

A Study to Assess the Effectiveness of Chin Tuck Against Resistance (CTAR) Exercise in Improving Swallowing Ability among Cerebrovascular Accident Patients with Dysphagia at Selected Hospital, Chennai

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Abstract: Stroke is a major health problem in both the developed and developing countries. It is the second most leading causes of death above 60 years. The world heart federation states that every year 15 million people suffer with stroke globally. In order improve the overall outcome after stroke it is essential that the swallowing and feeding performance need to improved through Chin Tuck Against Resistance (CTAR) exercise. The study was conducted in Government hospital, Thiruvallur and the research method is Quasi experimental Time series design. As per the inclusion criteria 30 samples were selected by purposive sampling and pre-test and post-test done. Pre-test data was collected from both the groups by interview and observation method. Then Chin Tuck Against Resistance exercise was administered for 15 days, 3 times per day to all the CVA patients. Post-test assessment of swallowing ability among CVA patients were assessed using GUSS (Gugging Swallowing Screen) in both the pre test and post test group after the exercise during their next feeding time 15 days, 3 times per day. The study finding revealed that in pre test assessment of swallowing ability among CVA patients showed all 30 patients in the group having severe dysphagia. After administration of CTAR exercise gradually at the end of fifteen days of observation mostly 6 of them progressed no dysphagia and 6 of them progressed to mild dysphagia and 10 of them progressed to moderate dysphagia. Thus it concludes that CTAR exercise is effective in improving the swallowing ability among CVA patients with dysphagia. Thus Chin Tuck Against Resistance exercise was helpful in improving the swallowing ability among CVA patients with dysphagia.

Keywords: Chin Tuck Against Resistance exercise, CVA patients, Dysphagia

1. Introduction

Stroke is a major health problem in both the developed and developing countries. It is the second most leading causes of death above 60 years. The world heart federation states that every year 15 million people suffer with stroke globally. Life threatening events such as cerebrovascular accidents, head injuries are frequently accompanied by other challenges, including the inability to maintain nutrition through normal oral intake and neurologic challenges which may vary depending on the site and lesion as well as age which stroke occurs. Dysphagia presents in approximately 60% of all acute stroke patients admitted to hospital. Among them oropharyngeal dysphagia, which has incidence that varies from 50% to 80% becoming common manifestation of stroke. Dysphagia an impairment of the swallowing mechanism due to physiological weakness, deficits of structure or neurological function. Dysphagia is common among the population who have experienced a stroke, traumatic brain injury, head and neck surgery or as natural process of aging. Chin tuck against resistance (CTAR) exercise is claimed that strengthening the suprahyoid muscles is effective in restoring the oral feeding for patients with dysphagia. Yoon studied the activation of the suprahyoid muscles by administering the shaker exercise and CTAR exercise. In CTAR the patient is seated in an upright position and tucks the chin to compress an inflatable rubber ball. He found CTAR exercise is effective than

shaker exercise. Stroke guidelines are stressing early dysphagia detection using validated screening tools like GUSS. In Canada, the United states and Australia. Stroke guidelines insists that a trained clinician must be appointed to screen individual admitted with stroke. Those patients with positive dysphagia screen results should be kept nil per oral (NPO) and followed with a complete assessment of swallowing ability of patients within 24 hours. The premise is that earlier detection allows for earlier treatment using which is not only shortens the stroke recovery period but also reduces the overall rehabilitation costs.

2. Material and Methods

A experimental study was chosen to assess the effectiveness of Chin Tuck Against Resistance (CTAR) among cerebrovascular accidents patients. The present study was conducted in Government Hospital, Thiruvallur. 30 male and female who comes under inclusion criteria were selected by Quasi experimental design, data was collected using demographic variables developed by researcher and it deals with age, gender, education and income and occupation. As part of assessment of CVA GUSS scale was used. The data were analyzed by experimental and inferential statistics. Additionally, paired 't' test was performed to assess the effectiveness of the study.

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3. Result and Discussion

Table 1:

Shows that regarding age out of 30 sample 12(24%) samples were comes under age group of 30-40 years ,11(22%) sample were comes under age group of 40-50 years ,07(14) sample were comes under age group of 50-60 years .regarding sex out of 30 samples 18(36%) samples were comes in male,12(24%) sample were comes in female. Regarding education out of 30 samples 09(18%) samples were comes in schooling, 14(28%) samples were comes in higher secondary, 07(14%) samples were comes in any degree. Regarding income out of 30 samples, 16(32%) samples were earning 5000 per month,06(12%) samples were earning 8000 per month,08(16%) samples were earning 10000 per month .Regarding occupation out of 30 samples ,16(32%) samples were comes in cooly ,06(12%) samples were comes in government worker,08(16%) samples were comes in private workers. Regarding associated illness samples out of 30 samples ,11(22%) samples were comes in seizure ,08(16%) samples were comes in neck stiffness,11(22%) samples were comes in decrease consciousness . Regarding cause of stroke out of 30 samples ,08(16%) samples were comes in stenosis , 16(32%) samples were comes in embolism , 06(16%) samples were comes in haemorrhage . Regarding duration of stroke out of 30

samples 10(20%) samples were comes in less than one years, 06(12%) samples were comes in 2-3 years ,14(28%) samples were comes in 3-4 years Regarding family history of stroke out of 30 samples , 09(18%) sample were comes in yes, 21(42%) samples were comes in no. Regarding symptoms reported patients out of 30 samples, 06(12%) samples were had symptoms of drooling, 06(12%) samples were had symptoms of coughing ,07(14%) samples were had symptoms of choking, 04(8%) samples were had symptoms of difficulty in swallowing ,07(14%) samples were had symptoms of pain swallowing. Regarding current diet out of 30 samples, 09(18%) samples were comes in nil per oral, 08(16%) samples were comes in liquid diet, 07(14%) samples were comes in semisolid diet ,06(12%) samples were comes in alternative nutrition. Regarding dependency state for feeding out of 30 sample, 16(32%) samples were comes in partially dependent for feeding , 14(28%) samples were comes in completely dependent for feeding.

Table 2: Mean and standard deviation for direct swallowing test the effectiveness of pre – test and post – test level of CVA patients

Table 3: Frequency and percentage distribution of scoring and interpretation of direct swallowing test among CVA patients.

Table I: Frequency and percentage distribution of demographic variables among CVA patients

Demographic Variables	Characteristics	Frequency (F)	Percentage (%)
Sample Under 1.AGE	Section-A		
	30-40 years	12	24
	40-50 years	11	22
2.Sex	50-60 years	07	14
	Male	18	36
3.Education	Female	12	24
	A. Schooling	09	18
	B. Higher secondary	14	28
	C. Degree	07	14
4.Income	D. Non formal education	-	-
	A.5000 Per month	16	32
	B. 8000 per month	06	12
5. Occupation	C. 10000 per month	08	16
	A. Cooly	16	32
	B. Government worker	06	12
Base Line Data 1.Associated illness	C. Private workers	08	16
	SECTION –B		
	A. seizure	11	22
2.Cause of the stroke	B. neck stiffness	08	16
	C. decreased consciousness	11	22
	A. Stenosis	08	16
3.Duration of stroke	B. Embolism	16	32
	C. Haemorrhage	06	16
	A. Less than one year	10	20
	B.2-3 years	06	12
	C. 3-4 years	14	28

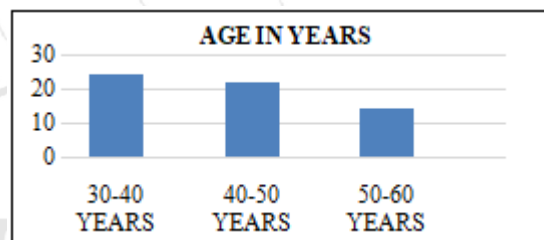


Figure 1: Shows the frequency and percentage distribution of age in years on demographic variables among CVA patients

Figure 2: PER –TEST of direct swallowing test among CVA patients

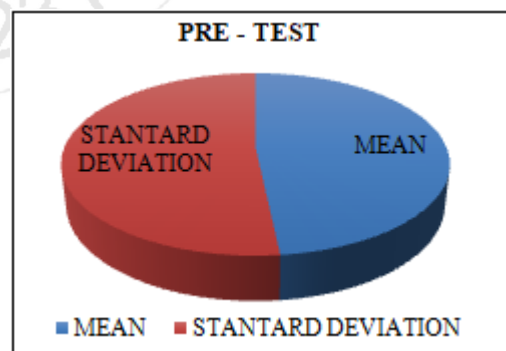


Figure 2: Shows the mean and standard deviation of direct swallowing test among CVA patients. The overall effectiveness of pre – test vale 12.9 and standard deviation value 13.8

Table 2: Mean and standard deviation for direct swallowing test the effectiveness of pre – test and post – test level of CVA patients

Level of pre-test and post test	Mean	Standard deviation	T –test
Pre –test	12.9	13.8	
Post- test	13.7	15.7	3.18(s)

Figure 3: Scoring and interpretation of direct swallowing test among CVA patients.

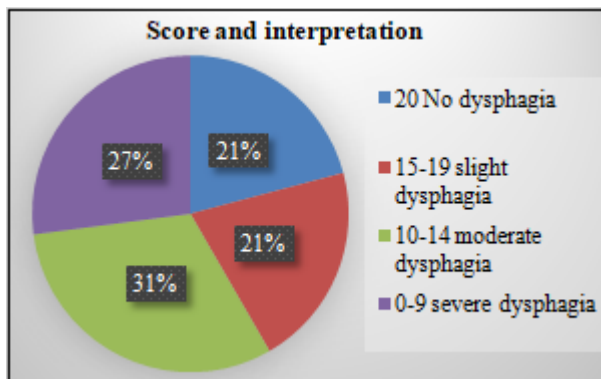


Figure 3: Shows the scoring and interpretation of direct swallowing test among CVA patients.

The 20% patients comes under no dysphagia .20% patients comes under 15-16 slight dysphagia. 30% patients comes under 10-14 Moderate dysphagia .26% patients comes under 0-9 severe dysphagia

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