

CASE STUDY

Implications of a Holistic Rehabilitation Approach following Spinal Cord Injury: A Case Study from India

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ABSTRACT

Purpose: Spinal cord injury causes temporary or permanent changes in spinal cord function. This case report highlights the significance of multidisciplinary rehabilitation team interventions after surgery for spinal cord injury.

Method: The paper examines the case of a 16-year-old girl, diagnosed with spinal cord injury after a traumatic incident four months earlier. The adolescent (client), a 9th grade student from a lower socioeconomic background, presented with weakness in the lower limbs, pressure ulcer, and neuropathic pain. Along with dependency for lower limb activities of daily living, there was severe biopsychosocial impairment. The client's mother had no respite during the entire process of caregiving. On the basis of psychosocial findings, specific customised interventions were administered to the client and her mother, on a daily basis, for one and a half months.

Results: Different scales were used to assess the quality of life (BREF-QoL), illness perception (Brief IPQ) and depression and anxiety (HADS) of the client, both pre and post interventions. A comprehensive tailor made psycho-social interventions were provided during and after the rehabilitation and significant improvement was found. Scales to assess the social and occupational functioning (SOFAS) of the family and perceived family burden also noted positive changes.

Conclusion: Psychiatric social work interventions play a vital role in rehabilitating persons with neurological conditions. Adopting holistic rehabilitation approaches enhances the well-being and quality of life of persons with spinal cord injury and their families.

Key words: spinal cord injury, psychosocial, rehabilitation, India

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INTRODUCTION

Damage to the spinal cord or spinal cord injury causes temporary or permanent changes in spinal cord function. Persons with spinal cord injury and their family members experience enervating physical, social, and vocational consequences post the spinal cord injury (Ahuja et al, 2017). Clinician's goals should be to diminish the negative impact of impairments, promoting full participation in all the life domains and ultimately increasing the well-being of individuals with spinal cord injury (Simpson et al, 2012). The holistic rehabilitation approach post spinal cord injury is an important aspect of treatment, which is demonstrated here with the support of a case study. Access to appropriate care determines the success of the approach (Shroff et al, 2015).

METHOD and RESULTS

Case Description

Ms. T is a 16-year-old girl, studying in the 9th grade in a school in Bangalore city, India. She comes from a lower socioeconomic background. While playing with her friends, she fell from the second floor of her building and was rushed to the emergency care services at a tertiary care centre. The client was diagnosed with traumatic spinal cord injury, and underwent L2 laminectomy decompression surgery. She was subsequently referred to the Department of Neurological Rehabilitation to receive multidisciplinary team interventions as an in-patient. The client presented with weakness in the lower limbs, pressure ulcer, and neuropathic pain. Along with dependency for lower limb ADLs (activities of daily living), there was severe biopsychosocial impairment since the past four months. Specific scales were administered at the time of admission, and the scale scores have been listed in Table 1.

Table 1: List of Scales administered in the Hospital

Scale	Total Score	Score		Purpose	Result
		Pre	Post		
BARTHEL Index	100	30	14	To assess the activities of daily living	Dependent in activities of daily living
American Spinal Cord Injury Association (ASIA)	A	C	D	To assess the impairment and severity	Incomplete motor function is preserved below the neurological level and the majority of key muscles below the neurological level have a muscle grade less than 3

Hospital Anxiety and Depression (HADS)	21	13	2	To assess the depression and anxiety	Borderline
Spinal Cord Injury Independent Measure (spinal cord injury M)	100	42	13	To assess the independency	Dependent

The team referred this particular case to the psychiatric social worker during the client's in-patient stay. Findings of the psychosocial assessment are mentioned in Table 2.

Table 2: Psychosocial Factors involved in the Client's current condition (Stokes, 2011)

Risk Factors	Maintaining Factors	Protective Factors
<p>Individual factors</p> <p>Dependent in lower limb activities of daily living</p> <p>Poor knowledge about spinal cord injury</p> <p>Poor coping skills</p> <p>Borderline anxiety and depression</p> <p>Ruminating and feeling guilty about the traumatic incident</p> <p>Comparing with other spinal cord injury inmates</p> <p>Worrying about academics and future</p> <p>Family factors</p> <p>Poor knowledge about spinal cord injury</p> <p>Health issues of parents</p> <p>Caregiver burden (Client's mother)</p> <p>Financial constraints</p> <p>Unrealistic expectations</p> <p>Poor coping and problem-solving skills</p> <p>Community factors</p> <p>Poor secondary support system</p> <p>Lack of welfare benefits</p> <p>Rumours at school</p> <p>Classroom is on second floor</p>	<p>Individual factors</p> <p>Poor coping skills</p> <p>Family factors</p> <p>Health issues of parents</p> <p>Community factors</p> <p>Rumours at school</p> <p>Classroom is on second floor</p>	<p>Individual factors</p> <p>Enhanced self-esteem</p> <p>Highly motivated</p> <p>Family factors</p> <p>Adequate primary social support system</p> <p>Community factors</p> <p>Adequate tertiary social support (from NIMHANS, Lions Club, iCare Foundation, Satya Sai Baba hospital)</p>

Assessment of family dynamics indicated that family members could not perform culturally expected roles. The father is the nominal and functional leader and the decision-maker of the family; however, the mother was the primary caregiver in the ward. The mother performed multiple roles during the caregiving process.

The family was facing severe economic hardship in meeting caregiving expenses, the cost of medication and other treatments, coupled with inadequate secondary emotional, instrumental¹, and social support. On the basis of the psychosocial findings, specific customised interventions were administered to the client and her mother, on a daily basis, for a period of one and a half months; these are mentioned in Table 3.

Table 3: Psychiatric Social Work Interventions

S. No.	Name of the Intervention	Purpose	Given to / Participated
1	Educating about spinal cord injury	To impart an insight about nature, types, causes, course, management, prognosis	Client & caregiver
2	Supportive psychotherapy	To ventilate and validate the client's feelings	Client & caregiver, separately
3	Activity scheduling	To keep the client engaged and distract from anxiety-provoking thoughts	Client
4	Coping skills	To teach healthy coping strategies	Client & caregiver
5	Problem-solving skills	To teach problem-solving strategies	Client & caregiver
6	Wheelchair Zumba	To enhance mobility and muscle coordination	Client
7	Peer supportive group	To discuss the illness, current concerns, coping strategy, future plans of the peers	Client
8	Recreational group	To relieve stress, enhance psychological well-being, coping skills	Client & caregiver
9	Art therapy	For mindfulness and emotional regulation, increase self-esteem, relieve stress	Client
10	Pre-discharge counselling	To discuss treatment adherence, drug adherence, regular follow-up	Client & caregiver
11	Tele follow-up	To ensure the treatment and drug adherence (not psychiatric drugs), continue supportive work	Client & caregiver
12	Liaising with NGOs i. iCare Foundation ii. Lions Club iii. Satya Sai Baba hospital	i. Reimbursement of the mobility aid and medicine bills amount ii. To donate the wheelchair iii. To undergo cardiac surgery for client's father	Client & caregiver
13	Home visit	To identify the environmental barriers, administer the scales, to assess the client and family needs, concerns, to continue therapy interventions for the client and family	Client & caregiver
14	School visit	To address the rumours in class, conduct awareness programme in client's class, implementation of supportive education concepts, environmental modifications, accessible atmosphere, to discuss with the school management	Client & caregiver

(Note: Social work practice in the mental health setting is called Psychiatric Social Work. In India, trained psychiatric social workers provide their expert services during neurological rehabilitation as neurological disorders have associated psychosocial sequelae. The psychiatric social workers are usually postgraduates

¹ Instrumental support is the support provided to meet the materialistic, financial needs such as, personal and medical care, transportation, and meal preparation etc.

in super specialities with MPhil or PhD degrees, or research scholars.)

A list of the scales administered at the hospital and at the client's home is presented in Table 4.

Table 4: List of Scales administered at the Hospital and at the Client's Home

Scale	Purpose	Score		Inference	
		Pre	Post	Pre	Post
BREF Quality of Life (WHO)	To assess the quality of life of client	31	90	Poor quality of life	Good quality of life
The Brief Illness Perception Questionnaire (Brief IPQ)	To assess the illness perception	67	09	Extremely affected	Mildly affected
Hospital Anxiety and Depression (HADS)	To assess the depression and anxiety of the client	10	02	Borderline	Normal
Participation scale	To assess the participation of the client	72	14	Extreme restriction	Mild restriction
Social and Occupational Functioning Assessment scale (SOFAS)	To assess the social and occupational functioning of the family	29	81	Inability to function	Good functioning
The Perceived Family Burden scale	To assess the family burden	68	11	High burden	No burden

Drawings and filling in Mandala patterns were part of both ward and home-based activity (see Figure 1), while home and school visit pictures are shown in Figures 2 and 3.

Figure 1: Drawing (left) and Mandala picture (right) done by the Client

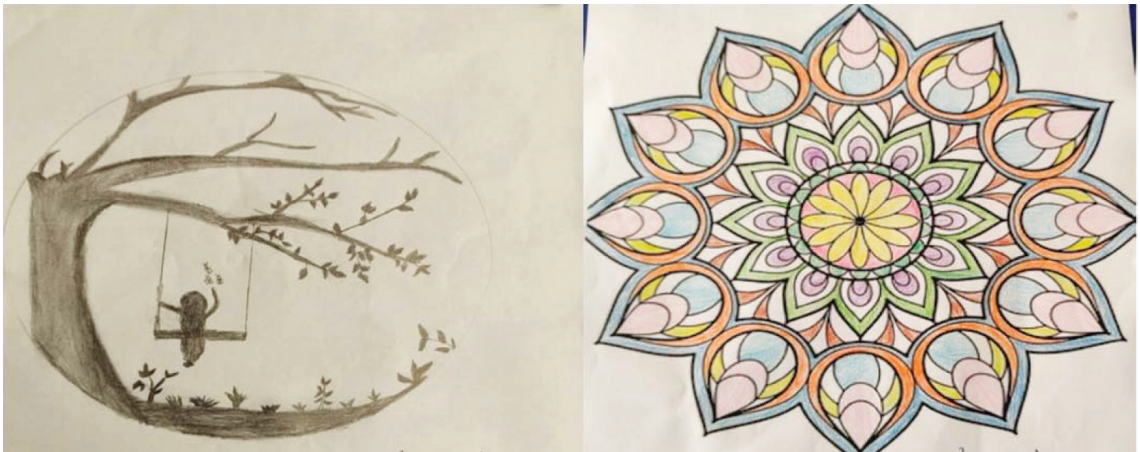


Figure 2: Photos of Home Visit (Client's home - right, and Accident site - left)



Figure 3: Photos of School Visit (Client's school – left, and Classroom – right)



Ethical Considerations

The client and her parents were informed about the publication of this case and gave their consent. Client confidentiality has been ensured.

DISCUSSION

This case highlights the importance of a holistic approach (hospital-based and community care), and the implications of psychotherapy and telerehabilitation. Caregiver burden, burnout, knowledge and attitude of the client and her family, wrong notions and beliefs of the family members, challenges in returning to education and vocation, were the investigative factors in this case. The implication is that the sudden onset of traumatic spinal cord injury and medical complications may have given rise to common psychosocial issues for the client

and her family. Owing to their low socioeconomic status, the client's mother had to perform multiple roles in her daughter's treatment and care, and consequently experienced physical, emotional, and social exhaustion, with no respite during the entire process of caregiving. It is necessary to address the needs of both the clients and their caregivers by the mental health professionals, as unmet needs have a direct relationship with diminished quality of life (Sweet et al, 2014).

The holistic rehabilitation approach (institute-based rehabilitation, outreach-based rehabilitation, and community-based rehabilitation) (Singh et al, 2017) has been adopted in this case. The client was provided with all the required institute-based rehabilitative services like medical treatment, nursing, physiotherapy, occupational therapy, urodynamic, clinical psychologist interventions, and psychiatric social work services during her inpatient stay. The outreach-based rehabilitation approach served to provide home-based therapy services to the client, which was supervised by the family and by the psychiatric social work team over the telephone, i.e., through telerehabilitation.

A community-based rehabilitation approach (home visit and school visit) was adopted to reduce the attitudinal and environmental barriers with the active participation of the family and community members. Singh and his colleagues (2017) have also stressed the importance of a holistic approach for better community reintegration post spinal cord injury. The client's mother reported that people's 'evil eye' might reduce the recovery rate, if she were to send her daughter outside for community participation. The psychiatric social work team educated the client's family about this issue and about the importance of community participation. Research evidence too has suggested that cultural and traditional beliefs act as a barrier in the process of rehabilitation (Olaogun et al, 2010). Various studies across the globe have demonstrated that the implications of different psychosocial interventions are helpful for both the clients and their caregivers; caregiver training programmes have contributed towards successful community integration (Tyagi et al, 2019). Various psychosocial interventions, like enhancing caregiver's coping skills, social support, skills training, access to the community services, and continuity of care, contribute to providing the caregiving services sustainably to persons with spinal cord injury (Jeyathevan et al, 2020).

This case study confirms with other research findings that health care professionals should use psychosocial interventions to rehabilitate persons with spinal cord injury to reduce the psychosocial issues (Deyhoul et al, 2020). Studies have

suggested that implementing family-centred empowerment approaches among caregivers of persons with neurological conditions have resulted in effective outcomes to reduce the burden of care, improve the roles of caregiving persons, and improve the quality of life of the care recipient. It is challenging for persons with spinal cord injury to return to school as it involves enormous support from the community, and financial difficulties would be another risk factor, especially for children in low-income countries (Shem et al, 2011). A recent narrative review suggests that the delivery of psychotherapy and vocational services to the person with spinal cord injury via tele-neurorehabilitation is appropriate (Irgens et al, 2018).

Tele-neurorehabilitation is offered to needy clients who are unable to access healthcare facilities due to long distances, immobility, cost, and/or the non-availability of an expert clinician in their geographical area. Tele-neurorehabilitation services encompass a variety of services such as client consultation, education and training of families and professionals in the area, follow-up of clients, and monitoring of tele-neurorehabilitation services.

The criteria which were taken into consideration to provide tele-neurorehabilitation services to the client were: inability of the caregiver to bring the client to the hospital, burden of the indirect cost of the treatment, and health issues among the parents. Psychiatric social work interventions, by adopting the holistic rehabilitation approach and including other allied multidisciplinary team approaches, have helped both the client and her family to improve their functionality and well-being.

CONCLUSION

It is imperative to understand the various psychosocial issues following spinal cord injury among young persons. Psychiatric social workers address the needs and support persons with spinal cord injury and their caregivers through in-depth psychosocial assessment. This case report highlights the significance of multidisciplinary team interventions. Psychiatric social work interventions play a vital role in rehabilitating persons with neurological conditions as they enhance well-being and quality of life. Adopting the holistic rehabilitation approach will help persons with spinal cord injury and their families. Rehabilitation professionals can consider the significance of looking beyond the symptomatology and incorporate multidisciplinary team interventions in their treatment.

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