



## Original Article

## Evaluation of Patients' Knowledge, Attitude, and Practice Regarding Secondary Complications in Spinal Cord Injury

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## ABSTRACT

**Background:** Spinal cord injury (SCI) is a debilitating condition that imposes a significant socio-economic burden on patients and society. Secondary complications are one of the most crucial issues that may arise in these patients and contribute to the overall disease burden. This study aims to assess the knowledge, attitudes, and practices of patients with SCI concerning secondary complications. **Methods:** In this cross-sectional study, the authors evaluated the knowledge, attitudes, and practices (KAP) of patients with spinal cord injury regarding secondary complications. Patients with SCI were identified through the hospital information system. Data were collected using a demographic and clinical information questionnaire and a three-part questionnaire covering knowledge, attitudes, and practices.

**Results:** A total of 180 patients participated in this study. The findings revealed a moderate level of knowledge, attitude, and practice, with respective mean scores of 84.12, 13.62, and 21.5 in patients with SCI.

**Conclusion:** The patients' knowledge, attitude, and practice regarding potential complications of spinal cord injury was moderate. Significant relationships were found between education and knowledge, attitude, and practice. Additionally, a significant relationship was observed between knowledge and gender. While there was no significant relationship between age and knowledge or practice, a reverse relationship was identified between age and attitude.

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## Introduction

Neuronal death and disability resulting from the failure to regenerate axons after a spinal cord injury (SCI) can lead to permanent and irreversible deficits in some patients [1, 2]. Road accidents are responsible for the highest number of SCI cases among various factors.

In traumatic cases, blows to the spine, often involving vascular injury, fractures, vertebral dislocation, or a combination of these factors (fracture-dislocation), can lead to SCI [3, 4]. Non-traumatic cases, accounting for approximately 31% of spinal cord injuries, are attributed to causes such as tumors, infectious agents, severe osteoarthritis of the spine, disc herniation, poliomyelitis, syringomyelia, spina bifida, Multiple Sclerosis (MS), Amyotrophic lateral sclerosis, and more. These non-traumatic factors can also result in spinal cord damage. Rarely, certain surgeries, spinal injections, radiation, and

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this issue is vital, as effective pain management is crucial for their well-being.

Furthermore, 55.6% of participants did not believe that rehabilitation was necessary for their treatment, and 54.4% did not think rehabilitation measures were effective in improving their lives. This indicates a need for more comprehensive education and motivation. It could be due to a lack of awareness about the benefits of rehabilitation, the type of services offered, or negative experiences. It may also reflect a lack of time and patience devoted to these services, as rehabilitation often requires ongoing and consistent effort.

Interestingly, 55.6% of participants believed home-based rehabilitation services were more effective. This suggests that problems and complications may be less severe for some compared to those who have received inpatient services.

The findings of the present study indicate that 98.9% of individuals were attentive to perineal skin sensitivity if urine was not controlled; 97.8% took precautions to avoid injuring their feet when moving; 96.7% engaged in joint movement multiple times a day to prevent contractures; 95.6% moved to a chair, wheelchair, or bed every 2 hours; and 91.7% periodically checked their skin for redness or potential sores. Furthermore, 76.7% of participants consumed one to two liters of fluids daily, and 71.9% adjusted their fluid, fiber, and laxative intake when dealing with constipation. Moreover, 61.1% of participants were mindful of their weight through diet and exercise. These results suggest that most participants possess good knowledge and practices regarding self-care measures. As a result, interventions focusing on fluid intake and strategies to prevent constipation through dietary adjustments or the use of laxatives should be universally encouraged due to their ease of use and effectiveness.

53.3% of the participants communicated with others suffering from spinal cord injuries. Peer communication represents a form of social support in which group members exchange experiences regarding their shared condition, forming a close-knit support network [28]. Consequently, individuals with similar experiences provide valuable strategies to one another, some of which healthcare professionals may not even know [29]. Through this interaction, they can acquire information about their condition, better manage their health, and take steps toward recovery [18]. A successful peer can share their weaknesses, strengths, and personal experiences with fellow patients at a minimal cost compared to healthcare services [30 Ref 31????]. Therefore, efforts should be made to foster connections among these patients and introduce them to one another.

Furthermore, 47.2% of the participants believed that the Internet could be a reliable source of information about their condition, and 48.3% actively utilized the Internet to gain insights into their disease. In today's interconnected world, the proliferation of communication and the ease of accessing information contribute to expanding knowledge and enhancing individuals' attitudes. Given the accessibility and utility of online information, patients should be encouraged to explore this avenue. The

online space also presents an opportunity for healthcare policymakers to increase awareness and motivation, helping to prevent the spread of erroneous information and unsubstantiated rumors from non-scientific sources. Online platforms can be effectively guided and monitored by universities and ministries. Moreover, websites and applications that enable therapists to engage with patients remotely offer significant advantages by eliminating the need for physical transportation, reducing fuel consumption, and minimizing wait times, all while requiring fewer family members' involvement.

Various approaches can be pursued to attain the objectives mentioned above, with self-management being one of the key methods. The self-management program constitutes a critical component of rehabilitation, where all aspects of patient care and treatment are designed to empower the patient, enabling them to play a central role in achieving maximal independence, making self-informed decisions, enhancing the quality of life, and improving overall health based on their capabilities and lifestyle. This approach reduces patients' reliance on healthcare professionals and other family members, curbing the expenses of frequent hospitalizations and helping alleviate the undue strain on hospital resources and bed occupancy [18].

Hence, the initial step toward achieving this objective involves assessing patients' knowledge, attitudes, and practices regarding secondary complications. This foundational data can serve as the basis for developing future educational programs tailored to the needs of these patients.

## Conclusion

Based on this study's findings, knowledge, attitude, and practice concerning the risk of spinal cord injury were at a moderate level. There was a significant association between education and knowledge, attitude, and practice scores. Postgraduate patients, employed individuals, and women had higher minimum knowledge scores. Graduate patients, employed individuals, married individuals, and urban residents had higher minimum attitude scores. Postgraduate individuals exhibited the best practice compared to other educational groups, and practice scores were higher in urban residents than rural dwellers.

Given the multitude of challenges that individuals and their dependents with this condition face, there is a pressing need to enhance their levels of knowledge, attitude, and practice. Enhancements in each of these aspects can profoundly impact these individuals' mental and psychological well-being. It can lead to a deeper understanding, more positive attitudes, and improved practices for addressing potential secondary complications. As a result, they may exert more effort to manage their complications effectively and prevent developing more serious issues.

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**Conflict of Interest:** None declared.

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