RESEARCH ARTICLE

Application of evidence based practice care for individuals with spinal cord injury with functional difficulties: Role of the occupational therapy practice guidelines

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Abstract

Aim: The main purpose of this study is to provide valuable information to occupational therapist about the application of evidence based practice for spinal cord injury with functional ability difficulties.

Objective: To assess the functional ability. To evaluate the efficiency of an occupational therapy (EVBP) practice accommodating with physical medical rehabilitation, by evaluating the grade of functional independence reached by client with spinal cord injuries at second hospitalization.

Settings: Subjects selected from the spinal cord Unit of the Rehabilitation Institute of HAMSA (Trichy, India). Participants: Twenty-six-year male patient below age 30, with incomplete quadriplegia (ASIA-B) in C5level, at second hospitalization.

Methods: Prospective case study. An EVBP protocol was applied for thirty-two weeks, with one hour of per day. The study variables were quality of functional ability of the upper limb, recurrent use, participation of the upper limb in self-care and unstructured activities, active joint position, hand grasp–release action, hand grasp strength, supination and extension elbow movements. Four measurements were performed, using to measure the sensory assessment based on adult sensory profile-2

Results: Statistically significant differences were detected in all the studied variables ($p < 0.001$), between the pre-treatment and post–treatment sensory profile-2 results (32Week Spinal Cord Injury with Functional Difficulties s), except for upper limb dressing, putting on lower body dressing. In the 32 weeks, the changes were statistically significant, except for protective extension, grasp strength, grasp–release and all functional variables (level of functionality and participation of the patient's upper limbs) in the FIM Evaluation $p < 0.001$.

Key-words

Occupational Therapy, Evidence Based Practice, Spinal Cord Injury, Functional Difficulties.

Background

Occupational therapy is proficient interventions that helps individuals accomplish independence in all planes of their lives. Occupational therapy contributions people in emerging the 'aids for the occupation of living' essential for independent and sufficient lives. The role of Occupational therapy in spinal cord injury (SCI) rehabilitation includes the adaptation of social environment, living and other kinds of sensory environment for the disabled and to promotion the client in retrieval abilities and characters that are significant and meaningful activities, where as individual intentions are specific and connected to a certain patient. A major importance of spinal injury disability is a general reduction in individual independence and social involvement. The International Classification of Functioning, Disability and Health (ICF) defines activity confines as the problems an individual pretentious by spinal cord injuries may come across in executing farm duties such as self-care, eating or using a wheelchair. As reported in the studies persons with activity limitations involvement participation boundaries in daily life. Thus, a variability of determined activities is also used and altered to encourage self-esteem by importance useful skills and accentuation the touchable development of a client's functional, social, expressive, sensory and cognitive abilities. Many occupational therapists use a EVBP or another special treatment tool to help patients with the Spinal cord injuries and functional ability difficulties. When the activities are executed on a EVBP rather than done on a plinth, the hand muscles may be activated more effectively as a patient's function is perturbed when a self-care beneath them, and the muscles respond in instruction to help the patient maintain the ideal hand function. Due to the clinical symptoms found in SCI, there is an impairment in activities of daily living, which further affects the quality of life of the patient. So far, occupational therapy has been beneficial. It is necessary to preserve the hand functional ability difficulties and self-care activity.

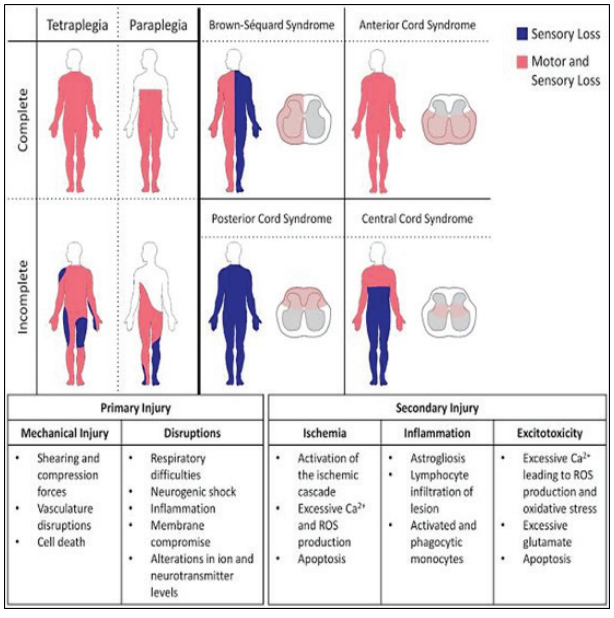
Case History

As narrated by parents, the 26-year-old male was

coming with alleged history of Road traffic accident with cervical spine injury operated on one year back in private hospital Calcutta. He was bedridden for last 9 months and severe pressure ulcer in the sacral region grade-4, bilateral hip heterotrophic ossification. He came HAMSA rehabilitation centre for further rehabilitation.

Methodology

This is a case study, before initiating the study, a well-versed consent form was given parent to the client family to participate, which definite the right to withdraw from the study at any time, if required by the participant. The inclusion criteria were a medical diagnosis of traumatic spinal cord injury incomplete quadriplegia C5-ASIA B, age 26 years, lack of activity of the affected upper and lower limb, adequate intellectual development to understand the non-verbal orders given for the execution of tasks and cooperation in their performance. In the same way, the exclusion criteria were visual problem that prevented the specific from carrying out the intervention. Treatment plan decided was to (GAS) Goal attainment scale performance pre and post intervention followed by evidence-based practice application, also along with extraction of retained primary self-care management followed by FIM 7-point rating follow scale. Upper extremity each major joints component should assess muscle tone by Modified aswarth scale (MAS). Upper and lower extremity sensory component, assess by adult sensory profile tool. FSS scale component assess Posture, alignment, self-care, Function ability by Functional status score. These scales component pre and post intervention statistically analysed



Type of Ectopic Gestationt

Problem Identified	Goal	Treatment Strategy	Intervention
Functional Ability	To maximum functional ability	NDT	Scapula Mobilization
			Trunk rotation
			Transfers
			Bed mobility
Self-care	To increased self-care activities	Activity Configurational approach	Multisensory Activities
			Spatial Oriental Activities
			Achievable Activities
			Occupational Therapy Goal-based Activities
Sensation	To integrative sensation	Multisensory Strategy	UE-Tactile Activities
			Proprioceptive Activities
			LE-Tactile Activities
Muscle Strength	A strength of grade	Biomechanics FOR	ROM - Assistive Maximum to Resistive Range of Motion
Hand function	Hand functional activities	Contemporary Task Oriented Therapy	Affected Both Side-involving Activities Maximum as Per ACA Movement Therapy Protocol

Fig (1) The Occupational Therapy intervention protocol

Outcome Measure

Table 1: Characteristic of data pre-post-evaluation-Modified Ashworth scale (MAS)

Characteristic of data-unpaired t-test	Pre-test intervention (mas)	Post-test intervention (mas)
Mean	4.71	1.43
Standard Deviation	0.49	0.79
Standard Error (SE)	0.18	0.30
95% Confidence Interval Difference	2.41	4.17

Table 1; data shows (MAS) pre-post-test evaluation scores of all scale components values are 4.71 and 1.43 ,respectively standard deviation 0.49 and 0.79 respectively sample size, standard error of mean 0.18 and 0.30, the mean of pre and Post intervention 95% 01confidence interval of this difference 2.41 and 4.17, respectively.

Table 2: 't' test between characteristics of data pre-post-evaluation- Modified Ashworth scale (MAS)

S. No.	Variable 1	Variable 2	P-Value	T-Value	Level of Significance
2	Pre-test Intervention	Post-test Intervention	0.0001	9.1393	Statistically Significant

Graph 1: Mean of Pre control and pre-experimental groups of evaluation -Modified Ashworth scale (MAS)

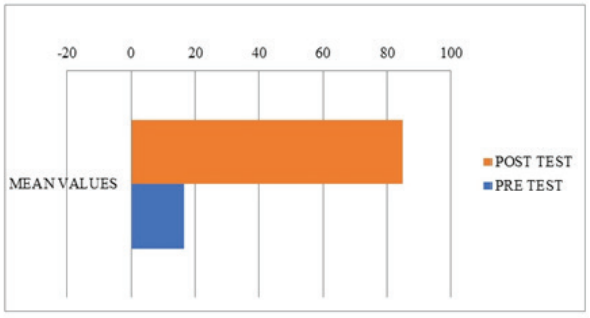


Table 3: Characteristic of data pre-post-evaluation- FIM

Characteristic of data-unpaired t-test	Pre-test intervention (FIM)	Post-test intervention (FIM)
Mean	1.00	4.56
Standard Deviation	0.00	0.86
Standard Error (SE)	0.00	0.20
95% Confidence Interval Difference	3.98	3.13

Table 3: Data shows (FIM) pre-post-test evaluation scores of all scale components of subject, mean values are 1.00. and 4.56, respectively standard deviation 0.00.and 0.86 respectively sample size, standard error of mean 0.93 and 0.20 the mean of pre and post intervention 95% 01 confidence interval of this difference 3.98 and 3.13 respectively.

Table 4: 't' test between characteristics of data pre-post-evaluation- FIM

S. No.	Variable 1	Variable 2	P-Value	T-Value	Level of Significance
3	Pre-test Intervention	Post-test Intervention	0.0001	17.6311	Significant

Graph 2: Mean of characteristics of data pre-post-evaluation- Functional status score (FSS)

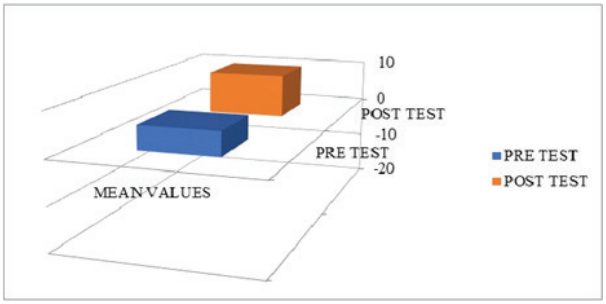


Table 5: Characteristic of data pre-post-evaluation- Adult Sensory profile (SP-2)

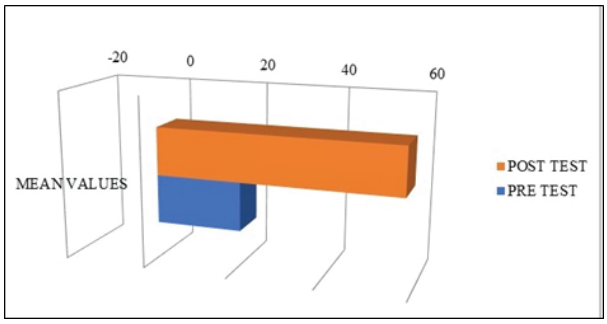
Characteristic of data-unpaired t-test	Pre-test intervention (SP - 2)	Post-test intervention (SP - 2)
Mean	44.43	19.50
Standard Deviation	22.62	14.29
Standard Error (SE)	6.05	3.82
95% Confidence Interval Difference	13.83	36.03

Table 5; data shows (SP-2) pre-post-test evaluation scores of all scale components of subject mean values are 44.43 and 19.50, respectively standard deviation 22.62 and 14.29 respectively sample size, standard error of mean 6.05 and 3.82, the mean of pre and post intervention 95% 01 confidence interval of this difference 13.83 and 36.03 respectively.

Table 6: 't' test between characteristics of data pre-post-evaluation- Sensory profile (SP-2)

S. No.	Variable 1	Variable 2	P-Value	T-Value	Level of Significance
6	Pre-test Intervention	Post-test Intervention	0.0003	4.8517	Statistically Significant

Graph 3: Mean of Pre control and pre-experimental groups of evaluation -Sensory profile (SP-2)



Conclusion

Application of Evidence Based Practice care for individuals with Spinal Cord Injury with Functional Difficulties: Role of the Occupational Therapy Practice Guidelines role in enhancing participation and improving functional ability of self-care and also to facilitate upper extremities performance and Evidance Based practice Therapy Day to day function meaningfully. The short-concentration EVBP Appro focuses on the Patient goal setting and hand function, thereby enhancing un structure and promoting pattern wise Management .EVBP analysis includes an understanding of the landscape task, Internal and external factors contexts that both facilitate and independent performance.

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