

Prevalence of Psychological Morbidities in Patients with Spinal Cord Injuries

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Abstract:

The study focuses on prevalence of psychological morbidities post Spinal Cord Injury. DASS-21 was used as the outcome measure to see three parameters Depression, Anxiety and Stress. A total of 60 subjects were taken for this study.

Keywords: SCI, Anxiety, Depression, Stress

INTRODUCTION

Traumatic spinal cord injury (SCI) is a sudden and life changing event that impacts health, functioning, societal participation, and quality of life. The extent of functional impairment among individuals living with SCIs depends on the location and extensiveness of damage to the spinal cord; individuals with higher level injuries (e.g., cervical vs. lumbar region) and more severe damage experience greater impairments. In most cases, traumatic SCI is considered a permanent condition, with any restoration of function limited to the first two years after injury and then usually only resulting in only minor changes to functional ability, but potentially longer-term effects involving changes in quality of life and psychological health.[1] The prevalence of depression is notably higher, nearly twice as much, within the population of individuals with spinal cord injuries (SCI) when compared to the general population. [2] Chung found well over half of a large number of persons with SCI in the rehabilitation phase had difficulties with anxiety and somatization, and traumatic events associated with their injury were significantly associated with arousal and anxiety. [3] PTSD has been reported following a range of traumatic and life threatening events such as road traffic accidents, medical procedures, assault and disaster to name but a few. Given that a significant number of spinal cord injuries are sustained in trauma situations such as road traffic accidents, one might assume that PTSD following spinal cord injury would be a significant problem. Some authors suggest that symptoms of PTSD are often higher among injured survivors of stressful events than non-injured survivors.[4] Patients with gradually progressive diseases or disabilities of sudden onset often experience anxiety and shock when first becoming aware of their condition. Such anxiety and shock often followed by anger and depression as patients realize the magnitude and consequences of their diagnosis. The most frequently identified phases in the adaptation to chronic disability and disease are shock, anxiety, denial, depression, internalized anger, externalized hostility, acknowledgment, and final adjustment. Gathering evidence around the psychological morbidities post SCI would give us an idea about acknowledging the mental health aspects of these patients and on working on the future rehabilitation outcomes.

METHODOLOGY

Spinal Cord Injury patients were identified, ASIA Scale was administered to confirm the diagnosis. All levels of injury and all grades on ASIA were accepted for the study. Prior consent was taken from the patients to participate in the study. The patients included in the study were of the age range 18 to 65 years and those who suffered the injury within last 6 months. The aim of the study and the procedure was explained to the patients. Demographic data and basic medical history were obtained from the patient. DASS-21 was administered on the patients. A total of 60 participants were included in the study and the data was collected over a period of 2 months.

RESULTS

A total of 60 SCI patients were included in the study (53 Males & 7 Females). Participants were having age range of 39.47 + 11.78.

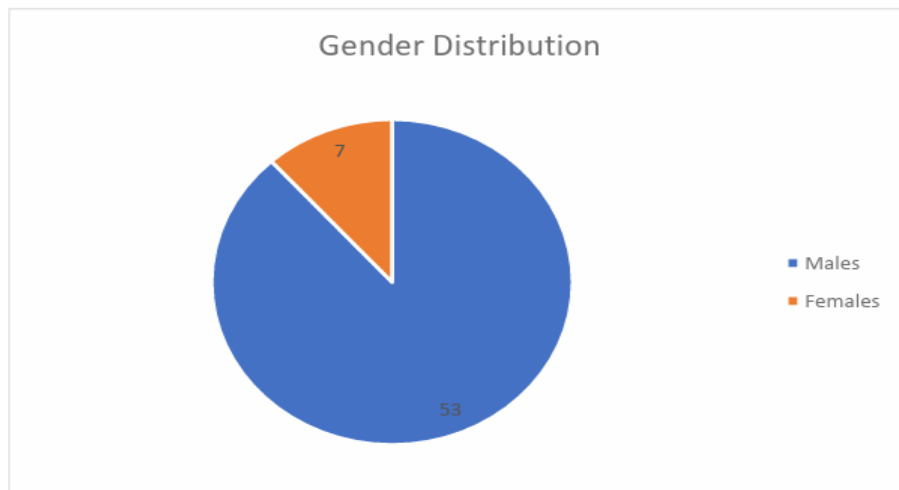


Fig 1- Depicts the gender distribution of the population included in the study.

Out of the 60 SCI patients, according to the ASIA Scale- 21 fell in ASIA A category, 23 in ASIA B, 6 in ASIA C and 10 in ASIA D.

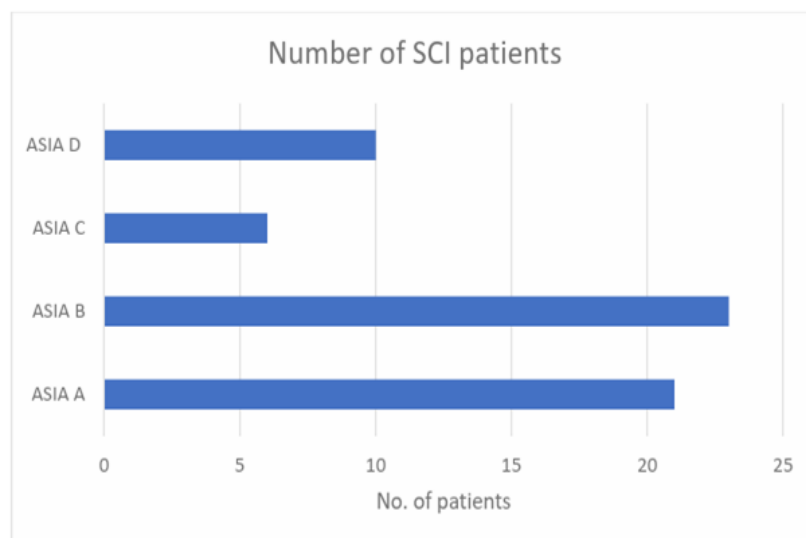


Fig 2- Depicts the distribution of the patients on ASIA scale.

DASS-21 was administered which depicted that 30 patients were suffering from depression, 21 patients from anxiety and 9 patients from stress.

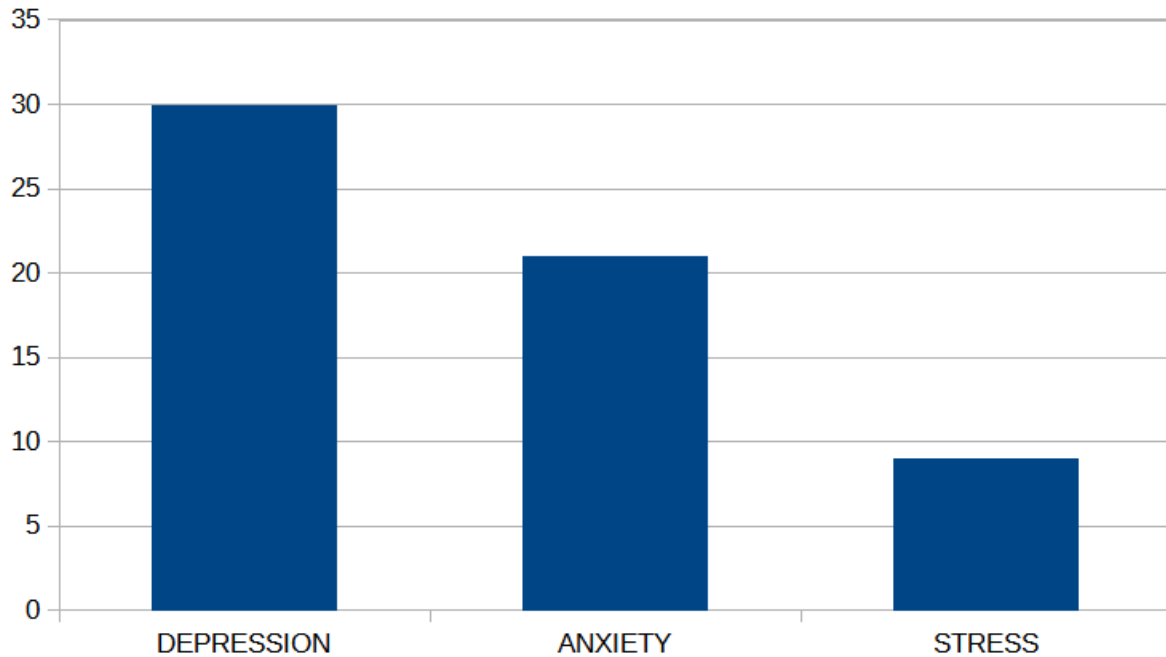


Fig 3 depicts the prevalence of Depression, Anxiety and Stress in the included SCI population.

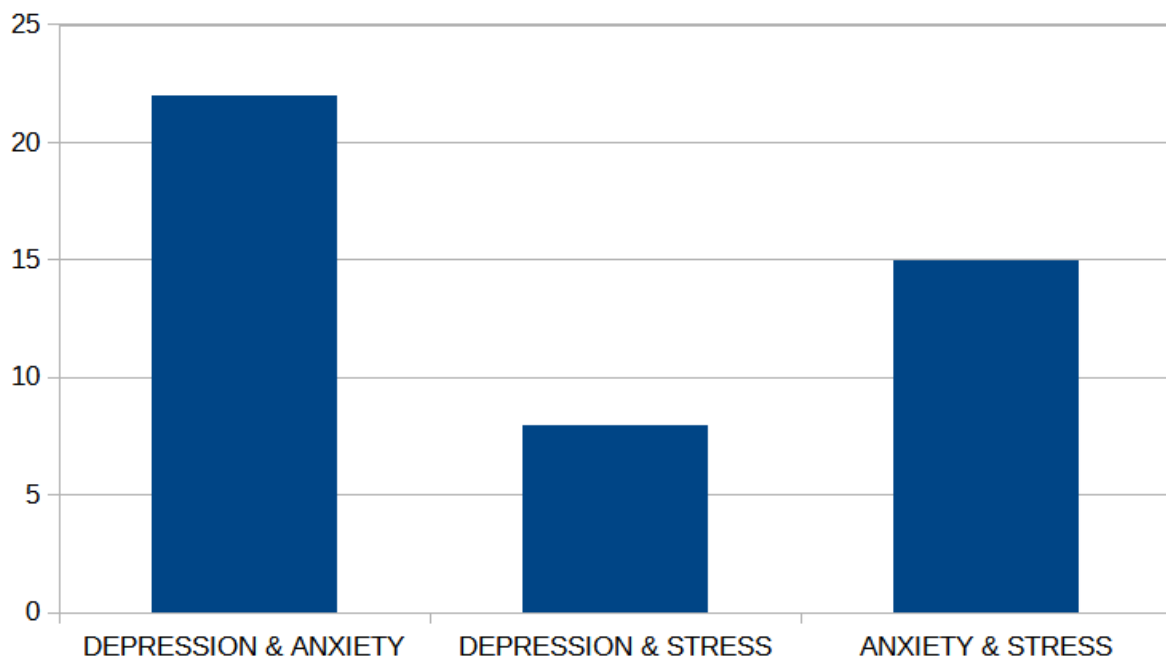


Fig 4 depicts a permutation of psychological morbidities in the given population.

DISCUSSION

Spinal Cord Injury not only proposes damage to the central nervous system but also brings about adverse effects in multiple body systems. Along with relearning basic living skills, a person with SCI has to live with multiple health complications and altered social roles thus making them susceptible to multiple psychological morbidities, as individuals may grapple with the emotional and psychological impact of their injury, people with SCI can suffer from multiple psychological co-morbidities including depression

and anxiety thus ultimately leading to a decrease in Quality of life. [5] A China based 2018 cross sectional survey-based study by Wang, Y., Xie, H. & Zhao, X. titled “Psychological morbidities and positive psychological outcomes in people with traumatic spinal cord injury in Mainland China” examined the prevalence of three psychological morbidities (PTSD, anxiety, and depression) and two positive psychological outcomes (resilience and PTG) in the SCI population. The study involved 300 participants, the analysis revealed that 35% surpassed the clinical threshold for diagnosing Post-Traumatic Stress Disorder (PTSD), with 29% and 27% exceeding the benchmarks for anxiety and depression, respectively.[6]

Inflammation, a notable aspect of SCI, has been shown to influence the response to stress in both rodents and humans. Furthermore, inflammatory cytokines, which are markers of inflammation, have been associated with depression for a considerable period of time. The inflammation triggered by SCI might disrupt essential mechanisms of mental equilibrium, including the production of neurotransmitters like serotonin and dopamine, as well as the functioning of the hypothalamic-pituitary-adrenal axis. Additionally, a phenomenon known as gut dysbiosis, which involves an imbalance in the gut's microbial community, frequently occurs after SCI. This dysbiosis can exacerbate inflammation and potentially contribute to further alterations in mood and behavior. The combined impact of these various mediators holds the potential to significantly contribute to the notable increase in depression that is observed in individuals following SCI. In summary, while the elevated occurrence of depression in individuals with SCI has traditionally been attributed to psychosocial factors, emerging insights from animal studies point towards the potential biological underpinnings of this phenomenon. Inflammation, disruption of neurotransmitter production, and gut dysbiosis collectively may play a substantial role in driving the increased prevalence of depression within the SCI population.[7] Chronic neuropathic pain, a common secondary complication of SCI, also plays a major role in the development of depression.[8] Avluk et al. reported a positive correlation between pain severity and the development of depression [9]. While the exact mechanisms remain to be seen, it is plausible that stress caused by persistent pain underlie these changes in neurological condition. Studies show a strong positive association between usual pain intensity and psychological distress, with significant differences in usual pain severity when those with and without possible clinical levels of anxiety and depression were compared [10,11]. The study shows that all of the 60 participants had one form of psychological morbidities or the other. Discussion about the possible pathways of the psychological morbidities is a requisite for the future and further coming up with psychotherapies as an immediate means of rehabilitation intervention is a thing to ponder upon in the future.

CONCLUSION

Spinal Cord Injury population is suffering from a ranges of psychological morbidities including depression, anxiety and Post Traumatic Stress Disorder. To understand their underlying mechanisms and to work towards rehabilitation is a prerequisite for future.

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