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Quality of Life Among Stroke Survivors; A Descriptive Study

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Author`s Contribution

[1-4] Conception and design, Collection and assembly of data, [5]Analysis and interpretation of the data, [6]Critical revision of the article for important intellectual content, Statistical expertise [1-6] Final approval and guarantor of the article.

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A B S T R A C T

Background: Drop in physical activity is the second higher risk factor for stroke. After hypertension, the reduction in physical activity by less than four hours in one week leads to stroke. Survivors of stroke had higher mortality rates than cancer survivors.

Objective: To determine the quality of life among stroke survivors

Methodology: This was an observational study conducted in different public and private hospitals in Lahore, Pakistan. The study was conducted from September 2018 to December 2018. Data was collected through a non-probability convenient sampling technique. A total of 134 patients, male, and female who survived sub-acute and chronic stroke were included in the study while patients who were suffering from acute stroke or any other neurological disease were excluded from the study. All the participants who were willing to take part in the study gave written consent. Data was collected by a well-characterized stroke-specific quality of life questionnaire and analyzed by SPSS-21.

Results: Among 134 participants, the mean age was (55.63±10.806 years). 73 (54.48%) female and 61(45.52%) male patients participated in the study. The total score of the stroke-specific quality of life was 245 and the patients showed mean scores (of 123.8±35.27) respectively. Mean±standard deviation values of stroke-specific quality of life domains showed that most of the participants reported problems in four areas; energy (6.59±3.11), family roles (7.74±3.26), personality (7.32±3.14), work and productivity (6.36±3.29).

Conclusion: The study concluded that major distressing areas which mostly affect the quality of life of stroke survivors were energy, family roles, personality, and work and productivity correspondingly.

Keywords: Quality of life, Survivors, Stroke.

Introduction

A stroke occurs when blood flow to the brain is interrupted, also known as a transient ischemic attack or a cerebrovascular accident. There are two main classifications for stroke. Ischemic stroke and hemorrhagic stroke. Ischemic strokes are brought on by arterial blockages (or, in rare instances, a vein). All strokes are ischemic in about 87% of cases. Hemorrhagic strokes are brought on by bleeding. The majority of strokes about 13% are hemorrhagic. The greatest risk factor for stroke is by far hypertension, followed by obesity, diabetes, physical inactivity, heart disease, cigarette smoking, and warning indications of transient ischemic attack (TIA) or stroke. Quality of life is a modular of wellness, felicity, and relaxation experienced by an individual. [1] Patients who survived stroke experienced difficulty in activities of daily living (ADL). Stroke survivors had to endure postural imbalances, reduced mobility, and compromised daily living activities. More risk of falls results in prolonged impairment,[2] patients who survive stroke frequently, experienced an ablated health-related quality of life. [(3)] Stroke-specific quality of life (SS-QOL) form is a standardized, reliable, and disease-particular questionnaire

used for the evaluation of stroke patients. It has twelve domains and forty-nine questions ranging from 1 to 5 categories. Regions include energy, language, mobility, self-care, family roles, social roles, vision, mood, thinking, upper extremity function, and work and productivity. [4] Drop in physical activity is the second higher risk factor for stroke. After hypertension, the reduction in physical activity by less than four hours in one week leads to stroke [5] Survivors of stroke had higher mortality rates than cancer survivors.[6] Stroke survivors who were associated with diabetes experienced poor outcomes following a stroke studied by Lau et al.[7] Various physical disabilities after a stroke include postural impairments, balance problems, reduced mobility, general weakness, cognitive impairment, anxiety, and activities that compromise daily living. [(8)] Quality of life is negatively influenced by age and functional independence whereas post-stroke duration and co-morbidities cannot independently predict QOL. [9] Pain is common among stroke survivors and it is linked to fatigue, mental state, and reduced quality of life. [10] Occurrence of post-stroke depression (PSD) among stroke survivors is 20 times more as compared to constantly hypertensive persons. [11] English et al. evaluated in a study that, after recovery, levels of physical activities of stroke survivors remained lesser as compared to their same-age group mates. [12] Lower limb somatosensory problems are more common in stroke survivors explored by Terry Gorst in 2018. Overall 56% of the participants had lower limb somatosensory difficulties and these problems caused balance difficulties, walking and there was more risk of falls. [13] Patients with emotional consequences did not have good recovery outcomes after stroke. Therefore, they have an increased risk of recurrence of stroke which leads to death. The study also reported that those people who adopt coping strategies after stroke may have a better quality of life as compared to those who do not adopt those coping strategies. [14] Social support has played a significant role in diminishing the influence of depression in older adults.[15] Comparative research was conducted on the incidence of stroke and authors reported that the mean age of stroke patients in Pakistan was quite younger than the patients in the other countries**.** [(16)] There is a decreased occurrence of stroke in well-developed countries by 12% and an increased significance of stroke in non-developing countries.[17]

Khealani et al. investigated in one research that about twenty percent of stroke patients from Pakistan were below the age of 45 years. The supremacy of burden amid stroke survivors is comparatively higher in Pakistan as compared to the developing countries.[18]

This study was conducted to identify distressing areas which were mainly affecting the daily life of stroke survivors, which will further help other health professionals to work on the most distressing areas to improve the QOL of stroke survivors.

Methodology

This study was a descriptive cross-sectional survey, conducted at different hospitals in Lahore; Ittefaq hospital, Jinnah hospital, Services hospital, Sheikh Zayed hospital, and Lahore General Hospital. Data were collected from the patients having sub-acute and chronic strokes. The study was completed within 4 months approximately from September 2018 to December 2018 after approval from the research ethical committee Ref. No. RCR&AHS/REC/DPT/018. The study population was stroke survivors. The sample was collected by convenience non-probability sampling technique. Inclusion criteria comprised male and female patients who survived sub-acute (1 to 6 months) or chronic stroke (more than 6 months) with the diagnosis of at least one month of ischemic or hemorrhagic stroke[(1)] and age ranging between 19-86 years. [19] Patients who were suffering from acute stroke or any other neurological disease and vertebral compression fracture,[(1)]patients with dementia, verified psychotic disorder, failure to complete the questionnaire, or who were not able to speak were excluded from this study. [19] Data was collected from 134 stroke patients from different hospitals in Lahore. All the participants who were willing to take part in the study gave written consent. Data was collected by a well-characterized stroke-specific quality of life (SS-QOL) questionnaire. It has excellent test-retest and inter-rater reliability. Item-to-scale correlation coefficients of 0.3-0.88 supported convergent validity. Information was entered and analyzed by the statistical package of social sciences SPSS-21.

Results

Descriptive Statistics were calculated concerning the items on the questionnaire stroke-specific quality of life (SS-QOL). Among the 134 participants, the mean age was (55.63±10.806 years) 73 (54.48%) were female and 61 (45.52%) were male included in the survey. 59 (44.03%) patients with hypertension had the right side of the body affected while 52 (38.81%) patients without hypertension had the left side of the body more affected. Results of the relationship between diabetes and hypertension revealed that participants present with or without diabetes, both were more hypertensive than normal. 60 (44.78%) patients with diabetes were hypertensive while 51 (38.06%) participants without diabetes were also hypertensive. The relationship between hypertension and gender showed that 59 (44%) female and 52 (38.8%) male was suffering from hypertension. Table I showed the SS-QOL scale illustration and described the mean values of

the domains of the stroke-specific quality of life questionnaire. Mean and standard deviation values of stroke-specific quality of life domains showed that most of the participants reported problems in the four areas, energy (6.59±3.11), family roles (7.74±3.26), personality (7.32±3.14), and work and productivity (6.36±3.29). Participants showed a total mean score of QOL (123.8±35.27) with a maximum score of 215.00 and a minimum score of 58.00. Table II showed the SS-QOL scale illustration according to gender distribution. Table III showed the association between gender and hypertension.

Table I: Mean and standard deviation values of stroke-specific quality of life (SS-QOL) domains.

Characteristics	Stroke survivors (n=134) Mean±SD
Work and productivity (Total score= 15)	6.36±3.29
Energy (Total score= 15)	6.59±3.11
Personality (Total score= 15)	7.32±3.14
Family roles (Total score= 15)	7.74±3.26
Thinking (Total score= 15)	9.63±4.02
Vision (Total score= 15)	9.97±3.89
Upper Extremity function (Total score= 25)	10.49±5.07
Social roles (Total score= 25)	10.74±4.21
Self-care (Total score= 25)	11.29±5.02
Mobility (Total score= 30)	12.91±6.10
Language (Total score= 25)	15.34±6.04
Mood (Total score= 25)	15.54±4.94
SS-QOL (Total score=245)	123.8±35.27

Table II: Mean and standard deviation values of stroke-specific quality of life (SS-QOL) questionnaire according to the gender.

Characteristics	Male (n=61) Mean±SD	Female (n=73) Mean±SD
Work and productivity (Total score= 15)	7.28±3.58	5.60±2.83
Energy (Total score= 15)	7.26±3.20	6.02±2.93
Personality (Total score= 15)	7.52±2.80	7.15±3.40
Family roles (Total score= 15)	8.39±3.12	7.19±3.30
Thinking (Total score= 15)	9.63±4.11	9.63±3.96
Vision (Total score= 15)	10.18±3.89	9.79±3.89
Upper Extremity function (Total score= 25)	11.32±5.63	9.79±4.46
Social roles (Total score= 25)	11.09±4.10	10.45±4.29
Self-care (Total score= 25)	12.81±5.07	10.02±4.63
Mobility (Total score= 30)	14.67±6.45	11.43±5.41
Language (Total score= 25)	16.34±6.15	14.50±5.85
Mood (Total score= 25)	16.16±4.91	14.86±4.93

Table III: Association between Gender and Hypertension

		Hypertension		**Total Patients (n=134)**
		Yes	**No**	
Gender	Male	52 (38.81%)	9 (6.72%)	61 (45.5%)
Gender	Female	59 (44.03%)	14 (10.45)	73 (54.4%)
Total patients		111 (82.8%)	23 (17.1%)	134 (100%)

Discussion

The study included patients with a mean age of 55.63 years. Results of the current research showed relevance with the study conducted in 2018 by Oni et al. who disclosed similar results with the mean age of 57 years of the stroke patients. [11] After the stroke, survivors reported problems with decreased quality of life. Results of the current study showed a close relation between scores of affected domains with the study of Mandke et al. using SS-QOL, in that study work and productivity had least scores; the mean score of work was 7.774, and of self-care was 16.35. He further reported that the mean score of domains upper extremity function (16.35) and mobility (18.77) were least affected as compared to work and self-care [1] and the current study showed that the mean value of upper extremity function was 10.49 and of mobility was 12.91 respectively. The present study also showed less mean values of energy (6.59) and family roles (10.74) and showed agreement with the study which investigated that the domain of energy and social roles had the worst outcomes. [9] Results of the current study following another study conducted by Sverre E. Kjeldsen in 2018 that hypertension is the vivacious and springy hazard component that leads to stroke.[20] These findings are also relevant to the study which reported that 83% of participants had hypertension and it was the most common comorbidity among stroke survivors. [9] The comparative results based on gender were considered for the present study and it was found that patients who had a stroke were (54.48%) female and (45.52%) were male. So the risk factor of stroke was found higher in females. The present study showed a contradiction with the results of Crichton et al. (2016) who informed about the higher percentage of stroke in male patients in comparison to females.[21] So, the difference in results could be due to the illiteracy of females in the region. Another study was conducted to evaluate the difference between the pre-stroke and post-stroke quality of life. Results showed a significantly lower quality of life ($p<0.05$) in post-stroke patients. Six factors were independently related to lower post-stroke QOL which included increased level of cholesterol, female gender, younger age, low

level of education, lower general health, and more disability. Higher QOL before the stroke and after the stroke was associated with better statuses of social determining factors of health. [22]

Recommendations would be that acute patients should be included in further studies. Proper screening of females is required in future studies to reduce the risk factors of stroke. Special efforts and management procedures should be made in rehabilitation on the worst domains to improve quality of life.

Conclusion

This study concluded that the main areas of distress that have the greatest impact on the quality of life of stroke survivors were energy, family roles, personality, and work.

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References

1. Ketaki VM, Suvarna SG. Quality of Life in Patients with Stroke. J Yoga & Physio. 2017;3(1).
2. Heikinheimo T, Chimbayo D. Quality of life after first-ever stroke: An interview-based study from Blantyre, Malawi. Malawi Med J. 2015;27(2):50–4. Available from: http://dx.doi.org/10.4314/mmj.v27i2.4
3. Safaz I, Kesikburun S, Adigüzel E, Yilmaz B. Determinants of disease-specific health-related quality of life in Turkish stroke survivors. International Journal of Rehabilitation Research. 2016;39(2):130-3.
4. Barclay R, Tate RB. Response shift recalibration and reprioritization in health-related quality of life were identified prospectively in older men with and without stroke. Journal of Clinical Epidemiology. 2014;67(5):500-7.
5. O'Donnell MJ, Chin SL, Rangarajan S, Xavier D, Liu L, Zhang H, et al. Global and regional effects of potentially modifiable risk factors associated with acute stroke in 32 countries (INTERSTROKE): a case-control study. The Lancet. 2016;388(10046):761-75.
6. Eriksson H, Milberg A, Hjelm K, Friedrichsen M. End of life care for patients dying of stroke: a comparative registry study of stroke and cancer. PloS one. 2016;11(2):e0147694.
7. Lau L-H, Lew J, Borschmann K, Thijs V, Ekinci EI. Prevalence of diabetes and its effects on stroke outcomes: A meta-analysis and literature review. J Diabetes Investig. 2019;10(3):780–92. Available from: http://dx.doi.org/10.1111/jdi.12932
8. Morris JH, Oliver T, Kroll T, Joice S, Williams B. Physical activity participation in community-dwelling stroke survivors: synergy and dissonance between motivation and capability. A qualitative study. Physiotherapy. 2017;103(3):311-21.
9. Usman N. Quality of Life Assessment of Stroke Survivors Visiting Tertiary Hospitals in North Western Nigeria 2017.
10. Harrison RA, Field TS. Post-stroke pain: identification, assessment, and therapy. Cerebrovascular diseases. 2015;39(3-4):190-201.
11. Oni OD, Olagunju AT, Olisah VO, Aina OF, Ojini FI. Post-stroke depression: Prevalence, associated factors and impact on quality of life among outpatients in a Nigerian hospital. South African Journal of Psychiatry. 2018;24(1).
12. English C, Healy GN, Coates A, Lewis L, Olds T, Bernhardt J. Sitting and activity time in people with stroke. Physical therapy. 2016;96(2):193-201.
13. Gorst T, Rogers A, Morrison SC, Cramp M, Paton J, Freeman J, et al. The prevalence, distribution, and functional importance of lower limb somatosensory impairments in chronic stroke survivors: a cross-sectional observational study. Disability and Rehabilitation. 2018:1-8.
14. Lo Buono V, Corallo F, Bramanti P, Marino S. Coping strategies and health-related quality of life after stroke. Journal of health psychology. 2017;22(1):16-28.
15. Kong L-N, Hu P, Yao Y, Zhao Q-H. Social support as a mediator between depression and quality of life in Chinese community-dwelling older adults with chronic disease. Geriatric Nursing. 2018.
16. Ramadan H, Patterson C, Maguire S, Melvin I, Kain K, Teale E, et al. Incidence of first stroke and ethnic differences in stroke pattern in Bradford, UK: Bradford Stroke Study. International Journal of Stroke. 2018;13(4):374-8.
17. Feigin VL, Forouzanfar MH, Krishnamurthi R, Mensah GA, Connor M, Bennett DA, et al. The global and regional burden of stroke during 1990–2010: findings from the Global Burden of Disease Study 2010. The Lancet. 2014;383(9913):245-55.
18. Khealani BA, Hameed B, Mapari UU. Stroke in Pakistan. Journal of the Pakistan Medical Association. 2008;58(7):400.
19. Cruz-Cruz C, Martinez-Nuñez JM, Perez ME, Kravzov-Jinich J, Ríos-Castañeda C, Altagracia-Martinez M. Evaluation of the Stroke-Specific Quality-of-Life (SSQOL) scale in Mexico: a preliminary approach. Value in health regional issues. 2013;2(3):392-7.
20. Kjeldsen SE. Hypertension and cardiovascular risk: General aspects. Pharmacol Res. 2018;129:95–9. Available from: http://dx.doi.org/10.1016/j.phrs.2017.11.00321. Crichton SL, Bray BD, McKevitt C, Rudd AG, Wolfe CD. Patient outcomes up to 15 years after stroke: survival, disability, quality of life, cognition, and mental health. J Neurol Neurosurg Psychiatry. 2016:jnnp-2016-313361.
22. Mahesh P, Gunathunga M, Jayasinghe S, Arnold S, Liyanage S. Factors influencing pre-stroke and post-stroke quality of life among stroke survivors in a lower middle-income country. Neurological Sciences. 2018;39(2):287-95.