

Effect of Jacobson's Relaxation Technique on Mental Health in Stroke Survivor: A Case Study

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ABSTRACT

BACKGROUND: Stroke is a condition typically resulting from ischemia or hemorrhage it manifests as an acute focal injury to the central nervous system. Following a stroke, individuals may encounter various functional challenges. However the psychological impact of stroke may end up in stress and anxiety among the survivors. The Impact of Event Scale (Revised) will assess the overall mental issues faced by the people who are suffering from stroke. Patients with stroke also usually end up having cognitive failure which is also of major concern so it is really important to assess the cognition in these patients which is being assessed by Cognition Failure Questionnaire. There have been limited studies done on effect of stroke on mental health but there has been no study done on effect of Jacobson exercise on mental health in stroke survivors.

Need of the study: Disability, difficulty in performing ADLs has led to development of psychological problems which are leading to mental issues in stroke patients. So there is a need to study the effect of Jacobson relaxation techniques with other physiotherapeutic exercise on the mental health of stroke survivor.

OBJECTIVE: To know the effect of Jacobson's relaxation technique with physiotherapeutic exercises on mental health in stroke survivors using impact of event scale revised and cognition failure questionnaire.

METHODOLOGY: A 63 year old male farmer by occupation with right hand dominance suffered stroke in the month of June '23 was given physiotherapeutic rehabilitation for 4 weeks with Jacobson's relaxation technique for 3 times a week for 4 weeks using the outcome as impact of event scale revised and cognition failure questionnaire which is used to assess the mental health and the cognition level of patient after any traumatic event, pre and post readings were taken.

RESULT: There was significant change in the mental health of the patient.

CONCLUSION: This can be concluded that physiotherapeutic exercises clubbed with Jacobson relaxation technique can improve the mental health of patients who are suffering from PTSD occurring due to stroke.

Keywords: Stroke, Jacobson's relaxation technique, Impact of event scale revised, cognition failure questionnaire, mental health, exercises.

INTRODUCTION

Stroke is a neurological condition typically resulting from ischemia or hemorrhage and lasting for over 24 hours or until death. It manifests as an acute focal injury to the central nervous system and is a significant global health concern, ranking as the second leading cause of death. Over the past two decades, there has been a 26 percent rise in stroke-related deaths worldwide [1]. The primary vascular causes of stroke, including cerebral infarction, intracerebral hemorrhage, and subarachnoid hemorrhage, contribute significantly to global stroke mortality. This study also revealed that men are more affected than women, with a ratio of 2:1, indicating a higher prevalence among men [2]. Following a stroke, individuals may encounter various functional challenges, including limited physical mobility, weakness or paralysis on one side of the body, and many more. However the psychological impact of stroke may end up in stress and anxiety among the survivors which is of grave concern. THE IMPACT OF EVENT SCALE (Revised) will assess the overall mental issues faced by the people who are suffering from stroke. Patients with stroke also usually end up having cognitive failure which is also of major concern so it is really important to assess the cognition in these patient which is being assessed by COGNITION FAILURE QUESTIONNAIRE which has 25 question and has 3 components i.e. memory,

perception, motor function and helps us to understand which component is affected more. Mental health is a major part of a person being healthy or not, as it goes with the definition of health by WHO physical, mental and social well-being are the 3 important parts of a person being healthy. Disability and social isolation have led to development of psychological as well as psychosocial problems and concerns leading to mental issues in stroke patients. So there is a need to study and evaluate the effect of stroke on mental health. And to know the effect of Jacobson's relaxation techniques with other physiotherapeutic exercise on the mental health of stroke survivors. The objective is to know the effect of Jacobson's relaxation technique with physiotherapeutic exercises on mental health in stroke survivors using impact of event scale revised and cognition failure questionnaire.

CASE REPORT

A 63-year-old male farmer by occupation with right hand dominance suffered stroke in the month of June 2023 was given physiotherapeutic rehabilitation for 4 weeks with Jacobson's relaxation technique for 3 times a week for 4 weeks using the outcome as impact of event scale revised and cognition failure questionnaire which is used to assess the mental health and the cognition level of patient after any traumatic event, pre and post readings were taken. Physiotherapeutic exercises included:

Upper limb lower limb mobility exercises include shoulder flexion-extension, elbow flexion – extension, wrist flexion –extension, radial-ulnar deviation, heel slides and ankle toe movements.	2setsX10 repetitions
Bed mobility exercises include rolling and bedside sitting	
Pelvic bridging	1 setX15 repetitions
D1 extension for upper limb	1setX15 repetitions
Roods inhibitory technique for reducing spasticity includes maintained stretch, light joint compression.	
Sit to stand	2setsX10 repetitions
Assisted ambulation	
Jacobsons relaxation technique (cephalocaudally)	15 minutes (3 times a week)



Prone knee bending exercise

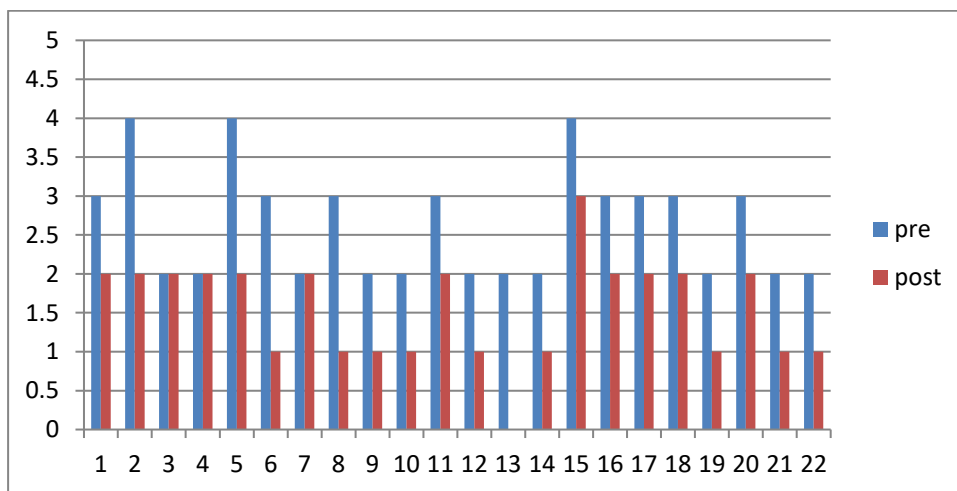


Pelvic Bridging exercise

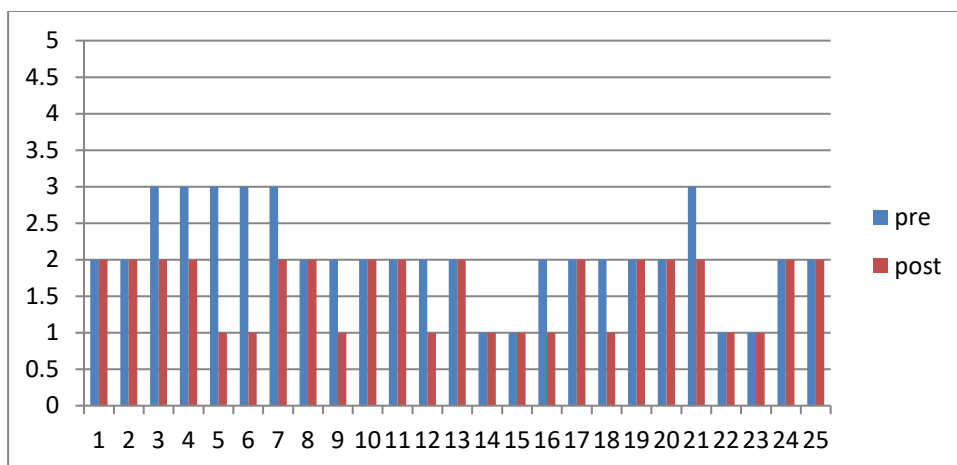
RESULT

There was significant change in the pre and post readings of the impact of event scale revised the pre readings which were 59 out of 88 significantly reduced to 34 out of 88 after the intervention. Also there was

significant change in the ratings of cognition failure questionnaire which earlier was 52 out of 100 came down to 41 out of 100 which showed that there was change in the cognitive level as well.



Impact of event scale revised (pre and post readings)



The Cognitive Failures Questionnaire (pre and post readings)

DISCUSSION

Stroke is a neurological condition typically resulting from ischemia or hemorrhage it manifests as an acute focal injury to the central nervous system. Mental health is a major part of a person being healthy or not, as it goes with the definition of health by WHO physical, mental and social well-being are the 3 important parts of a person being healthy. Disability and social isolation have led to development of psychological as well as psychosocial problems and concerns leading to mental issues in stroke patients. The given study was case study in which a 63 year old farmer was given physiotherapeutic rehabilitation for 4 weeks with Jacobson's relaxation technique in which the following physiotherapeutic exercises were given Range of motion exercise for upper limb and lower limb Bed mobility Bridging D1 extension of PNF Roods inhibitory technique for reducing spasticity includes maintained stretch, light joint compression. Assisted sit to stand and Ambulation with cane along with these exercises he was also given Jacobson's relaxation technique. The impact of event scale revised and cognition failure questionnaire was taken for the patient which showed significant change in the result post treatment. Recent studies say that, mental health disorders were reported in more than 33% of stroke survivors, which lead to increased co morbidities, delayed care, affect recovery, and impact physical and social functioning. With this study we have known that Jacobson's relaxation technique combined with physiotherapeutic exercise can help patient at cognitive level and help them reduces the mental stressors occurring due to the traumatic event.

CONCLUSION

This can be concluded that physiotherapeutic exercises clubbed with Jacobson's relaxation technique can significantly improve the mental health of

patients who are suffering from Post traumatic stress disorder occurring due to stroke.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Sacco RL, Kasner SE, Broderick JP, Caplan LR, Connors JJ, Culebras A, Elkind MS, George MG, Hamdan AD, Higashida RT, Hoh BL, Janis LS, Kase CS, Kleindorfer DO, Lee JM, Moseley ME, Peterson ED, Turan TN, Valderrama AL, Vinters HV; American Heart Association Stroke Council, Council on Cardiovascular Surgery and Anesthesia; Council on Cardiovascular Radiology and Intervention; Council on Cardiovascular and Stroke Nursing; Council on Epidemiology and Prevention; Council on Peripheral Vascular Disease; Council on Nutrition, Physical Activity and Metabolism. An updated definition of stroke for the 21st century: a statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2013 Jul;44(7):2064-89.
2. Pandian JD, Sudhan P. Stroke epidemiology and stroke care services in India. *J Stroke*. 2013 Sep;15(3):128-34.

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