

Effectiveness of Dual Task Exercise on Selected Parameters among Patients with Cerebro Vascular Accident

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Abstract

The Study was conducted to evaluate the effectiveness of dual task exercise on selected parameters among patients with Cerebro Vascular Accident. Quasi experimental, non-randomized control group design was utilized to perform the study with convenience sampling technique. Data were collected from the patient with Cerebro Vascular Accident who fulfilled the inclusion criteria through Tinetti Balance Assessment Tool and Walking speed test. The findings revealed that the unpaired 't' test value for gait and balance was 20.123 and the walking speed was 28.09 which was significant at $p \leq 0.05$ and was highly significant at $p \leq 0.01$, $p \leq 0.001$. It showed that dual task exercise was effective in increasing the level of selected parameters (gait, balance and walking speed) among patients with Cerebro Vascular Accident.

Keywords: Effectiveness, Dual Task Exercise, Parameters (Gait, Balance and walking speed), Cerebro Vascular Accident patients.

Introduction

Cerebro Vascular Accident was the 12th leading cause of death and disability in 1990 with 2.2% and after 20 years of decade in 2016, Cerebro Vascular Accident is the 10th leading cause of death and disability with 2.8%.

Recently the total numbers of Cerebro Vascular Accident patients admitted in the hospitals are increased. Cerebro Vascular Accident is an indication that these patients need long term care, even after their discharge from the hospitals and the families have been forced to become caregivers and were not well prepared for the same.⁽⁴⁾

The patients may have difficulties in maintaining the gait and balance and decreased walking speed. Dual task exercise may help the Cerebro Vascular Accident patients to improve their gait, balance and walking speed.⁽⁵⁾

The investigator during the clinical experience found that the patient with Cerebro Vascular Accident had imbalance in their gait, balance and walking speed. Exercise can improve the level of gait, balance and walking speed and the investigator also felt that Dual Task Exercise helps to improve the level of gait, balance and walking speed among patients with Cerebro Vascular Accident.⁽⁶⁾

Statement of the Problem

A Quasi Experimental Study to Evaluate the Effectiveness of Dual Task Exercise on Selected Parameters among Patients with Cerebro Vascular Accident in selected Hospitals at Kanyakumari District.

Objectives of the Study

1. To assess and compare the pre test and post

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test level of selected parameters among patients with Cerebro Vascular Accident in study group and control group..

2. To evaluate the effectiveness of dual task exercise on level of selected parameters among patients with Cerebro Vascular Accident in study group and control group.

3. To find out the association between selected demographic variables among patients with Cerebro Vascular Accident with their pre test level of selected parameters in study group and control group.

4. To find out the association between selected clinical variables among patients with Cerebro Vascular Accident with their pre test level of selected parameters in study group and control group.

HYPOTHESES

H₁: There is a significant difference between pre test and post test level of selected parameters among patients with Cerebro Vascular Accident in study group and control group.

H₂: There is a significant difference between post test level of selected parameters among patients with Cerebro Vascular Accident in study group and control group.

Research Methodology

The researcher utilized quantitative research approach with Quasi experimental non randomized control group design. Convenience sampling technique was adopted for the study. The study was conducted at 2 hospitals in Kanyakumari District for the patient with Cerebro vascular accident undergoing physiotherapy between the age group of 41 - 70 years. Totally 30 patients in study group and 30 patients in control group were selected for this study.

The tool used in this study was Tinetti Balance Assessment Tool and Walking Speed Test through observational Checklist.

Method of data collection

Phase I Selection of patients with Cerebro Vascular Accident.

After obtaining formal permission from the Principal of St.Xavier's Catholic College of Nursing, Chunkankadai, Dr.P.Arumugam, Chairman of P.S. Medical Trust Hospital, Thalakulam and Dr.T.Muthu Rathnam, Managing Director of Muthu Neuro Centre, Chunkankadai participants were selected based on the criteria of sample selection. The researcher obtained the informed written consent from each patient with Cerebro Vascular Accident and proceeded with the data collection. Data on Demographic and Clinical Variables were collected through structured interview schedule.

Phase II Pre test

Tinetti Balance Assessment Tool (gait and balance) and Walking speed test was used to assess the level of selected parameters (gait, balance and walking speed).

Phase III Intervention

The researcher explained the importance of dual task exercise and demonstrated to the study group. All participants were verbally encouraged and motivated regarding the Dual Task Exercise (Walking with a cup filled with water).

Phase IV Post test

The post test was conducted on the following 4th week with Tinetti Balance Assessment Tool and Walking speed test.

Result

Table 1: Comparison of mean, standard deviation and unpaired 't' test on post test level of risk of fall (gait and balance) among patients with Cerebro Vascular Accident in study group and control group.

N=60

Variables	Group	Mean	SD	Unpaired 't' test
Level of risk of fall (gait and balance)	Study group (n=30)	25.46	0.81	20.123***
	Control group (n=30)	21.100	4.366	

Significant at * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 2: Comparison of mean, standard deviation and unpaired 't' test on post test level of walking speed among patients with Cerebro Vascular Accident in study group and control group.

N=60

Variables	Group	Mean	SD	Unpaired 't' test
Level of walking speed	Study group (n=30)	18.33	2.17	28.09***
	Control group (n=30)	34.26	3.16	

Significant at * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Discussion

The study was conducted to evaluate the effectiveness of Dual task Exercise on level of selected parameters (gait, balance and walking speed) among patients with Cerebro Vascular Accident. The mean score on level of risk of fall (gait and balance) among patients with Cerebro Vascular Accident in study group 25.46 with the standard deviation 0.81. In control group, the mean score was 21.100 and the standard deviation was 4.366. The estimated unpaired 't' test value was 20.123*** which was significant at $p \leq 0.05$ and was

highly significant at $p \leq 0.01$, $p \leq 0.001$. In study group, the mean score was 18.33 with the standard deviation 2.17. In control group, the mean score was 34.26 and the standard deviation was 3.16. The estimated unpaired 't' test value was 28.09*** which was significant at $p \leq 0.05$ and was highly significant at $p \leq 0.01$, $p \leq 0.001$. It shows that dual task exercise was effective in increasing the level of selected parameters (gait, balance and walking speed) in study group among patients with Cerebro Vascular Accident.

Conclusion

The study concluded that the dual task exercise increases the level of selected parameters (gait, balance and walking speed) among patients with Cerebro Vascular Accident. Therefore the investigator felt that dual task exercise for Cerebro Vascular Accident patients was effective in improving the gait, balance and walking speed.

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Conflict Interest: There is no conflict of interest

Source of Fund: Self

Ethical Clearance: The proposed study was conducted after the approval of the ethical committee of St. Xavier's Catholic College of Nursing, Chunkankadai. Formal permission was obtained from P.S. Medical Trust hospital in Thalakulam and Muthu Neuro care Centre in Chunkankadai. Written consent was obtained from each participant before starting the data collection.

Assurance was given to the study participants regarding the confidentiality of the data collection.

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