The Effectiveness Of Auditory And Tactile Stimulation Technique On Motor Function And Verbal Response Among Patients With Stroke In ICU, At Selected Hospitals

1. Mr.M.Murali*, 2. Mrs. Aruna devi

1. Assistant professor,

panna Dhai Maa Subharti Nursing College,

Swami vivekanand subharti University ,

Meerut.

2. Clinical research co-ordinator,

National university hospital,

Singapore.

ABSTRACT:

This study was conducted among 30 patients with stroke admitted in selected hospitals. The objectives were to find out the effectiveness of auditory and tactile stimulation technique among patients with stroke to improve the motor function (M.F) and verbal response (V.R).

Method: A Quasi-experimental study was conducted with pre test post test research design.

Results: In experimental group, the mean the post test motor function and verbal response score was of 9(60%) of them has good motor function and verbal response, 4(27%) of them has moderate motor function and verbal response,2(13%) of them has poor motor function and verbal response. In control group the mean motor function and verbal response score for post test motor function and verbal response score was of 14(93.3%) of them has moderate motor function and verbal response,1(6.7%) of them has poor motor function and verbal response. The auditory and tactile stimulation technique effective was statically checked with mean post test scores between group and has 't' value 4.16 than the table value of 2.78 with d.f. of 28. There was no significant association between the post test motor function and verbal response and their age in years. There was no significant association between the post test motor function and verbal response and their selected risk factors for stroke**.**

Conclusion: The auditory and tactile stimulation technique was significantly effective in improving the motor function and verbal response at earliest among the patient with stroke.

Keywords: auditory and tactile stimulation technique, Motor function and verbal response, Stroke.

Introduction:

Traditionally nurses carry out a variety of functions. Some of these can be primary to the nurse's role and some are secondary to nurse's role. Today's concern is "holistic care" where health personnel are in position to provide, to give care not only to the patient but also to the rehabilitation phase also. Stroke patients experiences the alteration of motor function and sensory deprivation. When the auditory and tactile stimulation technique initiated with stroke patients earlier to prevent the sensory deprivation.

Stroke is a medical emergency and can cause permanent neurological damage, complications and death. A Stroke, previously known medically as a Cerebro-vascular accident, is rapidly developing loss of brain functions due to disturbance in the blood supply to the brain. This may be due to infarct caused by blockage or a hemorrhage. Patients in stroke experience sensory deprivation because their ability to respond to internal and external stimuli is altered. To facilitate the recovery process and to prevent sensory deprivation after stroke, Sensory stimulation program beginning in the early stages of recovery may be useful.

Stroke is the leading cause of disability in the united states, resulting in chronic neurologic deficits that persistently impair function in about two-third of cases. Long term treatment can be reduced with proper timely intervention which can improve satisfaction of the patient also. Stroke survivors are taught to perform the activities of daily living with their residual disabilities. Focusing on the particular area of rehabilitation can provide an effective coping on the patient.

The auditory and tactile stimulation technique is provided at the appropriate time help to overcome the profound sensory deprivation of the unconscious patient. Efforts are made to maintain the sense of daily rhythm by keeping the usual day and night patterns for activity and sleep. The nurse touches and talks to the patient and encourages family members and friends to do so. Communication is extremely important and includes touching the patient and spending enough time with him or her to become sensitive to his or her needs. It is also important to avoid making any negative comments about the patient's status or prognosis in the patient's response.

Need for the study

The patients with stroke are completely dependent on health care providers to meet all their needs. Therefore they need some assistance to help them as safe functions as possible. The patients care must be planned carefully to ensure about meeting of all needs.

Stroke, third leading cause of death in America, behind heart disease and cancer. It is one of the leading cause of adult disability. It kills 1,60,000 people each year. According to **ICMR** estimated (2004), there were 9.3 lakhs cases of stroke and 6.4 lakhs deaths because of stroke. It also showed that in India, majority of the people are of less than 45yrs old. Experts quoted that, India lost 63 lakhs of disability adjusted life years in 2004 when deaths and disability counted together. WHO estimation shows that by 2050, 80% stroke cases in the world would occur in India and China among low and middle income people.

About 7,50,000 strokes will occur this year.5,500,000 of these stroke could be prevented. African Americans have a higher death rates from strokes than whites. This may be related to a higher incidence of hypertension, obesity and diabetes mellitus in African Americans. Each year in the united states there are approximately 50,000 cranial hemorrhage, 25000 cases of Sub-arachnoid hemorrhage and 400,000 case of an ischemic stroke**.(Lewis)**

Approximately 2,50,000 people die each year of cerebro-vascular disease in the United States**.(Hand Book of Critical Care Medicine, Joseph Varon, Robert E. Fromm)**

Rehabilitation should begin as soon as possible after stroke patient is stable, often with 24-48hrs after the stroke attack. Attainment of best quality of life and independency was the goals of rehabilitation but it can help people to achieve the possible goal with long term outcome. The first stage of rehabilitation usually starts with Intensive Care Unit of a hospital. In a developing country like India, nurses have a major role in the care of a patient. Involvement of the Primary Care Givers take care of sensory stimulation program and aim to have continuity of care and to reduce the cost of care.

Teaching the care giver about the auditory and tactile stimulation helps to promote care and satisfaction to the patient. The researcher personally felt that most of the patients are less motivated to use the affected area and has financial problem to have a physiotherapist's assistance in providing exercise. Keeping this view in mind researcher became interested to conduct this study which may be beneficial for the patient and family members.

***Statement Of The Problem*:**

A study to evaluate the effectiveness of auditory and tactile Stimulation technique on Motor function and verbal response among patients with Stroke in ICU, at Selected hospitals.

***Objectives*:**

(1) To prepare and validate the auditory and tactile stimulation technique for improving the motor function and verbal response among patients with stroke.

(2) To assess and compare the pretest & post test score of motor function and verbal response of patients with stroke by routine nursing care.

(3) To assess and compare the pretest & post test score of motor function and verbal response of patients with stroke followed by auditory and tactile stimulation technique along with routine nursing care.

(4) To find association between the Motor function and verbal response of the experimental group with their selected demographic variables (Age, selected risk factors for stroke).

Hypotheses: (The Level Of Significance At 0.05)

H_1: The score of Motor function and verbal response will be significantly higher among patients with stroke who receive auditory and tactile stimulation technique than who received routine nursing care.

H_2: There will be significant association between the post test score of Motor function & verbal response among experimental group and their selected demographic variables. (Age, Selected risk factors for stroke)

Method: **Auditory and Tactile Stimulation Technique:** It involves an auditory and tactile stimulation to the stroke patients which improve the motor function and verbal response. An auditory stimulation in which the researcher administered the instrumental music through i-pod by using head phones followed by the care giver positive words talk to the patients, where as the tactile stimulation the researcher provide firm pressure over the more sensitivity areas followed by massage and made comfortable position to the patient. A quasi-Experimental pre test –post test research design was conducted study. Written permission was obtained from the hospital authorities and the consent from sample relatives before conducting the study. Non probability convenient sampling technique was adopted. The independent variable was auditory and tactile stimulation technique. The dependent variable was motor function and verbal response for patients with stroke. Tools used for collection of data contains selected demographic variables and also rating scale to assess the motor function and verbal response. The conceptual framework used was Calister Roy's Adoption theory. Pre test was done on the day-1 and auditory and tactile stimulation technique was initiated on the same day itself and it was given twice daily for 5 days by the researcher to assess the M.F andV.R. Post test was done for both control group and experimental group on day-5. ***Findings:*** This bar diagram deals with details of analysis between experimental group & control group post-test Score of motor function and verbal response among the samples. In the post-test score of the experimental group 9(60%) of them has good motor function

and verbal response, 4(27%) of them has moderate motor function and verbal response, 2(13%) of them has poor motor function and verbal response. In the post test score of the control group 14(93.3%) of them has moderate motor function and verbal response, 1(6.7%) of them has poor motor function and verbal response.

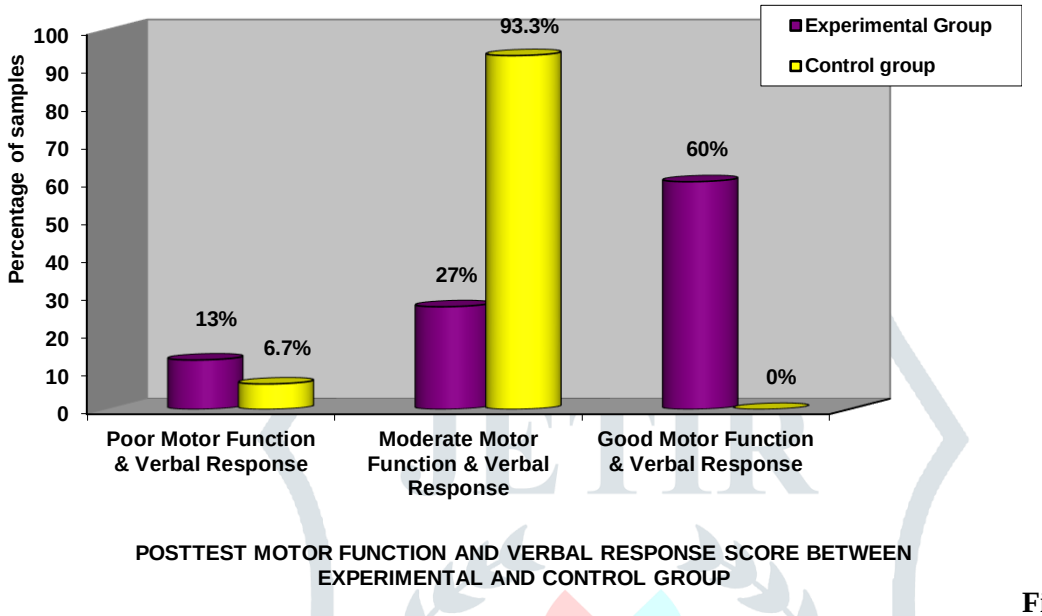

Figure-4.3: Bar diagram shows the percentage distribution of samples based on the level of MF and VR between experimental and control group.

Table-4.3: Mean and Standard deviation of Motor function score and verbal response score among samples in experimental and control group.

n_1=15; n_2=15

Group	Post-Test		Table value	Calculated " t" value
	Mean	Standard deviation		
Experimental group	8.3	1.05	2.78	4.16*
Control group	6.8	0.91		

*** Significant at 0.05 level; df =28**

The data analysis showed that samples had improved motor function and verbal response after administered auditory and tactile stimulation technique. The unpaired 't' values were found highly significant on improve the motor function and verbal response at $p<0.05$ level of significance. The association of age,

selected risk factors for stroke and post test motor function and verbal response was assessed by using chi-square and it was found to be non significant.

LIMITATIONS

1. The sample size was small, so generalization is not possible
2. Instrumental music only given to the stroke patients

CONCLUSION

The control group mean post test motor function and verbal response of the sample showed moderate motor function and verbal response and the experimental group mean post test motor function and verbal response of the sample showed good motor function and verbal response. This reveals that auditory and tactile stimulation technique is effective in improving the motor function and verbal response in patients with stroke.

REFERENCES

Arlene.P., Polaske, Suzanne Etatro. (2003). "*Luckman's core principles and practice*". 2nd edition. W.B. Saunder's Co. Philadelphia.

Ann.Mari Thorsen, (2006). "Functional and cognitive capacity and health-Related Quality of Life 2 Years After Day Hospital". *Journal of Clinical Neuroscience*. 11(1).

Barbara.K.Timby. (1997). "*Introducing medical Surgical Nursing*". 7th ed. Lippincott.