

Effect of Psychological Stress and Physical Ability on the Quality of Life in Sub-acute Stroke Survivors

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Abstract: **Background:** - World Health Organization defines stroke as the clinical symptoms of local or overall dysfunction developed as a result of a disturbance of the cerebrum, which have lasted for more than 24 hours. Changes in the ability to sense, move, communicate, think, act as before are enormously frustrating by themselves and create high levels of stress. Stroke survivors are at increased risk for depression, injury due to falls and decreased physical functioning. Measuring quality of life is useful in gaining a better understanding of patient's reaction to the illness. The purpose of this study was to find out the effect of Psychological stress and Physical Ability on quality of life in post stroke survivors. **Methodology:** - Thirty subjects aged 45-75 years were recruited with first ever episode of stroke in sub-acute stage (3-6 months). Subjects with other neurological conditions were excluded. Perceived stress scale and Fugl Meyer Assessment tool, Stroke Specific Quality Of Life scales were administered onto patients and marked accordingly. **Result:** - Karl Pearson Correlation was used to find the correlation between the stress, physical ability and quality of life. Negative correlation was found between stress and quality of life whereas Positive correlation was found between physical performance and the quality of life in stroke survivors. **Conclusion:** - The present study showed that Psychological Stress and Physical Ability do have a significant effect on the Quality of life in post stroke survivors.

Keywords: Stroke, Quality of life, Physical ability.

1. BACKGROUND:

World Health Organization defines stroke as the clinical symptoms of local or overall dysfunction developed as a result of a disturbance of the cerebrum, which have lasted for more than 24 hours.¹ The incidence of it increases with age, thus the disability affects many people in their golden years.² Stroke patients often have manifestations of paralysis, such as weakness in the control of muscles and limitation in the range of movement and the inability to perform activities of daily living and decreased participation in leisure activities with a limitation on meaningful life roles.³

- Changes in the ability to sense, move, communicate, think, act as before are enormously frustrating by themselves and create high levels of stress.⁵ Stroke survivors are at increased risk for depression, injury due to falls and decreased physical functioning.⁸ Health related quality of life includes several dimensions such as physical, socioeconomic, spiritual and psychological aspects. Stress is among the psychological factors potentially influencing quality of life.⁹ Measuring quality of life is useful in gaining a better understanding of patients reaction to the illness and for the development of therapeutic processes as well as in the monitoring the efficacy of medical care both in acute as well as in long term follow up.¹² Thus the purpose of this study was to find out the effect of Psychological stress and Physical Ability on quality of life in post stroke survivors in sub-acute stage.
- Sharon K. et al (2009) did a study on the stress experienced by stroke survivors and spousal caregivers during the first year after discharge from inpatient rehabilitation, 159 couples were recruited. They concluded that stroke survivors functional independence was a significant predictor of stress for both patient and the caregiver.³
- Daina Kranciukaitė et al (2006) concluded that functional measurements only are not sufficient for determining stroke results. It is also necessary to do the impartial assessment of the physical impairments to measure the quality of life to provide a more accurate and complete picture of the post stroke level of disability.³⁹

2. METHODOLOGY:

Thirty subjects were recruited from West Delhi Area.

Inclusion Criteria

- Post stroke survivors with first ever stroke.^{5,11}
- Survivors of sub acute stage (3-6 months).
- Both males and females.³
- Age- 45 to 75 years.⁴
- Medically stable patients.¹¹
- Able to understand and respond to verbal commands.

Exclusion Criteria

- Subjects with other neurological conditions.¹⁵
- Musculoskeletal disorder which limits physical activity.¹³
- Any psychiatric illness.¹³

Thirty diagnosed Post stroke survivors (sub-acute stage) were recruited i.e. 17 males and 13 females aged between 45 to 75 years. The mean age of subjects was 58 ± 6.09 years respectively. Baseline comparison showed that age, gender and the affected side did not differ significantly between the individuals.

- After a preliminary assessment, Perceived stress scale and Fugl Meyer Assessment tools were administered. Later, Stroke Specific Quality Of Life scale was administered onto patients and was marked accordingly.

3. RESULTS:

Data was analyzed using SPSS software. Karl Pearson Correlation was used to find the correlation between the stress, physical ability and quality of life. The results of this study showed that there was a negative correlation between stress and quality of life as evaluated by Karl Pearson Correlation with the correlation co-efficient of -0.70 in sub-acute stage.

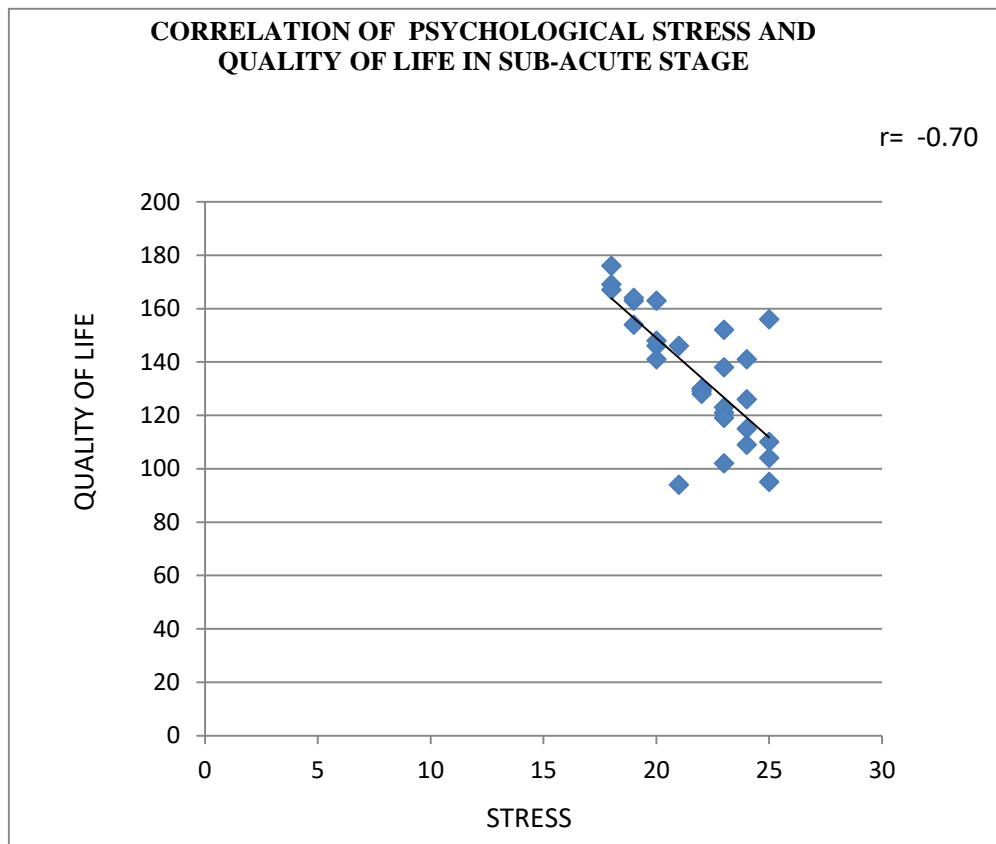


Figure 1. Relation between Stress and QOL

There was a positive correlation between physical performance and the quality of life in stroke survivors with a value of correlation 0.83 in sub-acute stage.

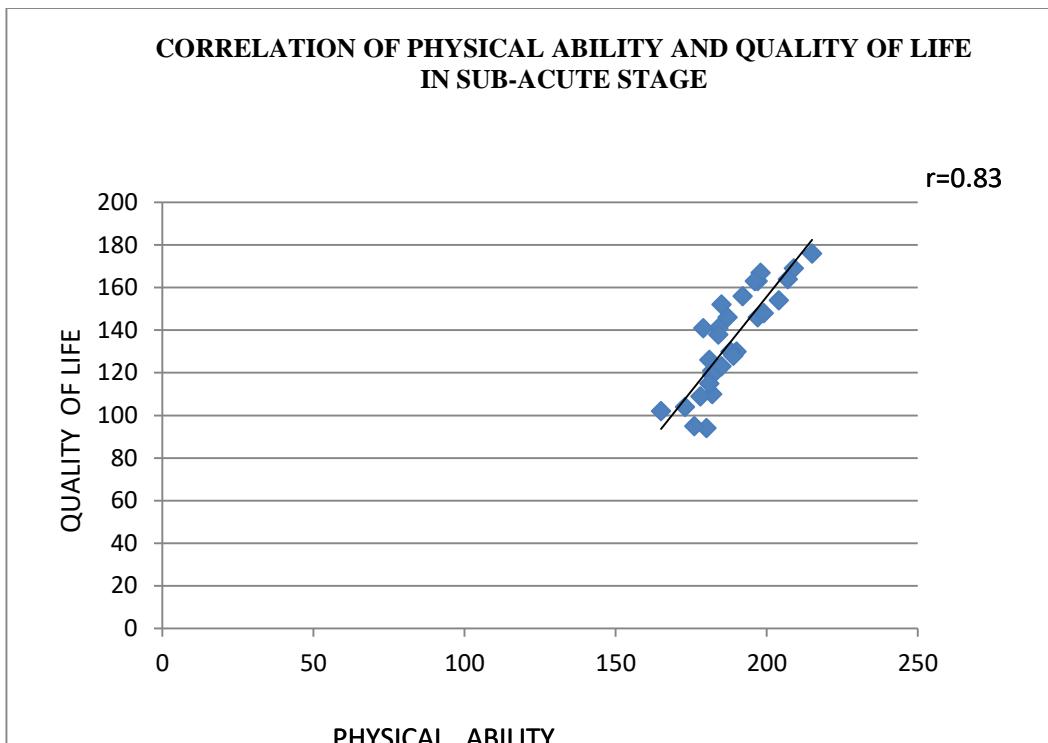


Figure 2. Relation between Physical Ability and QOL

- It has been found that QOL is affected in sub-acute stage with a mean value of 135.30.

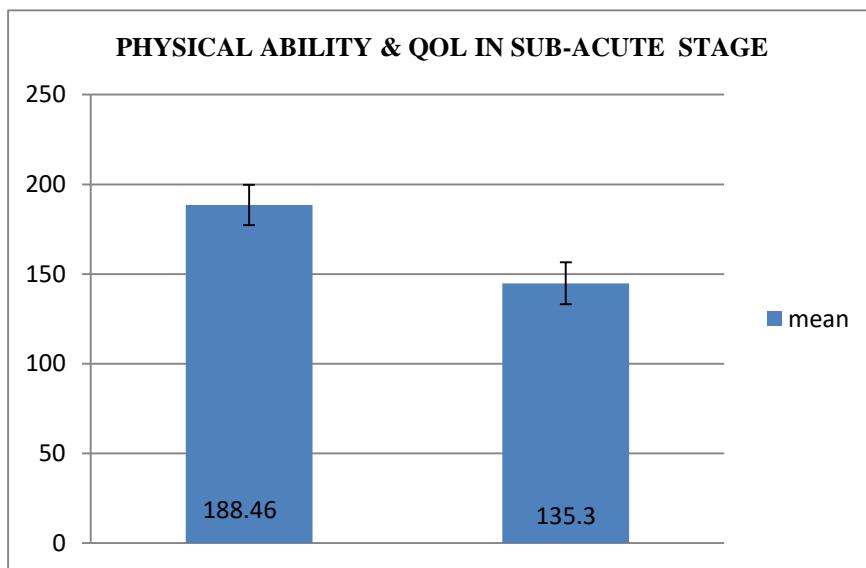


Figure 3. Mean of Physical Ability & QOL

4. DISCUSSION:

- The present study showed that quality of life was affected by the effects of the two parameters i.e. psychological stress and physical ability.
- There was a negative correlation between stress and quality of life. High stress level which was strongly and independently associated with low QOL. This might be because psychological reaction to stroke may serve as a prominent obstacle to patient's health and recovery, thus associated with lower quality of life.¹⁵
- The stress response may be harmful or deteriorating factor as it causes rise of cortisol in blood which causes impaired gluco-corticoid receptor activity which further causes neuronal death by altering brain function and affects stroke outcomes.

- A positive correlation was seen between physical ability and the quality of life in the stroke survivors. QOL improved in sub-acute stage with improvement in physical ability as motor recovery was found to be associated with metabolic improvement in associative motor areas of the damaged hemisphere in patients of stroke. This motor recovery is due to the extension of motor areas in the affected hemisphere and recruitment of ipsilateral motor pathways.
- The patients learnt to perceive situations as more manageable and respond to situations effectively thereby improving their mood and altering their physiology. Thus recovery after stroke is influenced by a variety of biological and environmental factors.
- With time the patients gradually regained psychologically well-being and most functions and activities. Those who experienced psychological reaction to stroke may be due to fear or decreased function, with time the fear lessened and the survivor's adaptive behaviour regarding their abilities to reform their expectations and taking of a different outlook in life was linked.
- Thus from the present study it was found that the psychological stress and physical ability affect quality of life in the sub-acute stroke survivors.

5. CONCLUSION:

- The present study showed that Psychological Stress and Physical Ability do have a significant effect on the Quality of life in post stroke survivors

REFERENCES:

1. Physical activity and stroke. J Exerc Sci Fit. 2005; vol 3: no 2
2. Measurement of quality of life in stroke patients. Medicina (Kaunas). 2006; 42(9):709-16.
3. Stress experienced by stroke survivors and spousal caregivers during the first year after discharge. Top stroke rehab. 2009; 16(2): 93-104
4. The association of psychological stress and health related quality of life among patients of stroke. Annals of General Psychiatry. 2006; 5:6
5. Quality of life and psychological problems in patients undergoing neuro rehab. Annals of Indian academy of neurology. 2008; Oct-Dec.11(4): 225-230
6. Quality of life in stroke patients. Neurology India. 2010; vol-58 issue -5: 697-701.
7. Predictors of functional independence. J Cardiovasc Nurs. 2008; Jul-Aug;23(4): 371-7
8. Health related quality of life in first ever stroke patients. Annals of Saudi Medicine. 2009; Jan-Feb:29(1)
9. Quality of life in stroke patients. Neurology India. 2010; Sep-Oct:vol 58 issue 5
10. Determinants of quality of life in stroke patients at Alwada Hospital. Menoufiya Medical journal. 2007; July: vol.20. No. 2.
11. Quality of life in post stroke patients and caregivers. Journal of Medicine and Life. 2010. July-September: Vol. 3, No.3: 216-220.
12. Textbook of Physical Rehabilitation. Susan O' Sullivan. 5th Edition.