

SPINAL CORD INJURIES AMONG GENDERS; PSYCHOLOGICAL WELL - BEING

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ABSTRACT:**OBJECTIVES:**

The aim of this study was to analyse the psychological wellbeing among gender suffering from spinal cord injury (SCI).

METHODOLOGY:

This was a comparative study. It was conducted from January-March 2020 in Hayatabad Medical Complex (HMC), Peshawar. This study compares the psychological well being in terms of their stress, anxiety, and depression. A questionnaire DASS-42 was used to collect the data from both genders. The inclusion criteria comprise of patients who came for the treatment of their spinal cord injury to the orthopaedic department. Those patients having severe physical and comorbid psychiatric illness were excluded. The data was collected and analysed on SPSS 26.

RESULTS:

The total sample of 127 in which male were 83 and female were 44. The results were significant according to stress, anxiety, and depression. The level of stress was more in male patients, whereas anxiety results were insignificant among gender and depression were high in females respectively.

CONCLUSION:

Our results revealed, SCI patients have a high risk of anxiety or depression in among male and female. This information could help physicians understand the long-term risk of new-onset anxiety or depression in SCI patients .

KEYWORDS: Psychological, Spinal Cord Injury (SCI), Gender, ASIA, DASS-42

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INTRODUCTION:

Aggression can be described as a typical mental health issue among adolescents, which represents genuine social issues in the current Any harm to the vertebrae, ligaments, and disks of the spinal column or spinal cord results in Spinal Cord Injuries (SCI). This may be due to a traumatic and a sudden blow to the spine that fractures, compresses, crushes, dislocates one or may be more vertebrae can be affected¹. The most common causes of SCI in the world are gunshot injuries, traffic

accidents, knife wounds, sports and falls injuries. There is a strong link between functional condition, whether the injury is complete or not complete, as well as the level of the injury. The results of SCI bring not only harm to physical function and independence, it also include many complications due to trauma. Neurogenic bladder and bowel, fractures, deep vein thrombosis, urinary tract infections, pressure ulcers, pulmonary and cardiovascular problems, orthostatic hypotension, spasticity, autonomic dysreflexia, and depressive disorders are common complications of SCI². American Spinal Injury Association (ASIA) classified SCI by considering the sensory, motor and functions. The ASIA Disorder Scale was last revised and improved in year 2011³. The factors; functional status and level of the damage to the spinal cord have strong relationship even if it is complete or not complete where complete injury is complete loss of motor and sensory abilities at the distal level of injury⁴. Whereas there is partial protection of the motor and the sensory functions in incomplete injury in lower sacral segments and below the neurological level⁵. Serious disability due to SCI leads to loss of work that results to psychosocial and economic issues. The treatment time is long along with rehabilitation that are debilitating and costly. SCI patients and family require patience and motivation throughout the treatment process whether it is incomplete or complete². Mental and physical healths are closely associated³. Psychological adjustment is difficult in SCI, due to significant changes in individual's physical activity and tension in the family that affects the relationships. Our understanding regarding psychological wellbeing of SCI is undoubtedly kept side by side. The prompt psychological consequences due to SCI are not understood properly that is due to the effect of medication, pain and neural deprivation. In United States,⁶ the maximal prevalence of SCI is 906 per million. Studies have conducted systematic reviews and meta-analyses regarding the assessment of prevalence of depression, anxiety suffering from SCI, the prevalence of emotion irregularity in both the genders with SCI⁷. Systematic review by Guest et al,⁸ revealed, SCI patients in the rehabilitation phase, 30% have a risk of depression. In addition, 27% of the patients have the potential depressive risk even after the

treatment is done and they are leading a normal life. Guest et al⁸, conducted a longitudinal estimation for 6 months of the post discharged patients after having SCI to check their psychological disorders. The rates of psychological disorders was instituted 17% to 25% higher as compare to the results found in the Australian people. This study revealed the negative impact of SCI on psychological health of the patients for 6 months after post-discharge. Another study reported depression due to SCI in patients during the initial 5 years after SCI^{9,10}. Kennedy and Rogers conducted a study that showed a significant correlation between anxiety and depression in individuals with SCI¹¹. Furthermore, the longitudinal results provided an indicator of subtle changes in anxiety and depression over time^{12,13}. SCI is a common problem that is experienced by both the gender, globally. A lesser degree of SCI in female has been advocated. The behavioral and structural characteristics may explain significant type along with the severity of SCI in female gender¹³. The rationale of our study identifies the patients with SCI and to check their psychological profile and reduce the effect of depression, anxiety, and stress in these patients by reassuring them on regular basis. The objective of our study was to assess the psychological wellbeing of the patients suffering from SCI between male and female.

METHODOLOGY:

It was a comparative study, conducted in Hayatabad Medical Complex of Peshawar. A total 127 patients were selected for this study through convenient sampling technique. An informed consent was taken from the patients. To measure the stress, anxiety and depression, DASS-42 questionnaire was used. All the spinal cord injury patients who visited the neurosurgery department and willing to participate in the study was selected and those patients who had severe physical or psychiatric illness were excluded from the study. Patients were debriefed about the study protocols. The independent t-test was applied on the data in SPSS version 26.0.

RESULTS:**Table 1: Stress Across Gender in Spinal Cord Injury Patients**

Variable	N	Mean	SD	t	P-Value	95% Confidence Interval Difference	
						Lower	Upper
Female	44	10.69	2.74	-6.32	0.001	-5.38	-2.78
Male	83	14.77	4.64				

Table 2: Anxiety Across Gender in Spinal Cord Injury Patients

Variable	N	Mean	SD	t	P-Value	95% Confidence Interval Difference	
						Lower	Upper
Female	44	7.94	3.01	1.95	0.809	-0.12	2.11
Male	83	6.89	2.62				

Table 3: Depression Across Gender in Spinal Cord Injury Patients

Variable	N	Mean	SD	t	P-Value	95% Confidence Interval Difference	
						Lower	Upper
Female	44	12.78	4.13	3.53	0.001	1.17	4.16
Male	83	10.11	3.87				

DISCUSSION:

Several factors relating to the experience and treatment of spinal cord injury potentially influence the psychological state of the patient along with SCI¹¹. Spinal cord injury (SCI) is most debilitating injuries a person may be experiencing¹². Women may have more ordinary neurologic recovery than men; however, men tend to do better functionally than women for a given level and degree of neurologic injury at time of emancipation from recuperation¹². Many clinicians have observed inevitable consequences of spinal cord injury, anxiety and depression. However, many current literatures have showed that anxiety and depression are not an inevitable outcome of SCI. These studies suggest that approximately 25% of SCI patients have clinically significant levels of anxiety whereas control groups have lower level such as 5%. Approximately 27% of Spinal Cord Injury patients have clinical depression whereas control group patients have 3%¹³. Therefore, the patients with spinal cord injury have substantially higher risks of comorbid mood disorders. Several factors have been identified in the management of spinal cord injury¹⁴. One of the factors is age, as studies found that younger patients improve better than old age patients.

Second factor, which we also considered in our study, is gender, females are more accepting of SCI than males, even controlling for the discrepant percentages of males and females suffering injury¹⁵. A study conducted in USA,¹⁶ reported that spinal cord injury patients had more stress level as compared to general population. In our study (Table 1), females (mean 10.69, SD 2.74) and males (mean 14.77, SD 4.64) patients both were stressed but males had higher scores (p=0.001). In contrast, another study reported that in long-term illness, stress is not related to the physical factors of spinal cord injury and severity of disability¹⁷. Similarly, another study showed that 47% female and 36% male had acute stress along with the spinal cord injury¹⁸. In our study (Table 2), female (mean 7.94, SD 3.01) had male (mean 6.89, SD 2.62) results on sub-scale of anxiety was insignificant, which indicates that there is no difference in terms of anxiety among genders. In contrast to our results another study showed that females of spinal cord injury had significantly higher scores than males on the anxiety subscale¹⁹. A research results showed that 48% of the participants reported clinically significant symptoms; women were at a substantially higher risk for depressive symptoms¹⁹. Similarly, in our study (Table 3), male (mean 10.11, SD 3.87) and female

(mean 12.78, SD 4.13) had depressive symptoms, but female score was high ($p=0.001$). Studies have found that higher levels of pain experienced postinjury and feeling out of control of one's life prior to hospital discharge tends to predict higher levels of depression²⁰. A study results showed prevalence rates for women 7.9% for probable major depressive disorder and 9.7% for other depressive disorder; rates for men were 9.9% and 10.3%, respectively²¹. The research therefore tends to suggest that approximately 30% of individuals with SCI have clinically significant levels of anxiety and depression²². The recognition of psychological complications in patients following SCI is dynamic as research suggests that those individuals who experience high levels of anxiety and depression benefit significantly from therapies such as cognitive behavior therapy²³. The evaluation of anxiety and depression is important for psychological well being of the spinal cord injury patients²⁴. The reasons for the high rate of depression among women were the sensitivity towards the interpersonal problems, experience of some women specific depression like disorders (such as postpartum depression, premenstrual dysphoric disorder), hormonal changes in women can be a trigger for depression²⁵. Another study reported, the prevalence of depression was higher in females (5.5%) as compared to males (3.2%)²⁶.

CONCLUSION:

Spinal cord injury patients' experiences stress, anxiety and depression. There should be some rehabilitation programs for spinal cord injury patients where both physical and psychological assistance should be provided to them.

LIMITATIONS:

The sample size was small and selected from one hospital of Peshawar. It was comparative study and there is need of studies with psychological interventions to figure out the impact of it.

CONFLICT OF INTEREST: None

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