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Assessment of Quality of Life in Patients with Stroke Using Stroke Specific Quality of Life Scale

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ABSTRACT

Background: Quality of life (QOL) is the degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events. It is necessary to understand how the duration and age of patients affects different aspects of QOL so that it will help to frame appropriate guidelines about management of stroke related impairments and participation restriction.

Methodology: It was an observational study conducted in physiotherapy OPD of a tertiary care hospital from January to October 2021. After the approval from Institutional Ethics committee, 100 patients with stroke were included in the study. Stroke Specific Quality of life questionnaire was administered on them in local language.

Results: As the duration of stroke increases, scores on SSQOL scale increases indicating better functioning with scores of 112.9 for the duration of 6-16 months, 117.94 for 17-27 months and 130.5 for 28-38 months. As per the age analysis, age group of 45-65yrs shows better quality of life with score of 123.18 as compared to score of 99.58 for 66-86yrs and score of 110.16 for 24-44yrs.

Conclusion: Patients with duration of stroke of 28-38 months showed better quality of life as compared to 6-16 months and 17-27 months. Similarly, patients in the age range of 45-65 years showed better quality of life as compared to lower and upper age groups. However, Social Roles scored the same across all duration of condition indicating the need for remedial measures to be taken to improve the same.

Keywords: Quality of life, stroke, Stroke Specific Quality of Life Scale

INTRODUCTION

Stroke remains a major contributor to mortality and morbidity both locally and globally. According to the Global Burden of Diseases (GBD) study in 1990, stroke was the second leading cause of death worldwide. Subsequent efforts to update the GBD study reported nearly 5.87 million stroke deaths globally in 2010, as compared to 4.66 million in 1990.[2][3] This indicated a 26 per cent increase in global stroke deaths during the past two decades. Its incidence is increasing because the population ages. In addition, more young people are affected by stroke in low- and middle-income countries. Ischemic stroke is more frequent but haemorrhagic stroke is responsible for more deaths and disability-adjusted life-years lost.[1][2][3] With the rising proportion of mortality, stroke still remains the second leading cause of death worldwide.[1]

Quality of life (QOL) is the degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events. The World Health Organisation (WHO) defines QOL as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns".[12]

HRQoL is a quantified response to a predesigned, self-administered questionnaire which covers the physical,

emotional and social wellbeing of a patient with chronic disease and helps evaluate, assess and treat the patient better.[6]

Even though most hemiplegic stroke patients may obtain a good functional outcome, many may remain dissatisfied with their lives. Indeed, quality of life and their subjective well-being should be taken into account in any assessment of the stroke survival.

To help understand what the patient is going through and how he can be helped, there are questionnaires which are multidimensional and designed to take into account the patient's physical, mental, emotional, and social wellbeing, which are called domains. Each domain has questions pertaining to that area. The answers are noted and the results are quantified thus giving the physician/therapist an insight into the patient's Quality of Life.[6]

This helps to understand the burden of disease or the impact of treatment on the patient. The patients' responses over a period of time help the physician/therapist in the line of treatment and counselling.[6]

Studies on QoL are important for assessing the impact of an individual's life on society. However, there are few studies focusing on this topic in India. So, this study was undertaken to analyze the impact of stroke on QoL of patients using Stroke Specific Quality of Life Scale.

METHODOLOGY

As regular assessment of QoL can provide longitudinal data about changes in the patient's quality of life over time, it can help to determine effectiveness of the treatment and the extent of burden of a disease. Thus, this study was undertaken to further investigate the findings.

This was a cross sectional observational study. Ethical approval was obtained from the Institutional Ethics committee before study initiation. The source population comprised of adult stroke patients who were admitted in the hospital as well as from different rehabilitation centres in the city; Stroke Rehabilitation Center, Rahuri and Stroke Rehabilitation Center, Putamba.

Patient data, such as name, sociodemographic characteristics (age, gender, and employment status), stroke type, duration of stroke, were collected. All the stroke patients with duration of stroke more than 6 months were included in this study. Patients with severe neurological disorder, uncooperative patients and patients with cognitive impairments were excluded from the study. The total sample size was 100 patients and the sampling technique used was purposive sampling. All participants were provided with informed consent to participate in the study. Data was collected through face-to-face interviews, patient record reviews and telephonic interviews.

The Stroke Specific Quality of Life scale (SS-QOL) is a patient-centered outcome measure intended to provide an assessment of health-related quality of life specific to patients with stroke.[8] The questionnaire is specific for patients with a stroke. During the patient interview, the Marathi version of the SSQOL questionnaire was applied. The Stroke Specific Quality of life Scale – SSQOL (SSQOL), was translated and validated in Marathi and contained 49 items, divided into 12 domains. Reliability of the Marathi version scale was found to be 0.82 and validity of the Marathi version was found to be 0.93.[15] The minimum score is 49 points and the maximum is 245 points, where the higher the points obtained the better the quality of life.

The 12 domains of the scale were: Mobility, Energy, Upper extremity function, Work/productivity, Mood, Self-care, Social roles, Family roles, Vision, Language, Thinking and Personality.

This specific scale was chosen for the study as it was easy to comprehend by the patient and had better reliability and validity of the local version.

RESULTS

Of the 100 patients included after meeting the inclusion criteria, 75 patients were male and 25 patients were female. (Table No 1)

The most compromised dimensions of the stroke specific quality of life scale were Personality, Work/Productivity and Energy.

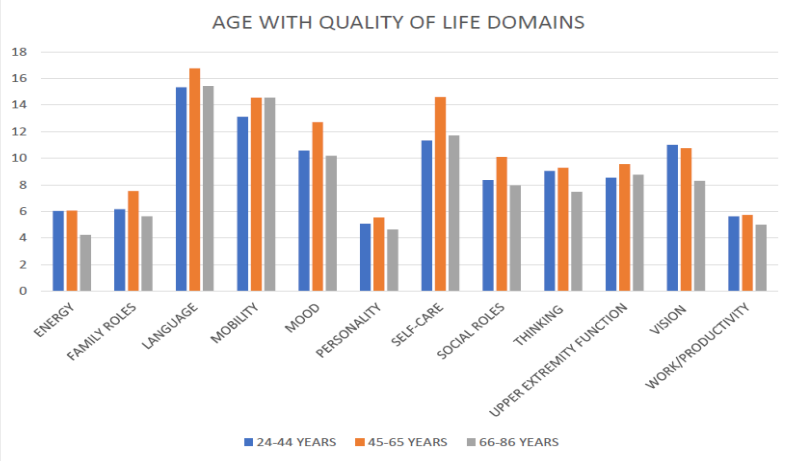
As the duration of stroke increases, scores on SSQOL scale increases indicating better functioning with scores of 112.9 for the duration of 6-16 months, 117.94 for the duration of 17-27 months and 130.5 for the duration of 28-38 months.

As per the age analysis, age group of 45-65yrs shows better quality of life with score of 123.18 as compared to score of 99.58 for age group of 66-86yrs and score of 110.16 for age group of 24-44yrs.

Table No. 1: Gender-wise distribution of patients.

SR. NO.	GENDER	TOTAL
1	MALE	75
2	FEMALE	25
		100

Graph no. 1 shows: Age-wise mean scores of quality of life domains.

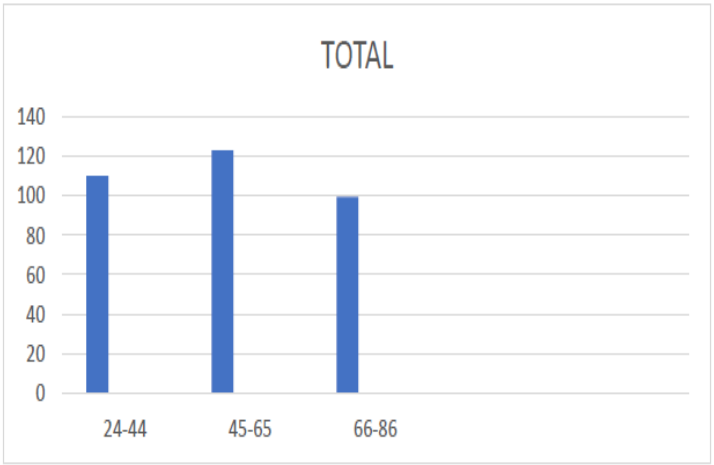


As per the component wise analysis according to age in age group of 45-65yrs, vision, language, mood, self-care, mobility and language shows better scores with personality as the most affected domain and language as the least affected domain.

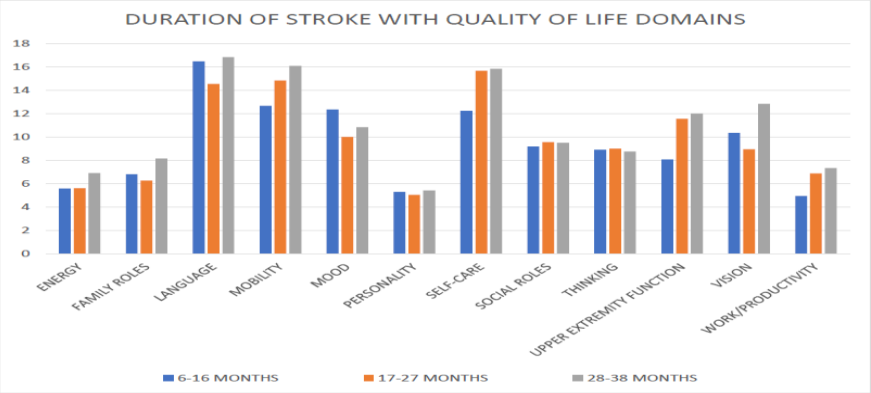
As per the component wise analysis according to age in age group of 24-44yrs, vision, language, self-care and mobility shows better scores with personality as the most affected domain and language as the least affected domain.

As per the component wise analysis according to age in age group of 66-86yrs, language, self-care and mobility shows better scores with energy as the most affected domain and language as the least affected domain.

Graph No. 2 shows: Total score of quality of life according to different age groups.



Graph No. 3 shows: Duration of stroke wise mean scores of quality of life domains.

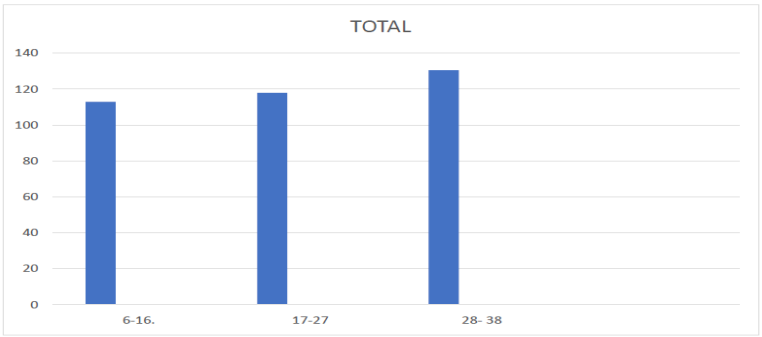


In 6-16 months after stroke, the most affected domain is Work/Productivity and the least affected domain is Language.

In 17-27 months after stroke, the most affected domain is Personality and the least affected domain is Self-Care.

In 28-38 months after stroke, the most affected domain is Work/Productivity and the least affected domain is Language.

Graph No. 4: Total score of quality of life according to duration of life.



DISCUSSION

This study aimed at affection of quality of life in stroke patients by comparing of quality of life domains with age of patients and duration of stroke. To accomplish this aim, 100 patients who were affected by stroke were recruited and stroke specific quality of life scale was applied.

Duration of stroke was further divided into 3 groups 6-16months, 17-27months and 28-38months, while the age of patients was also further divided into 3 groups 24-44yrs, 45-65yrs and 66-86yrs.

Graphs were plotted by calculating the mean values of duration of stroke and age groups.

Age group of 45-65yrs shows improved quality of life with scores of 123.18 as they were expected to provide livelihood to the family being the working age people when compared with age group of 65-85yrs who were frail and had less hope regarding the improvement of their present condition with score of 99.58 and age group of 24-44yrs with score of 110.16 who lacked motivation to improve their condition.

As the duration of stroke increases, scores on SSQOL scale increases indicating better functioning with score of 112.9 for the duration of 6-16 months, 117.94 for the duration of 17-27 months and 130.5 for the duration of 28-38 months. As the duration of stroke increases, individual moves from clinical setting to community. This transition comes with the expectations on him to perform his duties resulting in improved quality of life.

A study conducted in Brazil concluded that the most affected domains were as follows:

Work/Productivity, Social Roles, Personality, Energy and Family Roles. Alternatively, the least affected domain was Vision.[24]

As per the component wise analysis according to duration of stroke, mobility, Upper Extremity Function and Work/Productivity shows consistent increase in score from 6 to 38 months. However, the domain of Social Roles showed no progression despite improvement in mobility and work/productivity.

Duncan et al. have researched quality of life in people with stroke and have found that decreased physical abilities have the greatest effect on quality of life after stroke. Loss of hand function is reported as the most disabling (Duncan et al., 2003).[25]

Another study concluded that deterioration was common in the elderly and in women, in particular. Probable explanations for deterioration were high rates of comorbidities in the elderly and social isolation.[26]

CONCLUSION

Therefore, the study concludes that as the duration of stroke increases, quality of life improves in patients with stroke. The age group of 45-65yrs showed improved quality of life when compared to other age groups. However Social Roles scored the same across all duration of condition indicating the need for remedial measures to be taken to improve the same.

Clinical Implications and Limitations

Limitation of the study is that the patients were recruited through different setups and hence may not have similar community or environment exposure which can be a confounding factor and may not allow for generalization of findings.

However, this is one of few studies which have analysed each component of SSQOL and tried to explore the extent of affection. It suggests that a customised approach is required while framing treatment goals to patients. Due to lack of time (6 months of internship) same patient was not followed for long time to evaluate the effect on components of SSQOL. Hence further studies can be taken up in which long term follow up of patients is done to understand behaviour of QOL in a better way.

Conflict of Interest: None
Source of Funding: None
Ethical Approval: Approved

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