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Dual Task Exercise's Effect on Certain Parameters in Patients with Cerebrovascular Accidents in Selected Teritary Hospital, Andhra Pradesh, India

Dr.Prema Krishnan, Dr.Anitha Rajendra Babu, Prof.Asokan.R, Dr.Gopinath Subramanian
Principal, Annai Velnkanni's College of Nursing, Perungalathur, Chennai, Tamilnadu
Principal Rajalakshmi College of Nursing, Chennai ,Tamilnadu
Dept of Medical Surgical Nursing ,R&D Incharge,KINS,KIIT University DU, Bhubaneswar, Odisha
Principal,Mythili College of Nursing,Gudur,Andhra Pradesh

Abstract

The purpose of the study was to determine whether dual task exercise was beneficial for patients with Cerebrovascular accidents on a few key metrics. Convenience sampling was used in a quasi-experimental, non-randomized control group approach to conduct the study. Data were gathered using the Tinetti Balance Assessment Tool and the Walking Speed Test from patients with Cerebro Vascular Accidents who met the inclusion criteria. The results showed that the walking speed was 28.09 and the unpaired "t" test value for gait and balance was 20.123. Both of these values were significant at p≤0.05 and very significant at p≤0.01, p≤0.001. It demonstrated that dual task training helped individuals with Cerebrovascular accidents improve their level of walking speed, balance, and gait.

Key Words: Parameters, Dual Task Exercise, Effectiveness, CVA.

Introduction

In 1990, cerebral vascular accidents accounted for 2.2% of all deaths and disabilities; in 2016, 20 years later, they rank as the 10th most common cause of death and disability, with 2.8%. There has been a rise in the overall count of hospitalized patients with Cerebrovascular accidents in recent times. Cerebrovascular accidents are a sign that patients require long-term care, even after being released from the hospital. These patients' families were unprepared for this role and were compelled to take on the role of career. The patients might have difficulty keeping their balance and stride, as well as a decreased walking pace. Dual task exercise can help patients with Cerebro Vascular Accidents improve their gait, balance, and walking speed. The patient had a cerebro vascular accident, which caused imbalances in their gait, balance, and walking speed, the investigator found out during the clinical encounter. Walking speed, gait, and balance can all be improved with exercise. The study discovered that dual task exercise helps people with Cerebro Vascular Accidents in particular by enhancing their stride, balance, and walking speed.

Statement Of The Problem

A quasi-experimental study aimed at evaluating the impact of dual task exercise on a set of parameters in patients with cerebro vascular accidents is being carried out in hospitals in the Nellore District.

Objectives Of The Study

1. To evaluate and compare the pre- and post-test levels of particular parameters in the experimental group and control group of patients with Cerebrovascular accidents.
2. To assess the impact of dual task exercise on a range of predetermined parameters in patients with CVA in both the experimental and control groups.
3. To determine the relationship between a subset of demographic characteristics and the pre-test level of a subset of parameters in the experimental group and control group among patients who have had a Cerebrovascular accident.
4. To determine the relationship between a subset of clinical factors and the pre-test level of a subset of parameters in the experimental group and control group among patients who have had a Cerebrovascular accident.

Hypotheses

H1: The pre- and post-test levels of a few chosen parameters differ significantly between the study group and control group of patients with Cerebrovascular accidents.
H2: The research group's post-test levels of a few chosen measures differ significantly from the control group's among patients with Cerebrovascular accidents.

Research Methodology

The researcher used a quasi-experimental, non-randomized control group design and a quantitative study methodology. For the study, the convenience sampling technique was used. The study was carried out for patients with cerebrovascular accidents between the ages of 41 and 70 who were receiving physical therapy at two hospitals in the Nellore District. For this investigation, a total of 30 patients were chosen—30 in the study group and 30 in the control group. The Tinetti Balance Assessment Tool and the Walking Speed Test via Observational Checklist were the instruments utilized in this investigation.

Method Of Data Collection

Patients having a Cerebrovascular accident are selected in

PHASE I. Participants were chosen using the sample selection criteria following official approval from the Dr.Mythili, Managing Director,Mydhili Group of Hospitals, Gudur, Dr. P. Arumugam, Chairman of P.S. Medical Trust Hospital, Nellore. After obtaining each patient's explicit written consent, the researcher collected the data related to Cerebro Vascular Accident. A structured interview schedule was used to gather data on clinical and demographic variables.

SECOND PHASE

Pretest the level of the chosen parameters (gait, balance, and walking speed) was evaluated using the Tinetti Balance Assessment Tool (gait and balance) and the Walking Speed Test.

THIRD PHASE

Intervention The investigator elucidated the significance of performing dual task exercise and presented to the research group. Every participant received verbal encouragement and motivation for the Dual Task Exercise, which involved walking while holding a cup filled with water.

PHASE IV POSTTEST

Using the Tinetti Balance Assessment Tool and the Walking Speed Test, the posttest was carried out in the fourth week that followed.

Results

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
isk of fall (gait andbalance)	perimental oup(n=30)	25.46	0.81	
	ntrol group(n=30)	21.100	4.366	20.123***

Significant at *p≤0.05, **p≤0.01, ***p≤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	experimental group (n=30)	18.33	2.17	28.09***
	Control group(n=30)	34.26	3.16	

Significant at *p≤0.05, **p≤0.01, ***p≤0.001

Discussion

The purpose of the study was to assess how well individuals with Cerebrovascular accidents responded to dual task exercise in terms of a few key criteria, including walking speed, balance, and gait. The study group's average score for patients with Cerebrovascular accidents on the degree of fall risk (gait and balance) was 25.46, with a standard deviation of 0.81. The standard deviation was 4.366 and the mean score was 21.100 for the control group. At p≤0.05 and p≤0.01, the calculated unpaired "t" test value was 20.123***, indicating statistical significance. The average score for the study group was 18.33, with a standard deviation of 2.17.The standard deviation was 3.16 and the mean score was 34.26 for the control group. At p≤0.05, the projected unpaired "t" test result of 28.09*** was considered significant. was very significant at p≤0.01, p≤0.001, and at p≤0.05. It demonstrates how dual task exercise helped study group patients with Cerebrovascular accidents improve their level of walking speed, balance, and gait.

Conclusion

The research findings indicate that patients with Cerebro Vascular Accident exhibit improved levels of selected metrics (gait, balance, and walking speed) following dual task exercise. As a result, the researcher believed that dual task training helped individuals with Cerebrovascular accidents improve their gait, balance, and walking speed.

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