

[ORIGINAL ARTICLE]**Effect of level of injury on disability and community reintegration among spinal cord injury community dwellers: A pilot study****Kalantri Gayatri¹, Prof. Dr. Ganvir Shyam (PhD)²**¹M.P.T. Student, ²Professor and HOD, Department of Community Physiotherapy, DVVPFs College of Ahmednagar, Maharashtra, India**ABSTRACT :**

Background : Spinal cord injury (SCI) brings a huge number of changes in an individual's life. SCI patients experience a variety of physical and psychosocial challenges when they return to the community despite the massive efforts of rehabilitation. In patients with SCI, disability (impairments, activity limitations, and participation restrictions) is very important for both patients and physicians.

Purpose : To evaluate the effect of the level of injury on disability and community reintegration among community-dwelling spinal cord injury individuals.

Methodology : This study was carried out in tertiary care hospital Individuals with spinal cord injuries were included according to the inclusion criteria. Disability and community integration were assessed by using Craig Handicap Assessment and Reporting Technique (CHART) and Reintegration to normal living (RNL) Index .

Result : Statistical analysis was done using descriptive statistics of individuals.

Conclusion : Showed significant decline in Craig Handicap Assessment and Reporting Technique and Reintegration to Normal Living Index scores in the cervical level of spinal cord injury patients.

Keywords : Spinal cord injury, Disability, Community-dwelling

Abbreviations :

1. SCI:- Spinal Cord Injury
2. CHART:- Craig Handicap Assessment and Reporting Technique
3. RNL Index:- Reintegration to Normal Living Index

Introduction :

Spinal cord injury (SCI) is a high-cost disabling condition that brings a huge number of changes in an individual's life^[1] and can be a devastating experience, involving motor and sensory impairment that may result in reduced independence^[2] As well as the level of spinal cord injury, is a significant predictor of functioning in a community^[3]. After SCI, there is an important limitation in activities, and restriction in participation such as transfers and locomotion, self-care activities, difficulties in regaining employment, and in sexual life^[4]. Functional

restrictions caused by physical problems can reduce the quality of life for people with SCI and their families^[5].

SCI leaves the patient with one of two main clinical presentations, namely paraplegia or quadriplegia^[6] resulting in serious disability^[7] and decreased life expectancy^[8] According to World Health Organization, disability is the restriction in the ability to perform activities of daily living or inability to function independently in terms of basic activities of daily living or instrumental activities of daily living^[9] SCI patients experience a variety of physical and psychosocial challenges when they return to the

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community despite the massive efforts of rehabilitation carried out utilizing education and functional skills training^[10,11].

One outcome that has received limited attention in the SCI literature is disability^[12]. The Craig Handicap Assessment and Reporting Technique (CHART) scale measures the participation in social and other role functions of these patients. It was designed to provide an objective measure of the degree to which disability results in handicaps in the years after rehabilitation^[13]. Community reintegration is an important aspect of rehabilitation for people with spinal cord injuries (SCIs). The Reintegration to Normal Living Index (RNL) Index is a patient-reported outcome measure that assesses an individual's ability to resume activities of daily living within the community after a debilitating illness or injury^[14].

Hence this study aimed to see the effect of the level of injury on disability and community reintegration among spinal cord injury community dwellers.

Materials and methods

The study commenced after obtaining approval from the institutional ethical committee. A total of 12 participants with spinal cord injury aged 18 - 75 years, who had at least 6 month history of injury were included in the study through a simple random sampling technique. Potential participants were excluded if they had any cognitive deficits, orientation problems, and any previous history of head trauma. Informed consent of participants was obtained after ensuring that they met the eligibility criteria. Then demographic characteristics of individuals were assessed (age, gender, level of injury). After that disability and community integration were assessed using CHART and RNL index and values were noted for statistical analysis.

Data were statistically described in terms of mean ±SD. Statistical analysis was done using descriptive statistics.

Result:

Table no.1: Baseline characteristics of individuals.

Age (mean±SD)		28.7± 5.6
Gender (n)	Male	10
	Female	2

Table no.2 : Percentage of different levels of spinal cord injury among participants

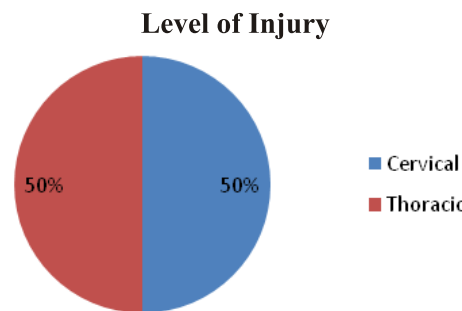
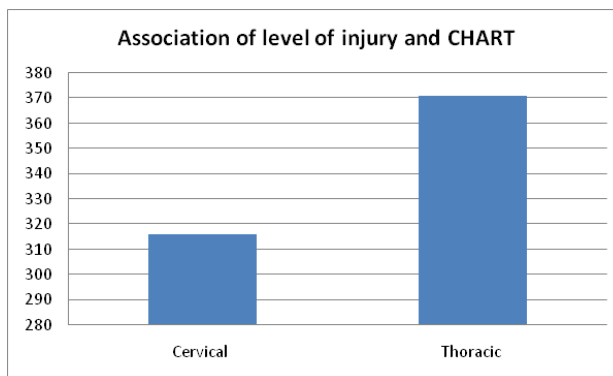


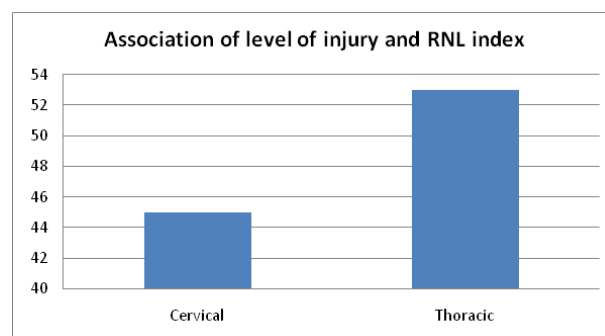
Table no.3 : Scoring for CHART and RNL index

	Domains	Mean±SD
Craig Handicap Assessment and Reporting Technique	Physical independence	49.7±15.4
	Cognitive independence	100±0
	Mobility	65±11.6
	Occupation	3.1±3.9
	Social integration	65.1±11.7
	Economic self-sufficiency	61.2±7.2
	Total	344.1±35.9
Reintegration to Normal Living Index		61±11.3

Graph no.1: Showing the association of level of injury and disability



Graph no.2 : Showing the association of level of injury and community reintegration



The mean age for 12 participants was 28.7 ± 5.6 years (see table no.1). While participants have equal percentages for cervical and thoracic spinal cord injury (see table no. 2). Mean \pm SD for a total score for the CHART scale is 344.1 ± 35.9 and RNL is 61 ± 11.3 (see table no. 3). It was also found that there is a significant decline in CHART total score (see graph no.1) and RNL score (see graph no.2) in patients with a cervical level of spinal cord injury than thoracic

Discussion :

Physical disability encumbers functional activities as well as social participation which may result in problems of reintegrating fully well into the society^[9]. In general, individual levels of independence are quite different among patients with cervical, thoracic, and lumbar spinal cord injuries. Another important thing to emphasize is that assessing the change in restriction in participation is required in persons with spinal cord injury^[4]. This study assessed the effect of the level of injury on disability and community reintegration among spinal cord injury community dwellers.

In this study, we have an equal no of patients with cervical and thoracic spinal cord injuries while more no male participants than females. We have calculated the mean for Craig Handicap Assessment and Reporting Technique (disability) and Reintegration to Normal Living Index (community reintegration) for cervical and thoracic spinal cord injury patients. The descriptive result however revealed that the participants with cervical spinal cord injury had a significant decline in CHART and RNL Index score which is similar to the study conducted by Gulsah et al^[4].

This may be due to, in patients with cervical spinal cord injury involvement of the upper limb might affect their mobility and functional independence which again increases their level of disability and decreases their community ambulation as well as participation.

The main limitation of our study was the small sample size with most of the patients being male. Disability was not reflected in between various domains of the CHART scale according to the level of injury. More deep and extensive investigations are required for future research at different time points of rehabilitation.

Conclusion :

The results of the current study indicate a significant

decline in CHART and RNL scores in patients with cervical spinal cord injury than thoracic.

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Conflicts of interest :

The authors declare no conflict of interest.

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