

To Find Out the Effectiveness of the Functional Task Approach in Adult Hemiplegic Patients

Shahanawaz SD

PhD Scholar, and Assistant Professor Dr.D.Y.Patil
College of Physiotherapy, Dr.D.Y.Patil Vidyapeeth
(Deemed University) Pune-18

Tushar.J.Palekar

Professor and Principal of Dr.D.Y.Patil College
of Physiotherapy, Dr.D.Y.Patil Vidyapeeth
(Deemed University), Pune -18

Abstract:

Title: To find out the effectiveness of the Functional task Approach in Adult hemiplegic Patients.

Aim of the Study: To Know the effect of Functional task Approach in Adult hemiplegic Patients.

Methodology: 20 Subjects was taken and assessed the Pretreatment score and post treatment score (0 Weeks -6 Weeks) .The Patients was given patient specific functional task oriented treatment approach the focus of the assessment and treatment were functional task. Analysis of the functional task was taken according to the need of the patient. The movements were evaluated to do particular tasks and then the treatment was focused on improvement of that movement.

Result: 20 Subjects were given treatment of patient specific functional approach, the mean of Pre-treatment MAS Score is 6.40 and Post-treatment MAS Score is 1.40.The Statistical data is analysed by using independent sample T-test i.e. p value < 0.05, The mean and standard deviation of MAS for pre and post treatment was measured.

Keywords: *Functional Task Approach, Hemiplegia, Motor Assessment Scale (MAS), Facilitation, Goal oriented Technique.*

1. INTRODUCTION

Stroke presents a major global public health challenge, with 5.5 million people dying from stroke each year (WHO 2003) ¹²In India, Stroke has an incidence of 203 cases/ 1 lakh population in the age group more than 20 years with male to female ratio being 1:7.Reports say that 1.2 % of total death in India is due to stroke with prevalence 90-222 per 100,000 (Dalal 2007)[19] ,.12% of strokes occur in the population aged <40 years (Shah + Mathur 2006)[73],28-30 day case fatality ranges from 18-41% (Dalal).In India, the ICMR estimates in 2004 indicated that stroke contributed 41% of deaths and 72% of disability adjusted life years.

According to Hughlings Jackson (1882)¹⁴, the loss of a particular movement is ‘‘largely compensated in time by greater activity’’ of the remaining areas which suggest brain is able to recognise movement or action. If we assume that recovery post stroke involves the relearning of motor behaviours, the rehabilitation program of choice should promote motor learning by task-specific practice. It has been found that given the appropriate environment, CNS can learn or relearn despite damage to the system. Rehabilitation techniques prevent synaptic degeneration of neurons and may even help to reorganize or guide recovery to allow functional adaptation to occur. It is believed that in humans focusing rehabilitation techniques on functional, meaningful and skilled activities.

Aim of the Study

To Know the effectiveness of the Functional task Approach in Adult hemiplegic Patients

Objectives

- To determine the functional task approach in adult hemiplegia will improve the functional activities of daily living.
- To assess the pre treatment MAS Score of hemiplegic patients.
- To assess the Post Treatment MAS Score of Hemiplegic Patients.
- To Compare the Pre and Post Treatment MAS Score of Hemiplegic Patients.

Null Hypothesis (H0)

H₀: There will be no significant effect of Functional task Approach in Adult hemiplegic Patients.

Alternate Hypothesis (H1)

H₁: There will be significant effect of Functional task Approach in Adult hemiplegic Patients.

2. MATERIALS AND METHOD

Material: Pen, Paper, Couch, Table, Chair, Pillows, Step, Small ball, Ice, Key, Hammer, Spoon, Comb.

Study population: Diagnosed as Hemiplegia by Neurophysician or Neurosurgeon

Study design: Experimental (Pre-Post test)

Data collection: Dr.D.Y.Patil Medical College, and Research hospital

Department of General Medicine

Department of Neurosurgery

Department of Physiotherapy.

Sampling method: Convenient Sampling

Sample size: 20

Inclusion criteria

Age group is 30-60 Years

Both Males and Females

Stroke (Hemiplegia) Subjects diagnosed by the Neurophysician or Surgeon

Subjects are stable and refer to physiotherapy intervention

Able to tolerate the exercise.

Exclusion criteria

Total loss of sensation

Comatose Patients

Spinal injuries Perceptual disorders

Patients with associated Neurologic disorders

Patients with musculoskeletal disorders

Patients with Metabolic disorders

Procedure

All subjects were explained about the study .Informed consent will be sign. Patients were evaluated by Neurophysician, and diagnosed the Right hemiplegia were included in this study. In the procedure Firstly ,The Patients who were haemodynamically stable ,20 Subjects was taken and assessed the Pretreatment score and post treatment score (0 Weeks -6 Weeks) .The Patients was given patient specific functional task oriented treatment approach the focus of the assessment and treatment were functional task. Analysis of the functional task was taken according to the need of the patient. The movements were evaluated to do particular tasks and then the treatment was focused on improvement of that movement. Based on task oriented motor relearning program the subject actively participates in the treatment that is individualized, constantly modified According to the subjects response and geared towards functional activities. Emphasis was placed on retraining the tasks based on Patient

Specific functional task oriented treatment approach. Patterns were facilitated through appropriate sensory and proprioceptive input. After completion of 6 Weeks of the treatment, 20 subjects were assessed the pre and post treatment on MAS scale, statistical software namely SPSS 15.0.

The statistical was used to assess the comparative between pre and Post values i.e T-Test

3. RESULTS

The mean average of 20 (N=20) subjects age was 47.93 years. The mean percentage of male was 24% and female was 76% in the study. The 80% of the patients were affected Rightside hemiplegia and Remaining 20% of the patients were left side hemiplegia

20 Subjects were given treatment of patient specific functional approach, the mean of Pre-treatment MAS Score is 6.40 and Post-treatment MAS Score is 1.40. The Statistical data is analysed by using independent sample T-test i.e. p value < 0.05 , The mean and standard deviation of MAS for pre and post treatment was measured. The Mean difference MAS Scale for was -2.467 and obtained table value was 1.841, When the obtained table value observed at 0.05 with the statistical t-test, It shows a significant at the level of 0.004, hence it results that MAS score of Post treatment value p -value shows significant.

Table1. Independent Sample T-Test

	20 Subjects Treatment-Patient Specific Functional Approach	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference	t value	p value
	Pre Test of Patient Specific Functional Approach	20	6.40	2.613	0.675	-2.467	1.841	0.004
DHI	Post Test of Patient Specific Functional Approach	20	1.40	0.828	0.214	-0.533	1.214	0.235

4. DISCUSSION

The primary aim of the study was to find out efficacy of the patient specific functional task oriented therapeutic approach.

According to Truscott L (1974)[78], Mahoney FD(1974)[50], Feigenson JS(1977)[24], Early rehabilitation has been associated with reduced patient fatality and improved quality of survivorship following a stroke which is related to our results. Here we used task oriented treatment approach to achieve the patient specific goal. The study demonstrates that patients can successfully cope with task-oriented activities from the first week after stroke.

Janet H. Carr and Roberta B. Shepherd (1982)¹¹ studied Investigation of a New Motor Assessment Scale for Stroke Patients and concluded that the MAS to be useful for providing feedback to the patient on his progress, and it can be used to motivate him toward recovery with high level of reliability with an average interrater correlation of .95 and an average test-retest correlation of .98. It supports our result.

Limitations of the study

- Study will be repeat with long duration
- Large sample size.

Further Scope of Study

The study suggest that further research is needed to clarify methods and techniques to identify critical parameters so that therapeutic interventions will result more frequently in changes of functional performance.

5. CONCLUSION

The study concluded that functional task oriented therapeutic approach was helpful in improving the daily activities of the hemiplegic patients by measuring the MAS Scale. The study shows that Physical and functional components of MAS is improved. Therefore functional task oriented therapeutic approach is recommended in hemiplegic patients as early therapeutic intervention tool.

REFERENCES

- [1] Anand K Choudhary: Neurology epidemiology: 2011; 20:208-211.
- [2] Anderson M, Lough S. A psychological framework for neurorehabilitation. Physiotherapy Practice 1986; 2:74–82.
- [3] Banerjee T, Das S. Epidemiology of stroke in India. Neurology Asia 2006; 11:1-4
- [4] Berta Bobath. Adult Hemiplegia- Evaluation and treatment. 3rd edition. Harcourt (India) private limited, 2002.
- [5] Breuer L, Blinzler C, Huttner HB, Kiphuth IC, Schwab S, Kohrmann M. Off-label thrombolysis for acute ischemic stroke: rate, clinical outcome and safety are influenced by the ... 2011 Dec;6(6):493-7 6. Bobath B. Adult hemiplegia: evaluation and treatment. 2nd Edition. London: Butterworth-Heinemann, 1990.
- [6] Boyd LA, Vidoni ED, Wessel BD. Motor learning after stroke: is skill acquisition a prerequisite for contralesional neuroplastic change? Neurosci Lett 2010; 482:21-25.
- [7] Brunnström S. Movement therapy in hemiplegia. London: Harper and Row, 1970.
- [8] Blennerhassett J. & Dite W. (2004) Additional task-related practice improves mobility and upper limb function early after stroke: a randomised controlled trial. The Australian Journal of Physiotherapy.
- [9] Burton A. W, & Davis,(1992) optimizing the involvement and performance of children with physical impairments in movement activities, pediatric exercise science, 4,236-248.
- [10] Carr JH, Shepherd RB. A motor relearning programme for stroke. London: Heinemann Medical, 1982.
- [11] Canadian Association of Occupational Therapists. Enabling occupation: An occupational therapy perspective, revised edition. Canadian Association of Occupational Therapists, 2002.
- [12] Catherine A.Trombly. Rood’s approach by Catherine A.Trombly. Occupational Therapy for physical dysfunction.3rd edition. Williams & wilknas.1995, 446-462.
- [13] Hughlings Jackson, ‘On some implications of dissolution of the nervous system’, Med Press Circular, 1882, 34: 433–434, on p. 433.

Annexure

MOTOR ASSESSMENT SCALE

NAME _____

MOVEMENT SCORING SHEET

DATE	0	1	2	3	4	5	6
1. SUPINE TO SIDE LYING							
2. SUPINE TO SITTING OVER SIDE OF BED							
3. BALANCED SITTING							
4. SITTING TO STANDING							
5. WALKING							
6. UPPER-ARM FUNCTION							
7. HAND MOVEMENTS							
8. ADVANCED HAND ACTIVITIES							
9. GENERAL TONUS							