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Study on the Health Related Quality of Life of Patients with Ischemic stroke

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Abstract: *The work entitled, "Study on the health related quality of life of patients with ischemic stroke" was conducted in the department of Neurology at a multispecialty hospital. After receiving the official approval, the study was conducted for a period of eight months from December 2013 to August 2014. A total of 278 cases with Neurological disorders were found, of which 117(42 %) patients were with ischemic stroke. Hypertension (59%) and Diabetes (53%) were the major co-morbid conditions found. The Health related quality of life of the patients was assessed by direct interviewing of individual patients with a stroke specific questionnaire. The Health related quality of life of the patients was assessed by direct interviewing of individual patients with a stroke specific questionnaire. Quality of life assessments are done by various methods like taking the floor and ceiling effects of the scores, average score calculation etc. Assessment of the floor and ceiling effect showed the potential for floor effects in the most difficult domain(strength) and the possibility of a ceiling effect in the communication domain. Assessment of stroke severity is done by taking the mean and SD of the individual domains*

Keywords: *Activities of daily living, Atherosclerosis, Dyslipidemia, Embolism, High density Lipoprotein*

I. Introduction

Stroke is one of the leading causes of death and disability in India. Diseases of the cerebral blood vessels are the third most common cause of death in the developed world, after cancer and Ischemic heart disease. Cerebrovascular disease can cause death and disability by ischemia from occlusion of blood vessels producing cerebral ischemia and infarction or hemorrhage through their rupture.[1] In recent years there has been an increased interest in incorporating health-related quality of life measures into clinical practice. Stroke is the leading cause of serious, long-term neurologic impairment and functional disability. Depending on the severity and type, a stroke can leave an individual with residual impairment of physical, psychological, social and cognitive functions. Health-related quality of life (HRQOL) covering physical, cognitive and social functions have been emphasized as an important index of outcome after stroke; therefore, its measurement is important.

Similar studies have been done on assessing the health related quality of life of stroke patients. Zhang Y et al (2012) performed a study on the post stroke health related quality of life of a study group for a period of one year. . An observational study was done by assessing the post stroke health of these individuals in hospitals who are under rehabilitation therapy. . It was found that functional impairment was severely affected during the rehabilitation period and was found to improve greatly if family members were the care takers. Another study was done by Romero JR et al (2008) on the prevalence of recurrent transient ischemic attack and early risk of stroke. The study concluded that multiple TIAs within the initial days were associated with an increased risk of stroke. Gurcay E et al (2009) conducted a study on the health related quality of life of stroke patients to assess the changes in the response provided by the patients towards the physical domain in the self- perceived questionnaires. The study revealed that shifts in the response of the domains for physical activities were observed which mainly included stairs, walking, hand function etc.

Stroke is a major public health issue. The long term consequences of stroke have been recognized in recent years and focus has been established to analyze the outcome measures which determine the quality of life. Stroke impacts not only physical function but also emotion, memory and thinking, communication and role function (social participation). Due to this enormous personal and societal impact, assessment of the outcome measures in stroke patients has become significant. The present study can contribute to provide a broader knowledge regarding measurement of quality of life of Ischemic stroke patients and is beneficial to the clinical personals in determining the stroke risks.

1.1 Introduction:

Stroke or Cerebrovascular Accident (CVA) is a term used to describe an abrupt onset of focal neurologic deficit that lasts at least 24 hours and is presumed to be of vascular origin. If the symptoms resolve within 24 hours it is known as Transient Ischemic Attack or a mini stroke. Diseases of the cerebral blood vessels

are the third most common cause of death in the developed world, after cancer and Ischemic heart disease. Cerebrovascular disease can cause death and disability by ischemia from occlusion of blood vessels producing cerebral ischemia and infarction or hemorrhage through their rupture. Stroke is one of the leading causes of death and disability in India.

1.1 Risk Factors

Assessing the risk factors aims to reduce the mortality rates associated with the stroke. Managing these risk factors could prevent the recurrence of stroke and there by contribute to an improved quality of life. The risk factors can be of modifiable and non-modifiable .The non-modifiable risk factors include age, gender, race, ethnicity, family history etc.

The modifiable risk factors include hypertension, diabetes, dyslipidemia, cardiac diseases, illicit drug usage, alcohol, cigarette smoking, use of oral contraceptives, life style factors like obesity, diet, physical inactivity etc.[2] Modification and management of these risk factors remain the most efficient method of reducing the stroke burden in patients. An efficient modification of the risk factors comprises mainly education of the patients, performing follow ups and medication adherence.

Hypertension is one of the most common risk factor associated with stroke. The control of hypertension can prevent the occurrence of a stroke episode and associated disorders like end organ damage. With time, hypertension leads to atherosclerosis and hardening of the larger arteries which can lead to blockage of small blood vessels in the brain. High blood pressure can also cause weakening of the blood vessels in the brain, causing them to balloon and burst which are hemorrhagic. The JNC 7 guidelines urge in reducing the blood pressure less than 140/90 mm Hg.. The advantage in early management of hypertension is that it could efficiently prevent recurrent strokes and there by provides an improved quality of life to the patients.

Diabetics are at a higher risk of stroke as they will have associated co morbid conditions like increased blood pressure, dyslipidemia and cardiac diseases. This is possible if the diabetes is in an uncontrolled stage. There is an increased prevalence of diabetes globally (as per WHO 347 million people are Diabetic) due to obesity and unhealthy life style . Dyslipidemia is one of the major risk factor for stroke . Increased LDL levels are associated with greater chances of Ischemic stroke. The favorable effects on use of statins for the stroke risk management includes some additional mechanisms which may include recovery of endothelial function, anti-oxidant action, suppression of inflammatory responses, immunomodulatory actions and stabilizing lesions of atherosclerosis.[3] Similarly, triglyceride levels have also been reported to be associated with risk of stroke.

Atrial fibrillation (AF) is another autonomous risk factor associated with stroke with a 4 fold rise in the relative risk and is age-dependent. There is an increased prevalence of atrial fibrillation with growing age. The presence of AF in patients will increase the risk of stroke in patients than in non-AF patients and carries higher rate of mortality and disability

Smoking is also another modifiable risk factor for stroke prevention. The social history of patient is important in assessing the risk of associated diseases. It is found that smoking increases the risk of stroke by 50%.Cessation has become a potent step in reducing the risk of stroke.

Obesity has found to be a similar modifiable risk factor which has been discussed about worldwide as a factor which paves way for various cardiovascular diseases, disability and mortality. The risk of stroke increases with obesity and is found to have a threefold chance than normal individuals. These individuals will be prone to various other cardiovascular diseases like hypertension, diabetes, coronary diseases etc. It has been analyzed that abdominal fat is associated with more risk for stroke especially with men.[3]

1.3 Health Related Quality Of Life Of Stroke Patients

Stroke can leave the patients in severe disabilities and impairments in the functional status. This directly affects the quality of life of these individuals and focus has to be made in assessing the quality of life.[4]HRQOL is broadly conceptualized as the physical, psychological and social aspects of life that may be affected by the changes in health states. Disease specific HRQOL measures are designed to assess HRQOL with questions and scales that are specific to a disease or condition. Stroke Impact Scale is such a disease –specific questionnaire constructed in such a way that it covers all the aspects of the patient factors which determine their Quality of life. This is a stroke-specific outcome measure which enables to assess a more comprehensive health outcome for stroke survivors. The SIS version 3.0 includes 59 items and assess 8 domains like strength, hand function, Activities of Daily living(ADL),mobility, communication, emotion, thinking and social participation. Sixteen items from 4 of the 8 domains can be combined into an overall physical component score. Scoring is done for these 8 domains and calculated for the recovery of stroke in individuals.

Stroke is a major public health issue. The long term consequences of stroke have been recognized in recent years and focus has been established to analyze the outcome measures which determine the quality of life. Stroke impacts not only physical function but also emotion, memory and thinking, communication and role function (social participation). Focus group interviews with patients and caregivers have demonstrated that these

factors should be assessed as sequelae of stroke. The Stroke Impact Scale (SIS) is a new measure that broadens the range of deficits and recovery assessed, and changes in scores may be treated continuously. Consequently, the SIS provides a potentially more relevant outcome because stroke has variable impact on many domains of health status. Various lifestyle factors are related with an increased prevalence of stroke. This may include lack of exercise, alcohol, diet, obesity, smoking, drug use, and stress. These modifiable factors have to be taken into consideration to prevent the chances of any undesirable events. A transition from sedentary lifestyle to a healthy life style has become necessary to have a better quality of life.

II. Scope and Plan of Study

Stroke is one of the major public health issue and primary cause of severe long-term neurologic disorder and third leading cause of adult disability in the industrialized world. Due to its enormous personal and societal impact, assessment of the outcome measures in stroke patients has become significant. Stroke can leave the patient in serious impairments, which affects the quality of life in these individuals[4]. It is critical to measure outcomes that are relevant and important to stroke patients as the assessment has to cover all the aspects of their disabilities.

Some commonly used stroke outcome measures such as Barthel index (BI) and Short Form 36 (SF-36), for example, has no assessment of language. Thus the patients with severe aphasia may have a normal score on these measures and is therefore not appropriate. Other domains often neglected in stroke outcome assessments are cognitive, psychological and social function. Because of these deficiencies, clinical trials are increasingly emphasizing patient –centered outcomes such as functional status and health related quality of life (HRQOL). HRQOL is broadly conceptualized as the physical, psychological and social aspects of life that may be affected by the changes in health states. HRQOL can be measured with generic or disease-specific measures. Generic measures are designed to compare HRQOL across populations or different diseases; disease-specific measures are designed to assess HRQOL with questions and scales that are specific to a disease or condition. Ideally, patient-centered outcomes like HRQOL are more relevant to individuals, but these measures are relevant in specific disease states only in so far, as the measure incorporates questions about functions typically affected by that disease.

There are four sources of patient outcomes assessment: clinician –reported, physiological, caregiver-reported and patient-reported[5]. Health can be investigated microscopically in terms of organs, cells, molecules or genes, but it also involves psychological, mental and social factors. Integrating the human body and its outer environment requires not only physiological and biochemical outcomes, but the patient's perspective on clinical practices and research. In recent years, research on patient -reported outcomes (PROs) has attracted more attention and its use has become increasingly prevalent and widespread.

Patients experience a variety of symptoms that have profound, negative effects on their ability to remain active and on their emotional well-being[5]. Many interventions for stroke patients are integrative treatment methods designed to improve their physical condition and help them feel better. Although health-related quality of life (HRQOL) measures have been an important part of evaluating the impact of strokes and stroke interventions, no systematic assessment of the symptoms and suffering of patients with post -stroke spasticity is currently available. At present, there are many measures by which to evaluate stroke patients, most of which assess physical function and daily activities, such as the National Institutes of Health Stroke Scale (NIHSS), European Stroke Scale (ESS),Fugl –Meyer Assessment (FMA), Barthel-Index(BI), Functional Independence Measure(FIM),Activities of Daily Living(ADL) etc.

Considering all the factors and limitations of other stroke outcome measure tools, a better tool has been developed called as the Stroke Impact Scale (SIS). This is a stroke-specific outcome measure which enables to assess a more comprehensive health outcome for stroke survivors. The SIS version 3.0 includes 59 items and assess 8 domains like strength, hand function, Activities of Daily living(ADL),mobility, communication, emotion, thinking and social participation[6]. Sixteen items from 4 of the 8 domains can be combined into an overall physical component score. Scoring is done for these 8 domains and calculated for the recovery of stroke in individuals.

The long term consequences of stroke have been recognized in recent years and focus has been established to analyze the outcome measures which determine the quality of life. Stroke impacts not only physical function but also emotion, memory and thinking, communication and role function (social participation). Focus group interviews with patients and caregivers have demonstrated that these factors should be assessed as sequelae of stroke. The Stroke Impact Scale (SIS) is a new measure that broadens the range of deficits and recovery assessed, and changes in scores may be treated continuously. Consequently, the SIS provides a potentially more relevant outcome because stroke has variable impact on many domains of health status.

2.1 Plan of Work

Phase 1: To enroll all the stroke cases admitted in the Department of Neurology of a multi-speciality hospital.
Phase 2: To categorize the different types of strokes in the study population
Phase 3: To conduct a questionnaire survey to measure the HRQOL in patients with ischemic stroke.
Phase 4: To assess the results and to educate the patients enrolled in the study.

III. Objectives

- To document the prevalence of Ischemic Stroke in the study site.
- To measure the Health Related Quality of Life (HRQOL) in Stroke patients.
- To prepare patient counseling leaflets and educate patients enrolled in the study.

IV. Methodology

4.1 Study Site

The study was conducted at a private tertiary care hospital at Coimbatore. It is a 750 bedded multi-specialty institution, one of the largest hospitals at Coimbatore. The hospital is unique and people from all over the country come and avail its facilities. The various specialties include General Medicine, Obstetrics and Gynecology, Pediatrics and Neonatal, Neurosciences, Anesthesiology, Orthopedics, Radiology, Nephrology, Pulmonology and Critical Care, Cardiology and Cardiothoracic surgery, Microbiology, Pathology and Hematology, Laparoscopic surgery, ENT, Dental and Maxillofacial surgery, Neurology, Ophthalmology, Physical Medicine and Rehabilitation, Diabetology, Surgical Gastro Enterology, Oncology.

4.2 Department Selected For Study

The study was conducted in the department of Neurology. The reason for the selection of the department of Neurology was that the pilot study revealed more scope for the study in the department of Neurology as the prevalence of stroke cases are more. When prescribing, the knowledge on the different types of co-morbidities prevailing and accordingly changes required in treating the various stroke cases in the study hospital will help the health care professionals to select the appropriate drugs to ensure rational therapy.

The study was conducted with expert guidance of the Clinical Pharmacy Professionals and Senior Neurologists of the study hospital. Prior permission was also obtained from Chief of concerned department.

4.3 Consent from Hospital Authorities

The protocol of the study which included the study background, objectives and methodology was submitted to the Dean of the study hospital. The study was conducted with the expert guidance of senior and junior physicians of the department selected. Health care professionals of the concerned departments of the hospital were informed about the study program through Dean's official circular.

4.4 Literature Survey

An extensive literature survey was carried out regarding the study on management and health related quality of life of patients with ischemic stroke. The literatures were collected from various sources including

- Therapeutic Advances in Cardiovascular Diseases
- Journal of Clinical Neurology
- Stroke Journal of American Heart Association
- Journal of Archives of Physical Medicine and Rehabilitation
- British Med Central Journal
- Annals of Saudi Medicine
- Journal of Traditional Chinese Medicine
- International Journal of Biomedical Science
- Iowa Drug Information Services (IDIS)

4.5 Patient Selection

4.5.1 Inclusion criteria: Patients who are receiving Drugs for the management of Ischemic stroke with minimum one co-morbid condition

4.5.2 Exclusion criteria: Patients not willing to participate in the study, with hemorrhagic stroke and not enough medical records available.

4.6 Study Design: A Prospective cross sectional study was carried out in the Department of Neurology to find the prevalence of Ischemic stroke and to assess the Quality of life of the patients with Ischemic stroke. Patients who have been diagnosed with an Ischemic stroke were selected as per the inclusion criteria. After case

identification and verification, demographic data including age, gender, comorbidities and medical records will be obtained from patients using structured Data Entry Form.

4.6.1 Data Entry Format

A specially designed data entry format was used to enter all patient's details like patient name, age, sex, weight, inpatient number, date of admission, date of discharge, reason for admission, past medical history ,past medication history, social habits, vital signs like BP and breathing rate. Provision is given in the format to enter laboratory investigations, co-morbid conditions associated, diagnosis made, drugs for therapy ,along with drugs prescribed for stroke therapy and the drug interactions . Health related Quality of life of these patients are then assessed by means of a Stroke specific Questionnaire .Stroke Impact Scale Ver 3.0 was used for the study and assessment is done by a face to face interview.

4.6.2 Questionnaire

The Stroke specific Questionnaire called as Stroke Impact Scale Ver 3.0 was selected for the studying the Quality of life of Stroke Patients. It consists of 59 items and assess 8 domains like strength, hand function, Activities of Daily living (ADL), mobility, communication, emotion, thinking and social participation. Sixteen items from 4 of the 8 domains can be combined into an overall physical component score. Scoring is done for these 8 domains and calculated for the recovery of stroke in individuals. Scores are expressed on the scale range from 0-100.Higher score indicate better quality and lower score reflect poor quality of life. It takes about 5-10 minutes to complete the questionnaire.

4.6.3 Educating Tools

A patient education leaflet was designed and circulated to the patients to educate on the various aspects of Stroke.Since stroke can leave the patients with severe disabilities, patients with major impairments are assessed by interviewing the care-takers who are able to describe the patient's conditions. Finally ,after the assessment of the patient's quality of life, counseling is done to the patient to educate on various aspects of Stroke .Statistical analysis is done on the results obtained on the various domains of the Stroke scale.

Results And Discussion

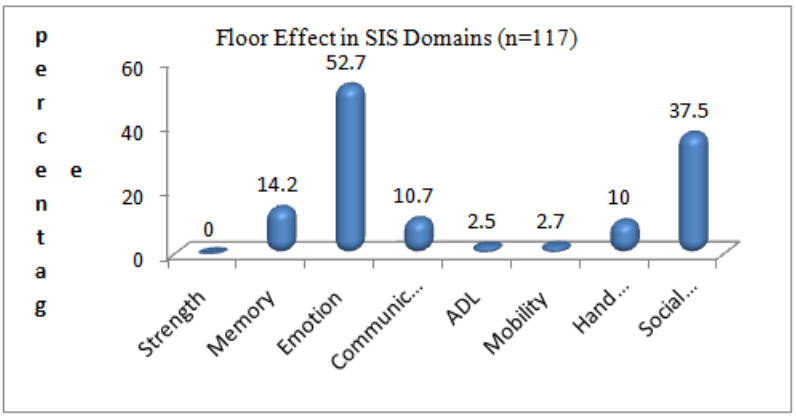
The work entitled, "Study on the health related quality of life of patients with ischemic stroke" was conducted in the department of Neurology at a 700 bedded multispecialty hospital which has got state of art treatment facilities. A pilot scale study was conducted for a period of fifteen days to know the potential of the study in the department of Neurology which was taken as the study site. The results of the pilot scale study revealed that there were 146 cases with neurological disorders in the study department of which 103 cases of stroke were documented. After ensuring the scope of the study in the department of Neurology of the study hospital the study protocol was prepared and submitted to the Dean of the hospital and official approval was obtained to carry out the study in the hospital. After receiving the official approval, the study was conducted for a period of eight months from December 2013 to August 2014. A total of 278 cases with Neurological disorders were found, of which 117(42 %) patients were with ischemic stroke. Prior consent from the patients were taken after explaining them the need of the study.

The analysis of the results of the study conducted for a period of eight months revealed that there were 83 (71%) male patients and 34 (29.05%) female patients who fit into the inclusion criteria. Male population were affected more with ischemic stroke which is in accordance with the literatures which documented that male are more prone for ischemic stroke because of their social habits like smoking and drinking alcohol. The results were supported by the study conducted by Christian Foerchet. al[7] where it is documented that in the German, a maximum male preponderance was found for patients aged between 55 and 64 years. In Germany, age-specific gender distribution of stroke patients is well explained by the numbers of females and males in the general population and by gender-specific stroke incidence rates.

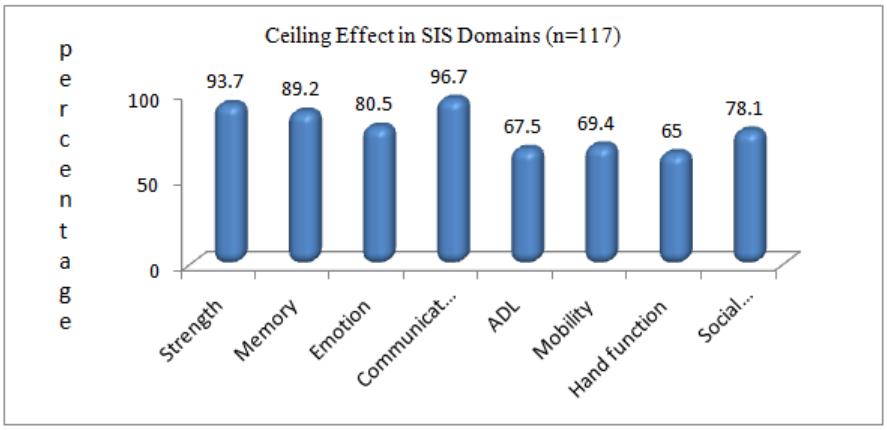
Quality Of Life Assessment By Stroke Impact Scale

Stroke Measurements With Floor & Ceiling Effects (N=117)

SIS domain	Floor effect	Ceiling effect
Strength	0	93.7
Memory	14.2	89.2
Emotion	52.7	80.5
Communication	10.7	96.7
ADL	2.5	67.5
Mobility	2.7	69.4
Hand function	10	65
Social Participation	37.5	78.1



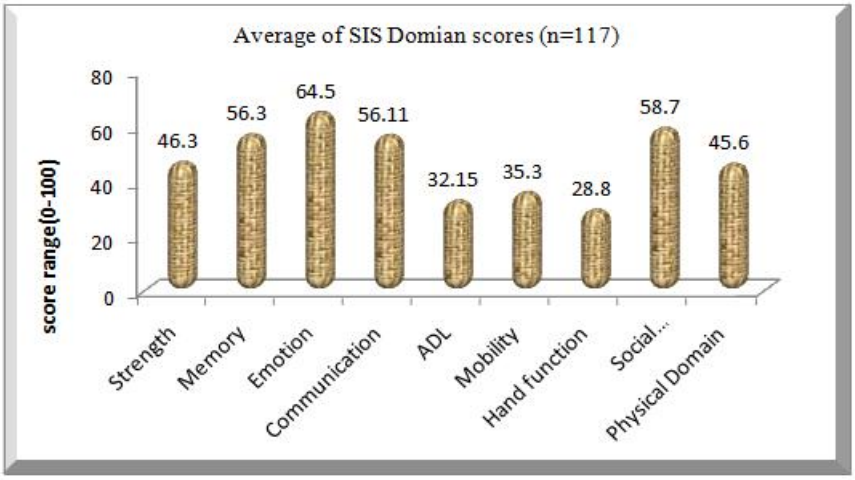
Floor effect in sis domains (figure 4.1)



Ceiling effect in sis domains (figure 4.2)

Assessment of Stroke severity with average SIS Domain scores, Summary of SIS Domain scores (n=117)

Sl.No	SIS Scale Domain	Scale Means(SD)
1.	Strength	46.83 (±23.26)
2.	Memory	56.3(±16.87)
3.	Emotion	64.43(±6.09)
4.	Communication	56.32(±23.60)
5.	ADL	32.7(±15.47)
6.	Mobility	35.7(±14.32)
7.	Hand function	29.3(±14.03)
8.	Social Participation	58.7(±7.7)
9.	Physical Domain	35.73 (±12.82)



Average of sis domain scores (figure 5)

Baseline Characteristics of Stroke Patients (n=117)

Sl No	Characteristic of Stroke patient	Values
1.	Age (years),mean (SD)	58.51(±13.98)
2.	Gender, n(%)	
	Male	83(71)
	Female	34(29.05)
3.	Comorbidities, n(%)	
	Hypertension	67(57.26)
	Diabetes Mellitus	62(53)
	Dyslipidemia	28(23.9)
4.	Social History, n(%)	
	Cigarette Smoking	38(32.47)
	Alcohol	44(37.6)
5.	Affected side, n(%)	
	Right	45(38.46)
	Left	27(23.07)
	Without/ No affected side	45(38.46)
6.	Stroke Episode	
	First-ever Stroke	91(77.7)
	Past history of Stroke	26(22.2)

Clinical characteristics of Stroke patients stratified by Gender

Sl. No.	Characteristic	Total	Female	Male	P value
	Sex	N=117	N=34	N=83	
1.	Age (years)				
	Mean(±SD)	58.5(13.9)	58.87(14.18)	58.51(13.98)	0.617
2.	Stroke Impact Scale Domain Scores for Stroke Patients, mean(SD)				
Strength		46.83667 (±23.26)	42.27 (±23.12)	48.731 (±23.26)	0.179
Memory		56.36 (±16.87)	56.23 (±15.44)	56.41 (±16.87)	0.374
Emotion		64.43 (±6.09)	64.954 (±5.92)	64.22 (±6.09)	0.226
Communication		56.32 (±23.60)	51.36 (±21.14)	58.38 (±23.60)	0.530
ADL		32.7 (±15.47)	32.2 (±14.78)	32.91 (±15.47)	0.431
Mobility		35.7 (±14.32)	31.54 (±14.57)	37.43 (±14.32)	0.358
Hand function		29.33 (±14.03)	31.22 (±14.29)	24.77 (±14.03)	0.107
Social Participation		58.77 (±7.71)	56.93 (±7.82)	59.54 (±7.71)	0.235
Physical Domain		35.73 (±12.82)	32.68 (±12.66)	37 (±12.82)	0.425

The Health related quality of life of the patients were assessed by direct interviewing of individual patients with a stroke specific questionnaire called the Stroke Impact Scale Ver 3.0. Prior permission to use the scale was obtained from the concerned authors. The scale covers the various aspects of functional ability of the patients in the daily life which can depict the quality of life of these individuals. The scale includes total of 8 domains with 59 items. The domains covered are Strength, Memory Emotion, Communication, Activities of Daily Living (ADL), Mobility, Hand function and Social participation. Strength domain assess the any weaknesses in the limbs ,Memory domain is about the cognitive functioning of the patient, Emotion covers the emotional well being, communication domain assess the patients ability to interact with individuals ,ADL domain is about assessment of the various activities of daily life ,mobility domain checks whether the patient is able to move around without any difficulty ,hand function assess the grip and strength of hand and finally social participation domain analyze the patient's social wellbeing which includes interaction with society in their work, home ,involvement in the family activities etc. The domains like strength, ADL. Mobility and hand function are aggregated to form a single physical domain to assess the overall physical functioning of the patient.

In patients with severe disabilities and impairments, the scoring is done by interviewing the care taker. After the scoring of individual domains, the total scores of each domain are taken and converted to a 100 scale with a standard formula from the literature. Quality of life assessments are done by various methods like taking the floor and ceiling effects of the scores, average score calculation etc. On a 0-100 scale, 100 is considered as the ceiling effect which denotes a better quality of life or full recovery and 0 is considered as poor quality of life or no recovery. Assessment of the floor and ceiling effect showed the potential for floor effects in the most difficult domain(strength) and the possibility of a ceiling effect in the communication domain. The mean and SD of each domain score is taken as a function of stroke severity.

In the study, quality of life of stroke patients was assessed by floor and ceiling effects. It was analyzed that strength domain was associated with more possibility of floor effect with least score of 0 was observed. This denotes how worst the stroke could affect the functioning of limbs which adversely affects the quality of life. Similarly Ceiling effect was observed in communication domain with a score of 96.7.This depicts that the communication domain gets least severely affected even after the stroke episode, leaving the patient in a better quality of life. Similar studies about ceiling and floor effects are included in the study conducted by Duncan PW

et.al[8] in which they found hand function as the most difficult domain for which the floor effect was obtained whereas communication domain was obtained with maximum ceiling effects.

Assessment of stroke severity is done by taking the mean and SD of the individual domains. It was observed that mean of the scores were lower with domains of physical functioning like strength, ADL, mobility and hand function with least score means to the hand function (28.8). Within each of the severity groups, the SDs of the scales was in the range of 6 to 24, signifying reasonable dispersion of outcomes across the sample. Similar study on the severity of stroke was done by Duncan PW et.al[8] and obtained least mean score for the hand function domain. The SDs of the scales within each of the severity groups were analyzed and found to be at a range of 15 to 30 which again describes the dispersion of outcomes across the sample.The baseline characteristics of the stroke patients were assessed before the interviewing process. This may include age, gender, co-morbidities, social history, affected side, stroke episode history etc. The mean age of the patients were found to be 58.51 .Gender distributions was assessed and found that there were 71% males and 29.05% females affected by stroke. Co-morbidities associated with stroke was collected and found maximum cases with hypertension (57.26%), diabetes (53%) and dyslipidemia (23.9%).The social history revealed that there were 32.47% smoker males and 37.6% with alcohol habits. The affected side of the patients due to stroke was assessed. This includes the impairment and weakness caused in either sides of the body. From the assessment it was found that out of 117 stroke individuals,45 were with right affected side (38.46%).Similarly 27 were with left affected side(23.07%). 45 individuals were grouped as those without any affected sides. This analysis is done in accordance with the study conducted by Gurcay E et.al[6]where the baseline characteristics of the study group was taken and categorization is made on the basis of affected sides and found with 59.7% of left side affected groups and 40.3% right side affected ones. Finally another classification is made on the basis of first ever stroke and past history of stroke episodes. It was found that 77.7% cases were with a first attack of stroke and 22.3% with recurrent stroke with an early history of stroke.Statistical analysis was done by Pearson chi square test to find the significance of gender variation in the mean age. The obtained p value by the analysis was 0.617 which reveals that there is no significance in the mean age for males and females for the episodes of stroke. Similarly the p value was obtained for the mean scores for each domain of the Stroke Impact scale. The p value was obtained for finding the significance of quality of life for males and females. The results revealed that there is no significance in the gender variation in the individual domains of the scale, including strength ,memory, emotion, communication, ADL, mobility ,hand function and social participation whose p values are 0.179,0.374, 0.226, 0.530, 0.431, 0.358, 0.107 and 0.235 respectively. The p value ≤ 0.05 is considered significant. The results are in accordance with the the study conducted by Abubakar SA et.al[9] where the study showed lack of association between the genders.

Conclusion

In recent years there has been an increased interest in incorporating health-related quality of life measures into clinical practice. Stroke is the leading cause of serious, long-term neurologic impairment and functional disability. Depending on the severity and type, a stroke can leave an individual with residual impairment of physical, psychological, social and cognitive functions. Health-related quality of life (HRQOL) covering physical, cognitive and social functions have been emphasized as an important index of outcome after stroke; therefore, its measurement is important. The present study indicates a diminished scoring for physical domains of the patient such as strength, mobility, hand function and activities of daily living. These domains determine the physical well-being of the patient which affects their health related quality of life. It was evident from our study that more episodes of stroke were associated with patients with poor management of the comorbid conditions, of which prominent were with diseases like hypertension, diabetes and dyslipidemia.

References

[1]. Pandian JD, Sudhan P. Stroke Epidemiology and Stroke Care Services in India: J Stroke. Sep 2013; 15(3): 128–134.
[2]. Dipiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey ML, et al., editors. Pharmacotherapy: A Pathophysiologic Approach.6th ed. New York: McGraw Hill; 2005:415-425.
[3]. Romero JR, Morris J, Pikula A. Stroke Prevention: modifying risk factors: TherAdvCardiovasc Dis. August 2008; 2(4): 287–303.
[4]. Williams LS, Weinberger M, Harris LE, Clark DO, Biller J. Development of a Stroke-Specific Quality of Life Scale: Stroke. 1999; 30: 1362-1369.
[5]. Zhang Y, Liu B, Liu Z, Wang Y, Zhao H et al. Development of a disease-specific health-related quality of life questionnaire for patients with post-stroke spasticity: J Tradit Chin Med. Dec 2012;15;32(4):674-678.
[6]. Gurcay E, Bal A, Cacki A. Health-related quality of life in first-ever stroke patients: Ann Saudi Med. Jan-Feb 2009; 29(1): 36–40.
[7]. Foerch C, Ghandehari K.et al. Exploring gender distribution in patients with acute stroke: A multi-national approach: J Res Med Sci. Jan 2013; 18(1): 10–16.
[8]. Duncan PW, Lai SM, Tyler D, Perera S, Reker DM, Studenski S. Evaluation of Proxy Responses to the Stroke Impact Scale: Stroke. 2002; 33: 2593-2599.
[9]. Abubakar SA, Isezuo SA. Health Related Quality of Life of Stroke Survivors: Experience of a Stroke Unit: Int J Biomed Sci .2012; 8(3):183-187.