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Effectiveness of dysphagia exercises on swallowing ability among patients with Cerebrovascular Accidents

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ABSTRACT

Cerebrovascular accident (CVA) is one of the foremost reasons leading to mortality and morbidity throughout the world. It is the third biggest killer in India after a heart attack and cancer. It is like a chronic health condition which negatively impacts on quality of life. Dysphagia is one of the most successive side effects in patients with a stroke which is a loss of motion of throat muscles. This condition can disturb the gulping procedure and make eating, drinking, taking prescription and breathing trouble. Dysphagia exercises are designed to enhancing muscles and coordinating the nerves and muscles involved in swallowing. The pre-experimental design was used with 60 samples who matched the inclusion criteria who were selected by purposive sampling technique. The study aims is to assess the swallowing ability before and after dysphagia exercises among patients with cerebrovascular accidents. Demographical variables were collected by using self- structured questionnaires and Modified Mann Assessment of Swallowing Ability Scale. The study uncovered that the pre-test mean swallowing ability score was 42.45 with a standard deviation of 8.63 among the cerebrovascular accident patients. The post-test swallowing ability mean score of 50.54% with a standard deviation of 8.23 among the cerebrovascular accident patients. The study findings concluded that Dysphagia practices which was an effective, inexpensive, simple measure for improving swallowing ability among patients with cerebrovascular accident.

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INTRODUCTION

Eating is the ingestion of nourishment, to give healthful or restorative needs, especially for vitality and development. Swallowing is the procedure in the human or creature body that makes something go from the mouth to the pharynx and into the throat while closing the epi-glottis. If this fails and the substance goes through the trachea, then aspiration can happen. In the human body, it is constrained by the Swallowing reflex (Dalal *et al.*, 2007).

Dysphagia got from the Greekphagein, signifying 'to eat', is a typical side effect of head and neck malignant growth and can be a terrible sequel of its treatment. It might likewise happen in stroke patients. Dysphagia is any disturbance in the swallowing procedure during bolus transport from the oral pit to the stomach (Kamalakannan *et al.*, 2017). A stroke is an interference of the blood supply to any piece of the mind. A stroke is some of the time called a Brain attack. There are two significant sorts of

stroke – Ischemic and Hemorrhagic stroke. Stroke is characterized by WHO as a quickly creating disorder with clinical indications of the central or worldwide unsettling influence of Cerebral capacities with side effects enduring 24 hours or more or Leading to death with no clear reason other than vascular origin (Suresh and John, 2016).

According to WHO, stroke executes 17 million individuals every year, which is very nearly 33% of all death comprehensively (List *et al.*, 1999). The conditions may show as cerebral pain, Changes in sharpness, Dysphagia, shoulder torment, neck torment, vertigo, Loss of co-appointment, deadness or shivering on the influenced side, Decreased vision, inconvenience talking and issue strolling (Singh and Hamdy, 2005). The clinical parts of Dysphagia after stroke, it merits thinking about what precisely is implied by the term Dysphagia. With regards to stroke, oropharyngeal Dysphagia is likely best characterized as a disturbance of bolus course through the mouth and pharynx (Blackwell and Littlejohns, 2010). As the capacity of gulping is the sheltered conveyance of a nourishment bolus into the stomach, at that point the prompt complexity of Dysphagia is nourishment entering the aviation route. Dysphagia in this setting is certainly not an emotional indication and it doesn't typically allude to any esophageal irregularity (Micheala and Enderle, 2007).

Various investigations have attempted to set up the rate of Dysphagia after stroke with figures running from 23%. Dysphagia influences up to half of the intense stroke patients and conveys a triple to a sevenfold expanded danger of yearning pneumonia. With the ensuing mortality related with pneumonia, Dysphagia has been perceived as an autonomous indicator of mortality after stroke. Luckily, most patients will make a useful recuperation over a time of days to weeks (Diana *et al.*, 2014).

Exercising swallowing muscles is the most ideal approach to improve the capacity to swallow. Here, some various activities created by Dysphagia recovery specialists which include: Shaker Exercise, Hyoid Lift Maneuver, Mendelsohn Maneuver, Effortful Swallow, Supraglottic swallow, Super Supraglottic Swallow Maneuver (Smithard *et al.*, 1996).

In India, the prevalence of stroke is estimated as, 18,012,222 and the population estimated used is 1,06,570,607[5]. Late investigations demonstrated that the age-balanced yearly occurrence pace of stroke was 105/100,000 in the urban network of Kolkata and 262/100,000 out of a provincial network of Bengal (Smithard *et al.*, 2006).

Hence the investigator felt that there is a high incidence of dysphagia and that exists need dysphagia exercises for dysphasia. Thus the researcher opted for this study to assess the effectiveness of dysphagia exercises for CVA patients.

OBJECTIVES

1. To assess the swallowing ability before and after dysphagia exercises among patients with cerebrovascular accidents.

2. To find out the effectiveness of dysphagia exercises on swallowing ability among patients with cerebrovascular accidents.

3. To associate between pre-test swallowing ability with selected demographic variables among patients with cerebrovascular accidents.

MATERIALS AND METHODS

A pre-experimental research design (one group pre-test post-test design) was embraced by the investigator to assess the swallowing ability before and after dysphagia exercises among patients with cerebrovascular accidents. The study was conducted in Saveetha Medical College and Hospital, Thandalam with 60 cerebrovascular patients with mild and moderate swallowing difficulty who satisfied the incorporation criteria. The purposive sampling procedure was utilized to choose examples.The inclusion criteria for sample selection are CVA patients with Age group of above 40 years having mild and moderate swallowing difficulty and with GCS score 13-15. Patients with severe swallowing difficulty were excluded from the study. Self- Structured Questionnaires was used to assess the demographical variables and the Modified Mann Assessment of Swallowing Ability Scale was used to assess the swallowing ability of the patients with cerebrovascular accidents. The study participants were given swallowing exercises (lip, tongue, shaker exercises and hyoid lift manoeuvre) for10-15 minutes of 10-20 repetitions for 3times a day for 1 week and evaluated again for the swallowing ability. Formal permission was obtained from the head of the department. The project has been affirmed by the ethical council of the foundation. Educated assent was acquired from the members before starting the examination. The obtained data was analyzed by descriptive and inferential statistics.

RESULTS

Out of 60 samples dominant part of the samples, 40% were in the age gathering of 51-60 years, 53.33% were males, 43.33% were Chris-

Table 1: Determination of overall swallowing ability score before and after administration of exercises among the cerebrovascular accidents patient

Overall swallowing ability score	Mini-Max score	Pre-test mean ± SD	Post-test mean ± SD	Paired 't' test	Df	5% level of significance
	0 - 100	42.45±8.63	50.54±8.23	16.06	8.09	1.64 significance

tians, 30% had completed the schooling,30% were non-professionals, 80% were married, 30% had an income between Rs.10,001- 15,000/-.

The study uncovered that the pre-test mean swallowing ability score was 42.45 with a standard deviation of 8.63 among the cerebrovascular accident patients. The post-test swallowing ability mean score of 50.54% with a standard deviation of 8.23 among the cerebrovascular accident patients (Table 1).

DISCUSSION

The present study depicts that out of 60 samples dominant part of the samples 40% were in the age gathering of 51-60 years, 53.33% were males, 43.33% were Christians, 30% had completed the schooling,30% were non-professionals, 80% were married, 30% had an income between Rs.10,001-15,000/-.

The study uncovered that the pre-test mean swallowing ability score was 42.45 with a standard deviation of 8.63 among the cerebrovascular accident patients. The post-test swallowing ability mean score of 50.54% with a standard deviation of 8.23 among the cerebrovascular accident patients. The present study is supported by Jansi *et al.* (2013), who conducted a study to assess the effectiveness of dysphagia exercises on swallowing ability among patients with CVA. The investigation results portrays that the examination gathering's pre-test and a post-test mean score of circuitous gulping capacity was 5.000 with the standard deviation of 0.000, though the pre-test mean score of direct gulping test was 2.80 with a standard deviation of 1.859 and the post-test mean score was 13.47 with the standard deviation of 2.508 which was measurably critical at p=0.000 (Jansi *et al.*, 2013).

The investigation discoveries were steady with the outcomes drawn by Kang *et al.* (2012) who did a randomized preliminary of bedside practice program comprising of oral, pharyngeal, and laryngeal activities to improve the gulping capacity among patients with CVA. Patients who went to the activities program demonstrated a noteworthy improvement in the gulping capacity than the control group (Kang *et al.*, 2012).

Relationship of gulping capacity with chose foundation factors among patients with CVA in the investigation gathering and the benchmark group was surveyed utilizing Pearson chi-square. The investigation results portrayed that there was no noteworthy relationship between gulping capacity and chose foundation factors during the pre-test and the post-test.

CONCLUSIONS

Dysphagia results from issues in nerve or muscle control that may go with different ailments. This comprises an impressive issue for some CVA patients influencing personal satisfaction. This investigation reasons that the act of Dysphagia exercise was a successful strategy to improve the gulping capacity of patients experiencing gulping trouble. These activities which decrease entanglements is a basic measure and simple to rehearse.

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