



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact Factor: 6.078

(Volume 7, Issue 6 - V7I6-1211)

Available online at: <https://www.ijariit.com>

Correlation between sitting balance and functional independency with quality of life in neurological conditions

Rakesh Kumar Singh

physiorakesh17@gmail.com

Maharaja Vinayak Global University Jaipur, Rajasthan

Ajeet Kumar Saharan

ajeetphysio@gmail.com

Jaipur Physical Therapy College, Jaipur, Rajasthan

Maliram Sharma

sharma.maliram@gmail.com

Maharaj Vinayak Global University, Jaipur, Rajasthan

Preety Sharma

dr.preetisharmaphysio@gmail.com

Maharaj Vinayak Global University, Jaipur, Rajasthan

ABSTRACT

The maintenance of the postural balance is due to a set of reflexes that trigger responses based on visual, vestibular or somatosensory stimuli. The object is to find the correlation between the functional level and the quality of life in neurological problem patients. This study is a correlation study design, which intends correlate the sitting balance and functional performance (in activities of daily living like dressing, Transfers and forward wheeling) within the sample. The entire subject performed the modified functional reach test and the results were observed for correlation with pre-specified functional activities performed by the subjects. In my study I found that the quality of life is much more affected in the patients have sitting balance, this is may be the population of the different country. So, we can say that all four domains are significantly different. All four have impact on patients. First domain has more impact on patients.

Keywords— *Physiotherapy, Health Care, Rehabilitation*

1. INTRODUCTION

The maintenance of the postural balance is due to a set of reflexes that trigger responses based on visual, vestibular or somatosensory stimuli. Age-related changes in the sensorimotor system and the neuromuscular system negatively affect the performance of static and dynamic postural control. The purpose of this study is to develop a reliable and valid tool for measuring the dynamic sitting balance of wheelchair users with spinal cord injury. The balance tests were performed in nine patients with chronic spinal cord injury (average of 17.2 years post injury) between levels C6 and L1, while they were sitting in their wheelchairs and on a standardized stool (unsupported sitting), twice, 7 days apart. Limits of stability (LOS) and sequential weight shifting (SWS) were designed in this study. The balance tests measured participants' volitional weight shifting in multiple directions within their base of support. Their mobility scores on the Spinal Cord Independence Measure III were correlated with the balance test results.

2. OBJECTIVES

To find the correlation between the functional level and the quality of life in neurological problem patients.

3. METHODOLOGY

The study would be duly approved by the institutional ethics committee. The participant fulfilling inclusion-exclusion criteria would be explained about the study. Written informed consent would be obtained from the participants.

The baseline readings for functional independence, range of motion, fine and gross grip strengths and quality of life data would be collected using FIM scale, goniometry, at the beginning of the study from the participants and the same would be documented again at the end of their treatment plan. The scale FIM would be used for data collection after obtaining permission for administration for the purpose from the concern authorities.

Study design: This study is a correlation study design, which intends correlate the sitting balance and functional performance (in activities of daily living like dressing. Transfers and forward wheeling) within the sample. The entire subject performed the modified functional reach test and the results were observed for correlation with pre-specified functional activities performed by the subjects.

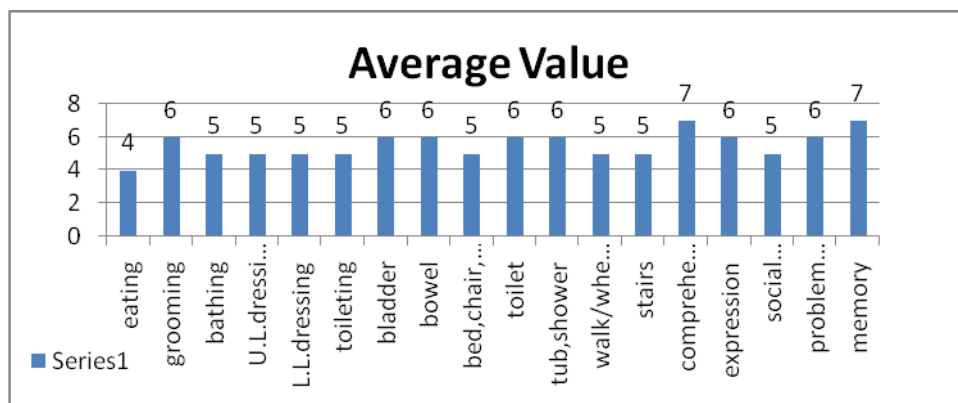
Participants: All adults age group 18 year to 55 year male and female patients having spinal injury, stroke and all neurological conditions

Inclusion criteria: Study includes the patients who can independently transfer from wheel chair also paraplegic patients with the history of 2 years problems.

Exclusion criteria: Patient with any psychiatric co-morbidity and/or hemiplegic conditions, also have sever sensory loss condition. An active or terminal illness that may interfere with participation. Spinal deformity like kyphosis, scoliosis, Pressure sores any pain in the shoulder problem. Any other complication like heterotrophic ossification

Sample size: This was a study of 100 patients. Barthel (ADL) Index was used to assess functional ability and independence of stroke patients.

4. RESULTS



From above table we can say that average score of patients about eating FIM is 4 which represent Minimal assistant. Similarly, others.

Correlation with FIM and Quality of life

Groups	Count	Sum	Average	Variance	P value
Domain1	100	359.7619	3.597619	0.220247	1.68
DOMAIN2	100	252.2667	2.522667	0.158448	1.68
DOMAIN3	100	220.4444	2.204444	0.046944	1.68
Domain4	100	289.0074	2.890074	0.18534	1.68

5. DISCUSSION

In previous study showed that the quality of life doesn't affect in the patient with neurological problem also their sitting balance don't affect their quality of life on other hand in my study I found that the quality of life is much more affected in the patients have sitting balance, this is may be the population of the different country. In other country the patient were much more able and financially strong and they might be used the different assistive device which is high quality materials for their sitting balance but in our county the condition is different. Patient in India are not much more sound in their financial situation and they can't effort the costly chair or assistive device so in my study I found that the sitting balance is much more affect the patients quality of life.

6. CONCLUSIONS

From above table we can say that all four domains are significantly different. All four have impact on patients. First domain has more impact on patients.

7. REFERENCES

[1] Gershon, R. C., Lai, J. S., Bode, R., Choi, S., Moy, C., Bleck, T., ... & Cella, D. (2012). Neuro-QOL: quality of life item banks for adults with neurological disorders: item development and calibrations based upon clinical and general population testing. *Quality of Life Research*, 21(3), 475-486.

[2] Sprangers, M. A., de Regt, E. B., Andries, F., van Agt, H. M., Bijl, R. V., de Boer, J. B., ... & Miedema, H. S. (2000). Which chronic conditions are associated with better or poorer quality of life? *Journal of clinical epidemiology*, 53(9), 895-907.

[3] Heffernan, C., & Jenkinson, C. (2005). Measuring outcomes for neurological disorders: a review of disease-specific health status instruments for three degenerative neurological conditions. *Chronic illness*, 1(2), 131-142.

[4] Mulligan, H. F., Hale, L. A., Whitehead, L., & Baxter, G. D. (2012). Barriers to physical activity for people with long-term neurological conditions: a review study. *Adapted Physical Activity Quarterly*, 29(3), 243-265.

[5] Padua, L., Sabatelli, M., Evoli, A., Pazzaglia, C., & Tonali, P. (2005). Intravenous immunoglobulin treatment in autoimmune neurological disorders—effects on quality of life. *Human immunology*, 66(4), 417-421.

- [6] Padua, L., Sabatelli, M., Evoli, A., Pazzaglia, C., & Tonali, P. (2005). Intravenous immunoglobulin treatment in autoimmune neurological disorders—effects on quality of life. *Human immunology*, 66(4), 417-421.
- [7] Martinez-Martin, P., & Kurtis, M. M. (2012). Health-related quality of life as an outcome variable in Parkinson's disease. *Therapeutic advances in neurological disorders*, 5(2), 105-117.
- [8] Rahman, S., Griffin, H. J., Quinn, N. P., & Jahanshahi, M. (2008). Quality of life in Parkinson's disease: the relative importance of the symptoms. *Movement disorders: official journal of the Movement Disorder Society*, 23(10), 1428-1434.
- [9] Schrag, A., Jahanshahi, M., & Quinn, N. (2000). How does Parkinson's disease affect quality of life? A comparison with quality of life in the general population. *Movement disorders: official journal of the Movement Disorder Society*, 15(6), 1112-1118.
- [10] Wong, A. W., Lau, S. C., Fong, M. W., Cella, D., Lai, J. S., & Heinemann, A. W. (2018). Conceptual Underpinnings of the Quality of Life in Neurological Disorders (Neuro-QoL): Comparisons of Core Sets for Stroke, Multiple Sclerosis, Spinal Cord Injury, and Traumatic Brain Injury. *Archives of physical medicine and rehabilitation*, 99(9), 1763-1775.
- [11] Prinsie, J. C., Sajobi, T. T., Wang, M., Patten, S. B., Fiest, K. M., Bulloch, A. G., ... & Jette, N. (2018). Effects of depression and anxiety on quality of life in five common neurological disorders. *General hospital psychiatry*, 52, 58-63.
- [12] Rees, P. M., Fowler, C. J., & Maas, C. P. (2007). Sexual function in men and women with neurological disorders. *The Lancet*, 369(9560), 512-525.
- [13] ESEMeD/MHEDEA 2000 Investigators, Alonso, J., Angermeyer, M. C., Bernert, S., Bruffaerts, R., Brugha, T. S., ... & Gasquet, I. (2004). Disability and quality of life impact of mental disorders in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatrica Scandinavica*, 109, 38-46.
- [14] Kozłowski, A. J., Singh, R., Victorson, D., Miskovic, A., Lai, J. S., Harvey, R. L., ... & Heinemann, A. W. (2015). Agreement between responses from community-dwelling persons with stroke and their proxies on the NIH Neurological Quality of Life (Neuro-QoL) short forms. *Archives of physical medicine and rehabilitation*, 96(11), 1986-1992.
- [15] Lai, J. S., Nowinski, C., Victorson, D., Bode, R., Podrabsky, T., McKinney, N., ... & Abresch, R. T. (2012). Quality-of-life measures in children with neurological conditions: pediatric Neuro-QOL. *Neurorehabilitation and neural repair*, 26(1), 36-47.
- [16] Sprangers, M. A., de Regt, E. B., Andries, F., van Agt, H. M., Bijl, R. V., de Boer, J. B., ... & Miedema, H. S. (2000). Which chronic conditions are associated with better or poorer quality of life? *Journal of clinical epidemiology*, 53(9), 895-907.
- [17] Mitchell, A. J., Benito-León, J., González, J. M. M., & Rivera-Navarro, J. (2005). Quality of life and its assessment in multiple sclerosis: integrating physical and psychological components of wellbeing. *The Lancet Neurology*, 4(9), 556-566.
- [18] Schrag, A., Jahanshahi, M., & Quinn, N. (2000). What contributes to quality of life in patients with Parkinson's disease? *Journal of Neurology, Neurosurgery & Psychiatry*, 69(3), 308-312.
- [19] Baldwin, C. M., Griffith, K. A., Nieto, F. J., O'connor, G. T., Walsleben, J. A., & Redline, S. (2001). The association of sleep-disordered breathing and sleep symptoms with quality of life in the Sleep Heart Health Study. *Sleep*, 24(1), 96-105.
- [20] Martinez-Martin, P., Rodriguez-Blazquez, C., Kurtis, M. M., Chaudhuri, K. R., & NMSS Validation Group. (2011). The impact of non-motor symptoms on health-related quality of life of patients with Parkinson's disease. *Movement Disorders*, 26(3), 399-406.
- [21] Benito-León, J., Manuel Morales, J., Rivera-Navarro, J., & Mitchell, A. J. (2003). A review about the impact of multiple sclerosis on health-related quality of life. *Disability and rehabilitation*, 25(23), 1291-1303.
- [22] Cramer, J. A., Perrine, K., Devinsky, O., Bryant-Comstock, L., Meador, K., & Hermann, B. (1998). Development and cross-cultural translations of a 31-item quality of life in epilepsy inventory. *Epilepsia*, 39(1), 81-88.
- [23] Kumar, S. (2010). Swallowing and dysphagia in neurological disorders. *Rev Neurol Dis*, 7(1), 19-27.
- [24] Mitchell, A. J., Benito-León, J., González, J. M. M., & Rivera-Navarro, J. (2005). Quality of life and its assessment in multiple sclerosis: integrating physical and psychological components of wellbeing. *The Lancet Neurology*, 4(9), 556-566.
- [25] Albuquerque Maranhao Neto, G., Paulo Pereira-Junior, P., Mura, G., Giovanni Carta, M., & Machado, S. (2015). Effects of different types of physical exercise on the perceived quality of life in active elderly. *CNS & Neurological Disorders-Drug Targets (Formerly Current Drug Targets-CNS & Neurological Disorders)*, 14(9), 1152-1156.