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Research article

Cognitive impairment and its impact on quality of life in rural Indian female after stroke: A cross sectional study

Nikita S. Deshmukh, Ashish Bele*, Chaitanya A. Kulkarni

Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India.

ABSTRACT

Stroke is main cause of death and disability which mainly affect higher function like cognitive impairment which affects the quality of life. The MoCA used to assessment of cognitive impairment and stroke specific quality of life for assessment of quality of life. The aim was to assess the effect of Cognitive Impairment on quality of life in Rural Indian women after stroke. The cognitive impairment was measured with the use of the MoCA and Quality of Life was measured by SS-Quality of Life questionnaire. Female stroke patient with age in between 41-70 year who was diagnosed by the physician is included in the study. Result of this study indicated that the cognitive functions ans quality of life significantly affected in rural females following stroke. (0.571; p=0.0001).the finding is the cognitive deficits occurred after stroke and it hamper the quality of life in majority of patient.

Keywords: Rural Indian females, Stroke, Cognitive impairment, Quality of life, MoCA, and SS-QoL scale.

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Correspondence: Ashish Bele* ✉ bele.ashish321@gmail.com

Associate Professor, Department of Community Health Physiotherapy, Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India.

INTRODUCTION

A healthy well-being of brain is reflected by a good stance and posture [1]. Among special school children postural defects are very common [2]. Spinal deviations can be easily evaluated or discovered by the means of posture screening during early schooling [3][4].The study aims to detect the occurrence of posture alterations in musculoskeletal pain in special school students. This present study was aimed to detect the postural changes and that may cause postural abnormalities among school going children's. Functional and specified morphological bag round is shaped depending on the human physical , postural , motor habit , it is manifestation of physical and psychological state of one's healthy living [5]. Advancing changes of our living environment, sedentary lifestyle, limitation of physical activities faced by special school students in day to day life and inadequate nutrition are inseparably associated with the progress of civilization [6].

Wide spread in children's and teens symptoms and cause of faulty posture are very common [7]. Various extrinsic and intrinsic components may affect posture in children such as age, height , sex , weight, socioeconomic level, the physical environment of a child ,hereditary factors, emotional and psychological factors [8] , improper postural habit, physiological changes during puberty, the presence of pain, the testing environment and living style [9].

The way person sits, stands or walks exclusively define the posture of him /her ,depending on that there are two types a good posture and a bad posture [10]. Repetitive strain, overuse and work related musculoskeletal disorders usually result in musculoskeletal pain [11]. Very rare studies are being carried out on special school children's especially of rural areas [12].

MATERIAL AND METHOD

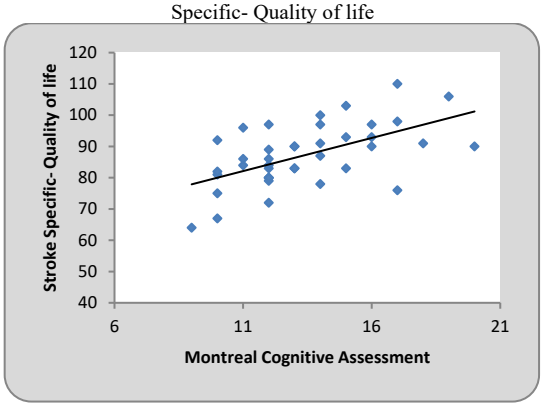
Ethical approval was obtained from the Institutional ethical committee. 40 participants were selected randomly specially females and assessed for cognitive impairment and quality of life after obtaining consent form**.** The investigation encounter for each college individuals. All the individuals was recruited from Ravi Nair Physiotherapy College, Sawangi (M), Wardha. The sample size of 40 participants included females only. The sample size calculated by statistical method and the MoCA scale was used to evaluate cognitive impairment and SS-QoL scale to evaluated quality of life post stroke female. Inclusion criteria of this study was female stroke patient with

Age in between 41-70 year who was diagnosed by the physician is included in the studies. And exclusion criteria were the patient having mix–etiologies and elderly female above 70 years. Any other psychological disorder was excluded from the study.

RESULT

Statistical analysis was done by using descriptive and inferential statistics using Pearson's correlation coefficient and software used in the analysis was SPSS 27.0 version and $P<0.05$ was considered as level of significance

Figure 1: Correlation between Montreal Cognitive Assessment and Stroke Specific- Quality of life



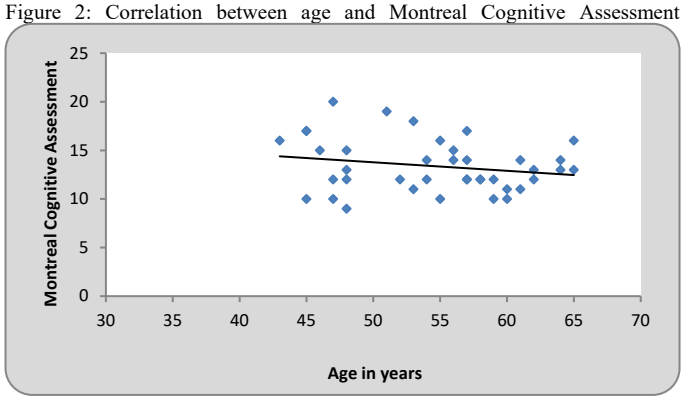
This figure suggested that the correlation between Montreal cognitive assessment and stroke specific quality of life which was not significant there is no relation between this two-assessment tool. This tool is mainly use for the purpose of finding cognitive deficits and affected quality of life.

Table 1: Correlation between age and Montreal Cognitive Assessment, Stroke Specific- Quality of life

Scale	Mean	Std. Deviation	N	Correlation 'r'	p-value
Age in years	54.55	6.38	40	-	-
Montreal Cognitive Assessment	13.37	2.67	40	-0.209	0.196,NS
Stroke Specific- Quality of life	87.15	9.92	40	0.052	0.750,NS

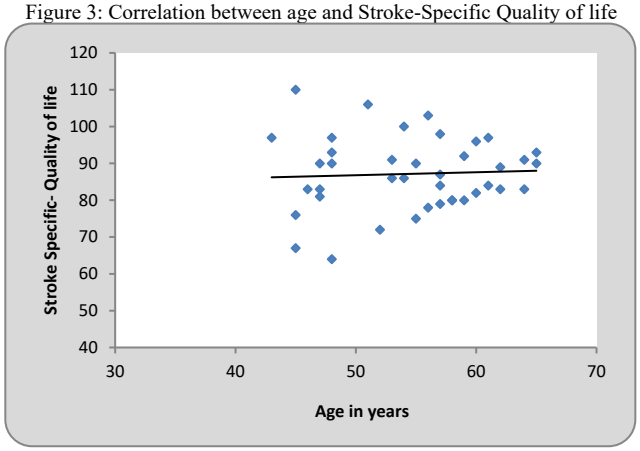
This table indicates that the correlation between age and Montreal cognitive assessment and stroke specific quality of life which was significant. Age the factor which was hamper cognitive status and quality of life but with the pathological condition it may severely affects the higher functions with daily physical activity.

Figure 2: Correlation between age and Montreal Cognitive Assessment



This figure suggests that the correlation between age and Montreal cognitive assessment this is showed the significant result in which as the age increases the cognitive deficits occurred and with the pathology the symptom may affects faster or more severe.

Figure 3: Correlation between age and Stroke-Specific Quality of life



This figure showed that the correlation between age and stroke specific quality of life. Age was the major factor which interfered the quality of life because of hamper the daily activity, strength.

DISCUSSION

This observational study suggests that the cognitive impairment after stroke in rural Indian female showed positive response it affects the various domains like attention, memory, orientation, executive functions it affects the activity of daily living having low quality and highest risk factor. As this study Montreal cognitive assessment use for the assessment of cognitive impairment after stroke as a standard tool it is having universal interpretation with the score 26 is totally normal in the other studies proved that the patient without cognitive impairment scored on an average of 27.4 but the people with mild cognitive impairment scored on average of 22.1 and the people with Alzheimer's disease scored an average 16.2 [4]. In this study the author includes the participant with the age group of 41-70 years. The 30% populations affect between the age group of 41-50 years. 50% population affect between the age group of 51-60 years and 20% population affects the 61-70 years of age group in the inpatient criteria after stroke the female patient affects definitely by the cognitive impairment with the abnormal category <26 scored within the scored 9-20 mild to moderately affects the population [3]. The quality of life is affects after stroke but the cognitive impairment was contributing to the negative impact on the quality of life it is major factor which worsen the quality of life. The domain mainly affects like energy, family role, language, mobility, mood, personality, self-care, social care, thinking, upper extremity functions, vision, work and productivity. The questionnaire having total 245 scored. 49-245 is average score 49 was the lowest one and 245 is the absolutely normal and highest score [10]. Higher the score more the normal quality of life of this patient. Lower the score more the quality of life affects. There

are no particular distributions the score under mild, moderate and sever affection of quality of life in this study <49 score consider as the severely affected population and >49 score was under the recovery stage because patient is admitted in the hospital with under treatment. The patient was the 64-110 of the score which will considered as the patient was in recovery stage. The author took the purely inpatient which was under treatment that's why the >49 score is under the consideration of recovery stage. It has been demonstrating that their involvement facilitates the hospital discharge process and even contributes to patient's functional recovery. Hence, the result of this study proved that rural Indian female suffered from cognitive impairment after stroke and quality of life showed the negative impact on it. If the patient is not considered as in patient then the score of quality of life is may or may not be <49 which was showed that it directly affects the functional ability. The correlation between Montreal cognitive assessment and stroke specific quality of life and the correlation between age with Montreal cognitive assessment and stroke specific quality of life is not significant [4].

CONCLUSION

The result indicates that cognitive impairment in stroke patient occurs frequently. It was more important to provide more comprehensive neurophysiological assessment besides screening measures to detect cognitive deficits as well as their interaction with depressive symptom the finding was the cognitive deficits occurred after stroke and it hamper the quality of life in majority of patient.

Limitations

It might be difficult to get convince patient for being a part of this study.

Conflict of interest

The authors declare no competing interest.

Author contribution

All the authors did equal contribution and read the final manuscript before submitting for publication.

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