10. How much of the time physical or emotional problems interfere your social activities (like visiting friends, relative neighbors etc.)?

a. All of the time b. Most of the time c. Some of the time d. A little of the time

e. None of the time

(11). How true or false is each of the following statements for you?

11.1 I seem to get sick a little easier than other people-

a. Definitely true b. Mostly true c. Don't known d. Mostly false

e. Definitely false

11.2 I am as healthy as anybody I know-

a. Definitely true b. Mostly true c. Don't known d. Mostly false

e. Definitely false

11.3 I expect my health to get worse-

a. Definitely true b. Mostly true c. Don't known d. Mostly false

e. Definitely false

11.4 My health is excellent-

a. Definitely true b. Mostly true c. Don't known d. Mostly false

e. Definitely false

পর্ব ১ - অংশগ্রহনকারীর ব্যাক্তিগত বিবরণ

নামঃ..... রোগীর আইডি.....

ঠিকানা.....

যোগাযোগের নাম্বার (যদি সম্ভব).....।

পর্ব ২- রোগীর আর্থ জনতাত্ত্বিক তথ্য

ক্রমিক নং	প্রশ্ন	অংশগ্রহনকারীর উত্তর
২.১	বয়স	বছর
২.২	লিঙ্গ	• পুরুষ • মহিলা
২.৩	বৈবাহিক অবস্থা	• বিবাহিত • অবিবাহিত • বিধবা/ বিপত্নিক • বিবাহ বিচ্ছিন্ন
২.৪	শিক্ষাগত যোগ্যতা	• কোনো প্রাতিষ্ঠানিক শিক্ষা নাই • প্রাথমিক শিক্ষা • মাধ্যমিক শিক্ষা • উচ্চ মাধ্যমিক শিক্ষা • স্নাতক/ স্নাতকোত্তর • অন্যান্য
২.৫	পেশা	
২.৬	বসবাসের স্থান	• গ্রাম • শহর • উপশহর
২.৭	স্ট্রোক এর আগে ব্যাক্তির মাসিক আয়	
২.৮	পরিবারে স্ট্রোকের ইতিহাস	• আছে • নাই

পর্ব ৩- রোগির ব্যাক্তিগত শারীরিক তথ্য

৩.১	মদ্যপান	• হ্যাঁ • না
৩.২	ধুমপান	• হ্যাঁ • না
৩.৩	যদি হ্যাঁ হয় তাহলে দৈনিক/ বছরে কতটি গ্রহণ করেন?	
৩.৪	পূর্বে সংঘটিত কোন রোগের ইতিহাস রয়েছে কি?	• উচ্চরক্তচাপ • বহুমূত্র রোগ • হৃদরোগ • ফুসফুসের রোগ • স্ট্রোকের জন্য দ্বায়ী বিশেষ কোনো রোগ

পর্ব ৪- স্ট্রোক সম্পর্কিত তথ্য

৪.১	স্ট্রোকের তারিখ	
৪.২	স্ট্রোকের ধরণ	• ইশ্চেমিক • হেমোরেজিক
৪.৩	ক্ষতিগ্রস্থ পাশ	• ডান • বাম
৪.৪	আপনি কতবার ফিজিওথেরাপি গ্রহণ করেছেন?	
৪.৫	ফিজিওথেরাপি গ্রহণের পূর্বে FIM কত ছিল?	

পর্ব ৫ : জীবন যাত্রার মান (এস এফ-৩৬ স্বাস্থ্য জরিপ)

এই প্রশ্নগুলোতে আপনার স্বাস্থ্য সম্পর্কে আপনার মতামত জানতে চাওয়া হয়েছে । এই তথ্যগুলি দ্বারা আপনি কি অনুভব করেন এবং কতটা ভালভাবে আপনার প্রাত্যাহিক কর্মসম্পাদনে সক্ষম সে ব্যাপারে নজর রাখতে সাহায্য করবে। এই সমীক্ষাটি সম্পূর্ণ করার জন্য আপনাকে ধন্যবাদ।

নিম্নলিখিত প্রতিটি প্রশ্নের উত্তরগুলোর মাঝে যেটিকে আপনার সবচেয়ে সঠিক বলে মনে হয়, অনুগ্রহপূর্বক সেগুলোতে টিক চিহ্ন দিন।

১। সাধারনভাবে বলতে, আপনার মতে আপনার স্বাস্থ্ হলঃ

- চমৎকার
- খুব ভাল
- মোটামুটি ভাল
- খারাপ

২। গত এক বছর এর সাথে তুলনা করলে আপনার স্বাস্থ্য কেমন ?

- গত এক বছরের তুলনায় এখন অনেক ভাল
- গত এক বছরের তুলনায় এখন খানিকটা ভাল
- প্রায় গত এক বছরের মতন
- গত এক বছরের তুলনায় এখন কিছুটা খারাপ
- গত একবছরের তুলনায় এখন অনেক খারাপ

৩। নিম্নলিখিত প্রশ্নগুলো আপনি একটি সাধারণ দিনে যেসব কাজকর্ম করে থাকেন সেই সম্পর্কিত । আপনার স্বাস্থ্য কি আপনার কাজকর্ম বাঁধা হয়ে দাড়িয়েছে ? যদি হয় , তবে কতটুকু?

৩.১। খুব পরিশ্রমসাধ্য কাজগুলি, যেমন দৌড়ানো, ভারি জিনিস তোলা, শ্রমসাধ্য খেলাধুলা করা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে।
- না, একেবারেই বাঁধা হয় নি। |

৩.২। অপেক্ষাকৃত কম পরিশ্রমসাধ্য কাজগুলি, যেমন টেবিল সরানো, ঘর ঝারু দেওয়া, বাগানে কাজ করা অথবা সাইকেল চালানো -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে।
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে।
- না, একেবারেই বাঁধা হয় নি

৩.৩| মুদিখানার পন্যদ্রব্য তোলা বা বহন করা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে

- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি।

৩.৪। কয়েক তলা সিঁড়ি বেয়ে উঠা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- একেবারেই বাঁধা হয় নি

৩.৫। একতলা সিঁড়ি বেয়ে উঠা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে |
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

,৩.৬। ঝুকে কিছু করা, হাঁটু গেড়ে বসা, নিচু হয়ে কাজ করা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে |
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

৩.৭। এক মাইলের বেশি হাঁটা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে ।
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে ।
- না, একেবারেই বাঁধা হয় নি |

৩.৮। কয়েকশত মিটার হাঁটা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে।
- না, একেবারেই বাঁধা হয় নি

৩.৯। একশো মিটার হাঁটা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে |
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে।
- না, একেবারেই বাঁধা হয় নি

৩.১০। নিজে নিজে গোসল করা বা জামাকাপড় পড়া-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে।
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে ।
- না, একেবারেই বাঁধা হয় নি।

৪। বিগত চার সপ্তাহে, প্রাত্যহিক জীবনের কাজগুলো সম্পাদন করতে গিয়ে আপনার সাস্থ্যের জন্য আপনি কি পরিমাণ সমস্যার মুখে পড়েছেন?

৪.১। আপনার কর্মস্থলে এবং অন্যান্য কাজগুলোতে আপনি কত সময় দিয়েছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৪.২। আপনি যতটুকু চেয়েছিলেন তার চেয়ে কম কাজ করেছেন -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৪.৩। আপনার নিজের কাজ বা অন্যান্য কাজেই সীমাবদ্ধ ছিলেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৪.৫| আপনার নিজের কাজ বা অন্যান্য কাজ করতে গিয়ে অসুবিধা বোধ করেছিলেন-

- সবসময়
- বেশির ভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৫। বিগত চার সপ্তাহে, প্রাত্যহিক জীবনের কাজগুলো সম্পাদন করতে গিয়ে আপনার মানসিক সমস্যার কারণে আপনি নিচের কোন সমস্যাগুলোর মুখে পড়েছেন ? (যেমন - মানসিক চাপ বা দুশ্চিতাগ্রস্থ হওয়া)।

৫.১। আপনার কর্মস্থলে এবং অন্যান্য কাজগুলোতে আপনি কম সময় দিয়েছেন -

- সবসময়
- বেশিরভাগসময়

- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৫.২। আপনি যতটুকু চেয়েছিলেন তার চেয়ে কম কাজ করেছেন-

- সবসময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৫.৩। অন্যান্য সময়ের চেয়ে বেশিরভাগ সময় কাজে কম মনযোগ দিয়েছেন-

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৬। বিগত চার সপ্তাহে আপনার শারীরিক বা মানসিক সমস্যাগুলি আপনার পরিবার , বন্ধুবান্ধব, প্রতিবেশী বা গোষ্ঠীর সাথে সামাজিক কাজকর্মে কতখানি বাঁধা সৃষ্টি করেছে?

- একেবারে না
- সামান্য রকম
- মাঝামাঝি রকম
- অনেকখানি।
- অত্যন্ত বেশিরকম

৭। গত চার সপ্তাহে, আপনি কতখানি শারীরিক ব্যাথা অনুভব করেছেন?

- একেবারে না
- সামান্য রকম
- মাঝামাঝি রকম
- অনেকখানি
- অত্যন্ত বেশিরকম

৮। গত চার সপ্তাহে , কতখানি শারীরিক ব্যাথা আপনার প্রাত্যাহিক কাজে কি পরিমাণ বাঁধা সৃষ্টি করেছে (ঘরে ও বাইরে)।

- একেবারে না।
- সামান্য রকম
- মাঝামাঝি রকম

- অনেকখানি
- অত্যন্ত বেশিরকম

৯। বিগত চার সপ্তাহে, আপনার শারীরিক অবস্থা কেমন ছিল এবং আপনি কেমন অনুভব করেছিলেন নিচের প্রশ্নগুলো সেই সম্পর্কিত। প্রতিটি প্রশ্ন এর জন্য আপনি যেমন অনুভব করেছিলেন সে অনুযায়ী সবচেয়ে প্রযোজ্য উত্তরটি দিন। গত চারসপ্তাহে কতবার -

৯.১। আপনি কি খুব স্বাচ্ছন্দবোধ করেছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়।

৯.২। আপনি কি খুব বিচলিত ছিলেন?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৩ আপনি কি এমনই হতাশাগ্রস্থ হয়ে পড়েছিলেন যে কোনকিছুই আপনাকে উদ্দীপিত করতে পারছিলনা?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৪| আপনি কি খুব স্থির ও শান্ত ছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৫| আপনার কি প্রচুর প্রাণশক্তি ছিল ?

- সবসময়
- বেশিরভাগসময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৬। আপনি কি মানসিকভাবে হতাশ ও মনমরা হয়ে পড়েছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৭। আপনি কি বিপর্যস্থ বোধ করেছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

৯.৮। আপনি কি আনন্দে ছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়।

৯.৯। আপনি কি ক্লান্ত ছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১০। বিগত চার সপ্তাহে, আপনার শারীরিক এবং মানসিক সমস্যাগুলো আপনাকে সামাজিক কার্যক্রমে কি পরিমাণ বাধার সৃষ্টি করেছে ? (যেমন - বন্ধু-বান্ধব এবং আত্বীয়স্বজনদের সাথে দেখা করতে যাওয়া)।

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১। নিম্নলিখিত বিবৃতিগুলো প্রত্যেকটি আপনার ক্ষেত্রে কতটুকু সত্য বা মিথ্যা?

১১.১। আমার মনে হয় অন্যান্য মানুষের চেয়ে একটু বেশি অসুস্থ হয়ে পড়ি -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১.২| আমি আমার জানাশোনা মানুষ গুলোর মতই সুস্থ্য–

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১.৩| আমি আমার স্বাস্থ্য খারাপ হবার আশংকা করি

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১.৪। আমার স্বাস্থ্য অনেক ভাল -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

[এই প্রশ্নগুলির উত্তর সম্পুর্ন করার জন্য আপনাকে ধন্যবাদ]

বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)
(The Academic Institute of CRP)

Ref:

CRP-BHPI/IRB/03/2021/449

Date: 01/03/2021

Ruma Akter
4th year B.Sc. in Physiotherapy
Session: 2015-16, Student ID: 112150280
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal **"Health related quality of life of stroke patients after receiving rehabilitation service from specialized rehabilitation Centre"** by ethics committee.

Dear Ruma Akter,

Congratulations.

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Dissertation Proposal
2	Questionnaire (English and Bengali version)
3	Information sheet & consent form.

The purpose of this study is to observe health related quality of life of stroke patient's after receiving rehabilitation service from specialized rehabilitation Centre. The study involves use of a questionnaire to explore the nature of physiotherapy practice in Bangladesh that may take 15 to 20 minutes to answer the questionnaire and there is no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 09:00 AM on 1st March 2020 at BHPI (23rd IRB Meeting).

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Muhammad Millat Hossain
Assistant Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Permission Letter

Date: March 02, 2021

The Head of Department

Department of physiotherapy

Bangladesh Health Professions Institute (BHPI)

Chapain, Savar, Dhaka-1343.

Subject: Seeking permission for data collection of 4th year physiotherapy research project.

Sir,

With due respect and humble submission to state that I am Ruma Akter, student of 4th year B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). The Ethical committee has approved my research project entitled: **"Health Related Quality of Life of Stroke Patients After Receiving Rehabilitation Service From Specialized Rehabilitation Centre"** under the supervision of Ms, Shamima Islam Nipa, Lecturer, Department of Rehabilitation Science, BHPI, CRP, Savar, dhaka-1343. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc in physiotherapy. I want to collect data for stroke patients at your department. So, I need your kind permission for data collection at Neurology unit of CRP at Savar and Mirpur, dhaka. I would like to assure that nothing of the study would be harmful for the participants.

I therefore, pray and hope that your honor would be kind enough to grant my application and give me permission for data collection and oblige thereby.

Yours faithfully,

Ruma

Ruma Akter

4th Year

B.Sc. in Physiotherapy

Class Roll: 09; Session: 2015-16

Bangladesh Health Professions Institute (BHPI)

(An academic Institution of CRP)

CRP-Chapain, Savar, Dhaka-1343,

Recommended & forwarded

Shamima Islam Nipa
Lecturer Rehabilitation Science
Department of MRS, BHPI
CRP, Chapain, Savar, Dhaka-1343

Approved

10/03/21

MUHAMMAD ANWAR HOSSAIN
Senior Consultant &
Head of Physiotherapy Dept
Associate Professor, BHPI
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