



Dependency among Traumatic Spinal Cord Injury Patients in Malappuram

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ABSTRACT

Background

In this study we wanted to evaluate the dependency among traumatic spinal cord injury patients in Malappuram.

Methods

This was a cross sectional study conducted at Santhwanam pain and palliative center Perinthalmanna among patients with traumatic spinal cord injury enrolled under Santhwanam pain and palliative center Perinthalmanna.

Results

Dependency Level assessment using FIM score unveiled that majority of the study participants were not dependent on others for their daily activities. They exhibited either modified (41%) or complete (17%) independence. One third of participants required minimal assistance while none of them needed total or maximum assistance. Moderate assistance were required by only one patient.

Conclusion

Majority of the study participants were not dependent on others for their daily activities. One third of participants required minimal assistance while none of them needed total or maximum assistance.



Keywords: Dependency, Traumatic Spinal Cord Injury, Malappuram.

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INTRODUCTION

123 SCI patients (mean Spinal Cord Independence Measure- 65.2). Higher level and more severe SCI and life altering event in the life of any individual. exhibited the strongest association with more Even though there is no reliable estimate of global activity limitations.^[4]

prevalence of SCI, the estimated annual global incidence is 40 to 80 cases per million population.^[1]

In India, approximately 1.5 million people live with significant predictor of poor Quality of life among SCI with an addition of 20,000 new cases yearly.^[2] SCI Patients in a comparative study across six Statistics from Kerala also draws a similar picture. countries done by Geyh et al with the study The majority of spinal cord injuries are due to recommending that vocational rehabilitation should preventable causes such as road traffic crashes, falls be the main pillar of care for them.^[5]

or violence. The victims are usually young and middle aged males. It is also the leading cause of

A qualitative study done in Iran highlighted permanent disability in this modern era and the importance of independence for an SCI Patient victims are two to five times more likely to die with a patient naming himself as a puppet prematurely than people without a spinal cord controlled by others.^[6]

injury, with worse survival rates in low- and middle-income countries^[1]. SCI may cause quadriplegia or

paraplegia depending on the level of injury affecting on Quality of Life of Affected Soldiers in India the functioning of limbs, trunk, pelvic organs, pointed out a significant influence of Level of injury bladder and bowel, as well as sexual function. This (paraplegic or quadriplegic), level of education and loss of function leads to significant changes in life of presence of other medical co-morbidities on QoL.^[7]

the affected individual making routine vocational, social, sexual and recreational activities impossible

MATERIALS & METHODS

Adults with spinal cord injury face similar barriers to This was a cross sectional study conducted at economic participation, with a global Santhwanam pain and palliative center unemployment rate of more than 60%. All these Perinthalmanna among patients with traumatic factors may push them to a state of dependency spinal cord injury enrolled under Santhwanam pain which will affect their self esteem and confidence.^[3] and palliative center Perinthalmanna. Those

patients who gave consent and those who were

The abrupt onset of this event requires one mentally able to understand the questionnaire were to accept a new life reality with no preparation included in the study. 36 SCI patients enrolled in the which will severely impact the quality of life. The Swanthanam pain and palliative society were main goal of all rehabilitation programmes is to selected for the study conveniently. enable the SCI affected individual to enhance their Sociodemographic details were collected using a quality of life and lead an independent life with pre-designed questionnaire. FIM score was used to dignity and pride. There have been very few studies assess the level of independence. Data collection to evaluate dependency status in SCI patients was done through house visits by the principal among the local population. investigator. The selected patients were visited at

their houses and after obtaining informed consent

A study on dependency status of patients data was collect. After entry in to an excel sheet, with spinal cord injury by Sophie Jörgensen in the data was analyzed with the help of SPSS Sweden reported moderate activity limitations for Software. Descriptive statistics was performed, and



results were expressed as percentages and frequencies. Outcome variables were checked for seven-level, ordinal scale intended to assess the association with independent variables by level of independence. FIM is comprised of 18 items, appropriate tests of significance. P value < 0.5 was considered to be statistically significant.

Working definition

The Functional Independence Measure (FIM) is an instrument that was developed as a measure of performing the task associated with that item.

Each item is scored on a 7 point ordinal scale, ranging from a score of 1 to a score of 7 giving a total score ranging from 18 to 126. The higher the score, the more independent the patient is in performing the task associated with that item.

Total FIM® Rating Range	FIM® Rating	Hours
18-30	Level 1, Total Assistance	≥ 8
31-53	Level 2, Maximal Assistance	6-7
54-71	Level 3, Moderate Assistance	4-5
72-89	Level 4, Minimal Assistance	2-3
90-107	Level 5, Supervision/Setup	1-2
108-119	Level 6, Modified Independence	<1
120-126	Level 7, Complete Independence	0

The burden of care ends at level 6, Modified Independence.

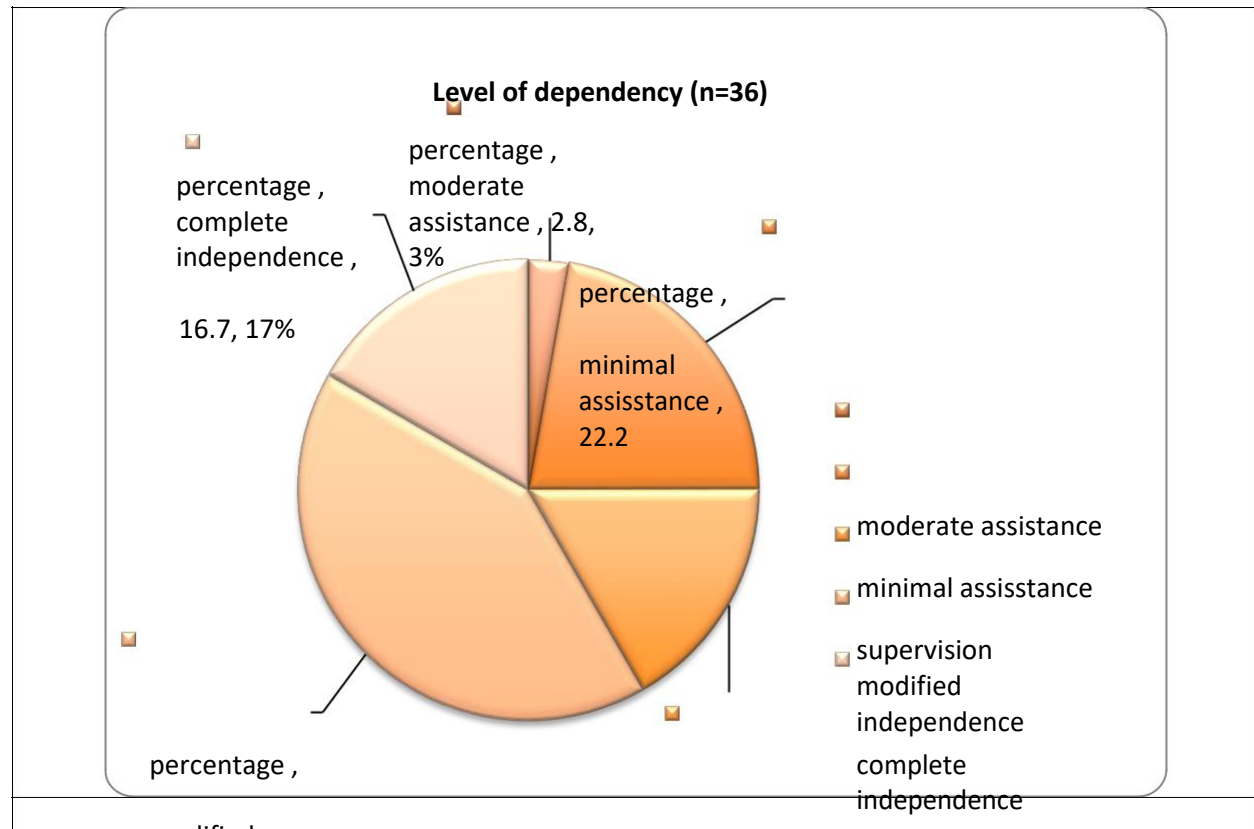
RESULTS

Majority of the population were below the age of fifty. Only two participants were above 70 years of age. Male participants were more, about five times the number of females. One third of the participants were unmarried and one of them was divorced. Half of them belonged to low socioeconomic families. Secondary education were sought by more than three fourth of the participants. More than half of the study participants had suffered an injury below the level of T10 Vertebrae which explains the diagnosis of paraplegia among majority of them. More than one third of them had developed contractures either equine or fixed flexion deformity. Less than half of the third of them were recent injuries with less than 10 years of duration. Half of them were suffering from the paralysis since a long time (15 to 30 years).

Majority of the injuries were fractures. A very few were dislocations also.

Almost one third of the participants didn't have the access to any wheelchairs for their use and hence didn't have accessibility to vehicles also. Half of them were fortunate enough not to develop any pressure sore. But among those who had developed pressure sores, few had as many as seven on the dependant parts of their body. Only one third of them had developed contractures either equine or fixed flexion deformity. Less than half of the participants suffered from hypertension while only one fourth reported diabetes mellitus.





Dependency Level assessment using FIMs such injury may make a fully active and score unveiled that majority of the study accomplished individual feel like a cripple in mercy participants were not dependent on others for their care givers in a very short time. The victims daily activities. They exhibited either modified will have to depend on others around them for very (41%) or complete (17%) independence. One third basic needs of a human being including toileting of participants required minimal assistance while and self-care. The burden of dependency among SCI none of them needed total or maximum assistance. patients in our study was meagre with none of Moderate assistance were required by only one them being completely dependent on their care patient.

DISCUSSION

Traumatic spinal cord injury resulting in paralysis is injury among the patients.^[4] Most of the studies known to affect the physical as well as mental report that dependency is based on the level of status of the individuals adversely. The Impact of injury and higher levels has more activity



limitations. The fact that the level of injury of majority of study participants in our study was below T10 Vertebrae may have helped in reducing the burden of dependency among the local[7] population. Majority of participants being free from contractures may be another factor. Most of the participants were suffering from paralysis since a long time of more than 15 years which may be another factor helping to improve their dependency status. The participants may have undergone vocational and physical rehabilitation programmes during this long time which may have helped to reduce their dependency unlike patients with relatively recent injuries.

CONCLUSION

Majority of the study participants were not dependent on others for their daily activities. One third of participants required minimal assistance while none of them needed total or maximum assistance.

REFERENCES

- [1] WHO. Spinal cord injury [Internet].WHO; [2013 November 19; 2023 July 23] Available from: <https://www.who.int>.
- [2] Quach NT, Ehsanian R, Dirlikov B, Sechrist S, Mohole J, McKenna S, et al. Burden of care implications and association of intracranial hypertension with extremely severe post-traumatic amnesia after traumatic brain injury: a 5-year retrospective longitudinal study. *Frontiers in neurology*. 2019;10:34.
- [3] Singh R. Epidemiology of spinal cord injuries: Indian perspective. *Epidemiology of Spinal Cord Injuries* 2012;157-68.
- [4] Jörgensen S, Iwarsson S, Lexell J. Secondary Health Conditions, activity limitations, and life satisfaction in older adults with long-term spinal cord injury [Internet].Wiley online library 2017;9(4):356-66.
- [5] Geyh S, Ballert C, Sinnott A, Charlifue S, Catz A, D'Andrea Greve JM, et al. Quality of life after spinal cord injury: a comparison across six countries. *Spinal Cord* 2013;51(4):322-6.
- [6] Mohammadi F, Oshvandi K, Bijani M, Borzou SR, Masoumi SZ. Perception of facing life's

challenges in patients with spinal cord injury in Iran: a qualitative study. *BMC Psychology* 2022;10(1):1-9.

Kumar N, Gupta B. Effect of spinal cord injury on quality of life of affected soldiers in India: a cross-sectional study. *Asian Spine J* 2016;10(2);267-75.

