

QUALITY OF LIFE OF STROKE SURVIVORS - DEPRESSION AND COGNITION AS CORRELATES

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Abstract: This study is undertaken to find out the relationship of Quality Of life on depression and cognition of Stroke survivors in Kerala. In order to assess these the study was conducted among 40 stroke survivors admitted to selected Hospital in Kerala. For data collection HAM-D Scale (Max Hamilton ,1960), Montreal Cognitive Assessment Scale (Nasreddine et al. 2005) Stroke specific QOL Scale ((Williams et al, 1999) were used. Carl Pearson co efficient of correlation was used for data analysis. The findings of the study revealed that depression and Quality Of life are negatively related. There was a non significant correlation between cognition and Quality of life.

Index Terms -. Quality Of life, Depression, Cognition.

INTRODUCTION

More than 2,400 years ago the father of medicine, Hippocrates, recognized and described stroke-the sudden onset of paralysis. Until recently, modern medicine has had very little power over this disease, but the world of stroke medicine is changing and new and better therapies are being developed day by day (NINDS, 2004). Stroke, or a cerebro vascular accident is the sudden death of brain cells due to inadequate blood flow which usually happens because a blood vessel bursts or is blocked by a clot. This cuts off the supply of the oxygen and nutrients, cause damage to the brain tissue. (WHO,2014)

Stroke is one of the leading causes of mortality and morbidity worldwide. It is the second commonest cause of death and fourth leading cause of disability worldwide (Strong, 2007). Stroke is becoming an important cause of premature death and disability in low-income and middle-income countries like India, largely driven by demographic changes and enhanced by the increasing prevalence of the modifiable risk factors.(Bonita & Beaglehole ,2007). In contrast to industrialized Western countries where there has been a steady decline in stroke over the past 30 years, India is currently facing the challenge of a high incidence of stroke as the common risk factors of stroke, namely, hypertension, diabetes, smoking, and dyslipidemia are not being adequately controlled. More than four-fifth of all strokes occur in developing countries. (Banerjee & Das ,2016) In Kerala, data from the Trivandrum Stroke Registry shows that Stroke occurred at a median age of 67 years; only 3.8% of patients were aged ≤ 40 years. Adjusted annual incidence rates per 100,000 were 135 for total, 135 or urban, and 138 for rural populations, and 74.8 ,10.1 and 4.2 for ischemic stroke, intracerebral hemorrhage, and subarachnoid hemorrhage, respectively (Sridharan_ et al.,2009)

Pooled data from studies conducted throughout the world have found prevalence rates for post stroke depression is 19.3% among hospitalized patients and 23.3% among outpatient samples.. (Robinson, 2003). After a stroke, quality of life (QoL) is reported to decrease by more than 40% compared with pre-stroke QoL (Viitanen,meyer,Bernspang&Meyer.,1988)

The social, physical and psychological consequences of stroke are devastating. Rehabilitation helps stroke survivors relearn skills that are lost when part of the brain is damaged. The goals of rehabilitation are to help survivors become as independent as possible and to attain the best possible quality of life (WHO 2014).

The occurrence of a post-stroke-depression (PSD) has a significant impact on the functional and cognitive deficit, on mortality and on quality of life after stroke. In contrast to the clinical importance, PSD is often ignored in routine management of stroke patients and remains often untreated if diagnosed (Dohmen et al.,2006)

The risk of developing PSD is increased in patients with more functional and cognitive impairment, greater dependency with regard to ADL functions and with occurrence of speech and language dysfunctions and apraxia (De Ryck et al.,2013) Patients with ischemic stroke are at risk for developing vascular cognitive impairment ranging from mild impairments to dementia. There is a central role for the thalamus and lesser roles for other cortical regions in the development of cognitive impairment after ischemic stroke. (Stebbins et al.,2008). Thirty-one percent of patients showed long-term cognitive impairment (Nys et al.,2005).

Neuropsychological symptoms are probably among the most commonly ignored complications in stroke patients (Dafer, Rao, Shareef & Sharma.2008)

A handful of empirical studies support the observation that post stroke quality of life is been influenced by poststroke depression and cognition. Kim,Warren,Madill andHadley (1999)studied at identifying the factors that influence quality of life (QOL) of geriatric stroke survivors 1–3 years post-discharge. The overall quality of life of the study participants was low. The most important predictors of QOL were depression, marital status, quality of social support, and functional status. Depression was the strongest predictor of QOL. Raju, sarma and Pandian (2010) conducted a prospective hospital based study to examine the QOL,anxiety,depression and functional independence of stroke survivors. Study results revealed that presence of anxiety and depression was negatively correlated with QoL in the physical, social, and environmental domains; ie, patients with anxiety and depression were more likely to have impaired QoL.

Mackenzie and Chang (2009)assessed the factors predicting quality of life during the course of rehabilitation following stroke. Two hundred and fifteen stroke patients aged 41-93 were studied over a period of three months. The findings indicate that both psychosocial and physical factors are important in predicting quality of life in stroke rehabilitation. Determining such predictors at an early stage will help to guide clinical decisions throughout rehabilitation.

Jonkman,Weerd and Vrijens (2009) conducted a study to evaluate factors important for QOL in the period 3–12 months after a first one-sided ischemic stroke in the region of the middle cerebral artery. Measures for QOL (Sickness Impact Profile, SIP), cognitive status (Wechsler Adult Intelligence Scale revised), mood and neurological deficit were scored 3, 6 and 12 months after the stroke. . There was no significant neurological improvement between 3 and 12 months after the stroke. Cognition was impaired when compared to the estimated premorbid level and to the controls. In a homogenous group of stroke patients the QOL improved somewhat in the period 3 to 12 months after the stroke but was still highly abnormal after 1 year. The decrease in QOL was correlated with depression and to some degree , with neurological deficit, but not to cognitive disturbances.

Kwa,Limburg and Hann((1996) investigated the role of cognitive impairment in the Quality of Life of patients after stroke. Evaluated several variables including age, degree of paralysis, cognitive deficits and volume of infarcts, in 129 hospitalized Ischemic stroke patients. Cognitive function was assessed with the CAMCOG and QOL with a visual analogue scale (VAS). . Univariate analysis showed that substantial infarct volume, aphasia, impaired motor function, disability relating to activities of daily life, disturbed global functional health and impaired cognitive function were significantly associated with poorer QOL. Age, sex and education of the patient, co-morbidity and location of the infarcts were not related to QOL. , there were no significant impact of cognitive impairment on the patients' QL.

Robinson-Smith , Johnston and Allen (2000) conducted a Longitudinal, descriptive correlational study to determine the relationship of self-care self-efficacy to functional independence, quality of life, and depression after stroke. Inpatient rehabilitation facility at 1 month after stroke and home at 6 months after stroke were the settings of the study. Sixty-three stroke survivors were assessed . Self-care self-efficacy increased after stroke

and was strongly correlated with quality of life measures and depression at both 1 and 6 months after stroke. Functional independence and quality of life increased over time, while depression decreased. Functional independence was modestly correlated with quality of life at 6 months after stroke, but not at 1 month after stroke. To conclude, Self-care self-efficacy is strongly related to quality of life and to depression.

OBJECTIVES

- 1 To determine the relationship between Quality Of Life and depression among stroke survivors.
- 2 To determine the relationship between Quality Of Life and cognition among stroke survivors.

HYPOTHESES

- 1 There will be significant relationship between the Quality Of Life and depression of stroke survivors.
- 2 There will be significant relationship between the Quality Of Life and cognition of stroke survivors.

METHOD

Sample: Participants composed of 40 stroke survivors from selected hospital in Kerala. All the sample subjects were under the standard medical regimen for Stroke. They were of Ischemic stroke patients, survived from critical stage, in an age group of 35-70 years.

TOOLS USED

1. Hamilton Depression Rating Scale (Max Hamilton, 1960)

Hamilton Depression Rating Scale (HAM-D) is used to assess the depression of stroke survivors. First developed by Max Hamilton (1960) and is one of the most widely used depression scale. It is a standard 17-item scale version and each item is rated on either a 0-4 or 0-2 scale, the latter to be used for items where quantification of severity is difficult, and thus the item is rated as either probably or definitely present. Scoring for all versions of the HAM-D is based upon the clinical interview, plus any additional available information such as reports from significant others or family. Scoring ranges on a 0 to 4 spectrum (0=none/absent and 4=most severe) or a 0 to 2 spectrum (0=absent/none and 2=severe). The items 1,2,3,7,8,10,11,15 had zero to four score whereas the items 4,5,6,9,12,13,14,16,17 had zero to two scores. The total score of the scale ranged from 0-50. Depression is interpreted as 0-7 is normal, 8-13 is mild depression, 14-18 is moderate depression, 19-22 is severe depression, = >23 is very severe depression.

The translated Malayalam version of the tool was standardized with item analysis. On item analysis all the items were able to retain and it discriminates stroke survivors with high and low depression.

2. Montreal Cognitive Assessment (MoCA) is a cognitive-screening test (Nasreddine et al. 2005) to detect patients with mild cognitive impairment (MCI) (Qiu-yun Tu et al., 2013).

MoCA scale is used to quantify the amount of cognitive ability a person has and can be used to track changes in cognitive ability over time. The MoCA scale consists of assessment of 7 areas, namely, Visuospatial/Executive (max. Score-5), Naming (max. Score-3), Memory (max. Score-5), Attention (max. Score-6), Language (max. Score-3), Abstraction (max. Score-2), and orientation (max. Score-6). Maximum score for MoCA scale is 30 with = >26 is considered normal. Radhamani (2015) validated and standardized the Malayalam version of Montreal cognitive assessment scale by creating a cross cultural adaptation (MoCA-Malayalam-MoCA-M).

3. Stroke Specific Quality Of Life (SS-QOL) Scale (Williams et al, 1999) assesses health-related quality of life specific to stroke survivors. Acronym is SS-QOL. Type of Assessment is Patient Reported Outcomes. There are 49 items in the scale. Items are assessed on 5-point Guttman-type scales. Each item is answered using 1 of 3 different response sets. The scale Provides both summary and domain specific scores:

- 1) Domain scores are composed of unweighted averages
- 2) Summary scores are composed of an unweighted average of the 12 domain average scores. Scores of the scale ranges from 49-245. Higher scores indicate better functioning. The 12 domains of assessment include: Energy, Family roles, Language, Mobility, Mood, Personality, Self Care, Social Roles, Thinking, Upper Extremity Function, Vision, Work/Productivity. Time to Administer the scale is 10-15 minutes.

Administration Mode Is Paper & Pencil . No Training is Required. Age Ranges from Adult 18 - 64 years and Elderly Adult 65 + years .The translated Malayalam version of the tool was standardized with item analysis. All the items were able to retain and it discriminates stroke survivors with various levels of QOL.

4.Modified Rankin Scale

The Modified Rankin Scale (mRS) is used to measure the degree of disability in patients who have had a stroke, as follows:

- 0: No symptoms at all
- 1: No significant disability despite symptoms; able to carry out all usual duties and activities
- 2: Slight disability; unable to carry out all previous activities, but able to look after own affairs without assistance
- 3: Moderate disability; requiring some help, but able to walk without assistance
- 4: Moderately severe disability; unable to walk without assistance and unable to attend to own bodily needs without assistance
- 5: Severe disability; bedridden, incontinent and requiring constant nursing care and attention
- 6: Dead

Mild to moderate disability category (scores 1-3) was selected for the study.

Permission to conduct the study was obtained from the Hospital Authorities and from the HOD of Neuro medicine . Arrangement for the smooth conduct of the study was done with the help of nursing service department especially a separate room in the Hospital for the assessment and intervention. Ethical clearance for the study was obtained from Institutional Ethical committee. Subjects and their care givers were explained about the study and obtained informed consent of the patient. Subjects were selected by purposive sampling based on modified Rankin Scale (mRS) for disability assessment. Tool were administered and collected the data on QOL, depression and cognition.

Procedure and administration

RESULTS AND DISCUSSION

Results of Correlation of Quality Of Life on Depression .

Table 1. Correlation of post stroke Quality of life on depression

Variable	Pearson Correlation	P value
Quality Of Life	-0.449	*0.004
Depression		

*significant at 0.01 level

Carl pearson co efficient of correlation was used for data analysis. The findings of the study decipher that Quality Of life and depression are negatively correlated (-0.449). This unfolds the fact that, as the depression in the post stroke period increases , the quality of life decreases. So it is decisive that the post stroke depression is to be taken into consideration and intervene to reduce the occurrence of it as it may affect the QOL of stroke survivors adversely. Raju, sarma and Pandian (2010) in their prospective hospital based study examined the QOL, anxiety, depression and functional independence of stroke survivors and it revealed that presence of anxiety and depression was negatively correlated with QoL in the physical, social, and environmental domains; ie, patients with anxiety and depression were more likely to have impaired QoL.

Results of Correlation of Quality Of Life on Cognition .

Table 2. Correlation of pot stroke Quality of life on cognition

Variable	Pearson Correlation	P value
Quality Of Life	0.280	0.080
Depression		

Regarding the Quality of life and cognition as given in the table no.2, there was a nonsignificant positive correlation existed. Kwa, Limburg & Hann((1996) investigated the role of cognitive impairment in the Quality of Life of patients after stroke. Univariate analysis showed that substantial infarct volume, aphasia, impaired motor function, disability relating to activities of daily life, disturbed global functional health and impaired cognitive function were significantly associated with poorer QOL. These data clearly record the importance of taking into consideration of the neuro psychological symptoms in the post stroke period such as depression, cognition etc.

CONCLUSION

To conclude there existed a significant negative correlation of post stroke Quality Of Life on Depressio. With regard to post stroke Quality Of Life on cognition, there was a positive correlation ,but it was non significant.

REFERENCE

1. Abubakar S A & Isezuo S A (2013) . Health related quality of life of stroke survivors: experience of a stroke unit, *International Journal of Biomedical Science*, 8(3),183.
2. Jonkman E J, Weerd & Vrijens (2009) . Quality of life after a first ischemic stroke, *Acta Neurologica Scandinavica*, 98(3)
3. Kim, P., Warren ,S., Madill, H & Hadley, M (1999). Quality of life of stroke survivors, *Quality of life research*, 8(4), 293-301.
4. Kwa V H, Limburg M & Hann R J ((1996) . The role of cognitive impairment in the quality of life after ischaemic stroke , *Journal of Neurology*, 243(8), 599-604.
5. Paul , Das , Hazra , Ghosal , Ray & Banerjee(2013) . Depression among stroke survivors: a community-based, prospective study from Kolkata, India. *American Journal of Geriatric Psychiatry*, 21(9), 821-31.
6. Raju R S., sarma P S & Pandian J D (2010). Psychosocial Problems, Quality of Life, and Functional Independence Among Indian Stroke Survivors, *Stroke*, 41, 2932-2937.
7. Robinson-Smith , Johnston & Allen (2000). Self-care self-efficacy, quality of life, and depression after stroke. , *Archives of Physical Medicine and Rehabilitation* , 81, 460-464.
8. Srivastava A, Taly A B, Gupta A & Murali T (2010). Post-stroke depression: prevalence and relationship with disability in chronic stroke survivors, *Annals of Indian Academy of Neurology*, 13(2), 123-124.
9. Teoh V, Sims J & Milgrom J (2009). Psychosocial Predictors of Quality of Life in a Sample of Community-Dwelling Stroke Survivors: A Longitudinal Study, *Journal topics in Stroke Rehabilitation*, 16(2), 157-166.
10. Viitanen M, Meyer KS, Bernspang B & Meyer AR. (1988) Life satisfaction in long-term survivors after stroke, *Scandinavian Journal of Rehabilitation Medicine*, 20(1), 17-24.