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Impact of Spinal Cord Injury on women's daily life

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Abstract:

Objectives: To find out the activity limitation, environmental barrier, and life satisfaction of women with spinal cord injury. **Methodology:** This was a cross-sectional study. The Savar Centre for the Rehabilitation of the Paralysed (CRP) provided 100 participants with spinal cord injuries for this study. Questionnaires were used to tally responses on measures like the Functional Independence Measure (FIM) for gauging activity limitations, the Craig Hospital Inventory of Environmental Factors- Short Form (CHIEF-SF) for gauging environmental barriers, and the Diener Satisfaction With Life Scale (SWLS) for measuring happiness. Data was analyzed using SPSS version 26.0's descriptive statistics features, specifically Columns, pie charts, and bar graphs. **Result:** Most of the 101 people who had spinal cord damage were paralyzed. The average age of the people who took part was 32.21 years (±12.76 years). 24.8% of the participants (n=26) live in cities, while 75.2% (n=75) live in rural areas. There were significant (p=.001) links between age group and activity limitation, age group and environmental barrier, types of injury and activity limitation, and types of injury and life happiness. There was no link between age group and life satisfaction (p=.097) or between types of injuries and external barriers (p=.265). **Conclusion:** Women with spinal cord injuries who live independently in the community provide a thorough description of the multifaceted nature of activity limitation, participation restriction, life satisfaction, and the impact of SCI in this study. When contrasted to the other article, it becomes clear that women with SCI are disproportionately affected by the condition. The conclusion was explored at length, and it was backed by the other papers.

Keywords:

Spinal Cord Injury, Women, Activity Limitation, Environmental Barrier, Life Satisfaction

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Introduction

Over one billion people 15% of the global population live with a handicap. Cerebral palsy, down syndrome, and depression can cause disabilities, as can negative attitudes, inadequate infrastructure, and lack of social support [1]. Quadriplegia or paraplegia can result after spinal cord injury (SCI) [2]. Developing countries have higher morbidity and mortality rates due to SCI prevention, management, and facility issues [3]. Rehabilitation may help some people, however many everyday activities are permanently impacted [2]. SCI causes long-term impairment, illness, and death and weighs communities financially [3]. It is the major cause of locomotor disability in the US and Asia, including Bangladesh [4-5]. SCI is most often caused by spinal tuberculosis and falls, especially from heights. Due to the significant expenses of management, treatment, rehabilitation, and productivity loss, SCI affects individuals, their families, and society [6]. SCI affects 250,000–500,000 persons worldwide, depending on demographics [7-8]. SCI patients face discomfort, muscle spasms, exhaustion, pressure ulcers, bowel and bladder issues, sexual dysfunction, and altered social roles [9-10]. SCI requires relearning basic abilities and using adapted technologies like wheelchairs and ventilators, which greatly disrupt daily living [10]. Despite pain, some elderly persons with long-term SCI are physically independent and happy [11]. SCI patients had inferior well-being, health, and physical, emotional, and social functioning than non-disabled people [12]. In conclusion, disability, including SCI, affects individuals, families, and society worldwide and has serious physical, psychological, and social effects. Disabled people need better preventive, management, and rehabilitation programs. The purpose of this research is to learn how a spinal cord injury affects the quality of life for Bangladeshi women. It will aid in the development of patient-specific rehabilitation strategies and the dissemination of crucial information to physiotherapists. This research will not only help medical experts learn more about SCI, but it will also help them pinpoint which patient populations are most affected by the condition.

Methods

The study examined activity limitation, environmental barriers, and life satisfaction in women with Spinal Cord Injury (SCI) who completed rehabilitation at Bangladesh's Center for the Rehabilitation of the Paralyzed (CRP). Hospital-based random sampling was used for the cross-sectional study. The study comprised female tetraplegia and paraplegia patients aged 18 or older, both traumatic and non-traumatic SCI patients, and those who had completed rehabilitation at least five years prior. The study excluded people with head traumas or communication issues. Out of 148 people identified, 101 were recruited for the study. Socio-demographic information, injury-related information, activity limitation, environmental factors impacting life status, and life satisfaction were collected using a structured questionnaire. The Functional Independence Measure (FIM) scale assessed physical and cognitive disability, while the Craig Hospital Inventory of Environmental Factors-Short Form (CHIEF-SF) assessed environmental barriers' perceived impact. Participants' life satisfaction was measured using the Diener Satisfaction with Life Scale (SWLS). Each participant gave informed consent before data collection. The data were examined using descriptive and inferential statistics, and Fisher exact test was performed to determine variable relationships. SPSS v26.0 was used for data analysis. This study examined women with SCI who finished rehabilitation at CRP in Bangladesh's activity limitation, environmental impediments, and life satisfaction. 101 female SCI patients aged 18 or older were recruited via hospital-based random sampling. The study used a standardized questionnaire to assess impairment, environmental obstacles, and life satisfaction. Descriptive and inferential statistics were used to analyze data while maintaining ethical standards.

Results

Sociodemographic information

According to the findings, the average age of the sample population was 32.21, with a standard deviation of 12.76 years. The distribution of ages showed that 31.7% of participants were between the ages of 21 and 30, followed by 22.8% who were between the ages of 10 and 20, and 25.7% who were between the ages of 31 and 40. 51.5% of the sample were stay-at-home mothers, while 26.7% of the population comprised of students. The percentage of illiterate people was 13.9%, the percentage with some college education was 37.6%, and the percentage with no college education was 15.8%. Geographically, 75.2% of the population was located in rural areas, while between 48.5% and 39.6% of the population was listed as single. Twenty-one percent of the reported injuries were cervical in nature, forty-one percent were thoracic in nature, and thirty-six percent were lumbar in nature. The majority of injuries caused paraplegia (78.2%), whereas 21.8% caused tetraplegia. According to the ASIA injury scale, 57.4% had sustained a complete A injury, 12.9% sustained an incomplete B injury, 10.4% an incomplete C injury, 14.4% an incomplete D damage, and 4.6% suffered an incomplete E injury. Seventy-four percent of injuries were precipitated by trauma, while twenty-five and a half percent were not. These findings include a thorough summary of the study population's basic characteristics, distribution by occupation, degree of education, region of residence, marital status, injury severity, and ASIA category in Table 1.

Figure 1: Activity limitations of the participations

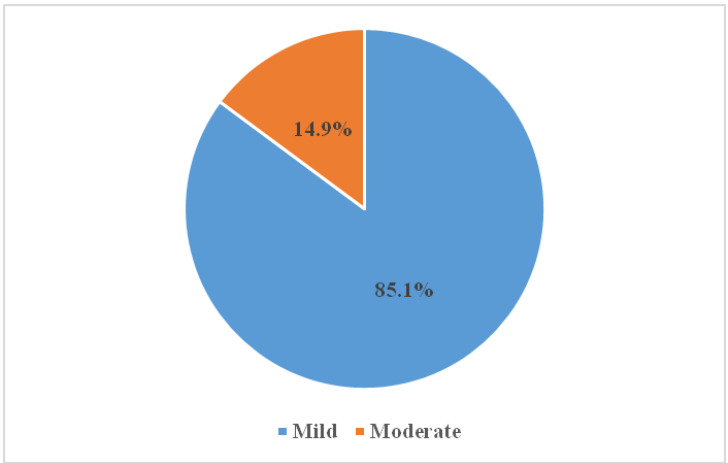

Figure 2: Environmental barriers of the participants

Table 1: Baseline characteristics of the participants

Variable	Values	Variable	Values	Variable	Values
Age		Higher secondary	21.8%	**ASIA level**	
Mean±Standard deviation	32.21±12.76	Graduation	7.9%	Complete A	57.4%
10-20 years	21.8%	Post-graduation	3%	Incomplete B	12.9%
21-30 years	31.7%	**Living area**		Incomplete C	10.9%
31-40 years	25.7%	Rural	75.2%	Incomplete D	14.9%
41-50 years	9.9%	Urban	24.8%	Incomplete E	4%
51-60 years	6.9%	**Marital status**		**Causes of injury**	
61-70 years	4%	Married	48.5%	Traumatic	74.3%
Occupation		Unmarried	39.6%	Non-traumatic	25.7%
Housewife	51.5%	Divorce	7.9%		
Student	26.7%	Widow	4%		
Business	4%	**Level of injury**			
Service	4%	Cervical	21.8%		
Others	13.6%	Thoracic	41.6%		
Educational		Lumber	36.6%		
Illiterate	13.9%	**Type of injury**			
Primary level	37.6%	Paraplegia	78.2%		
Secondary level	15.8%	Tetraplegia	21.8%		

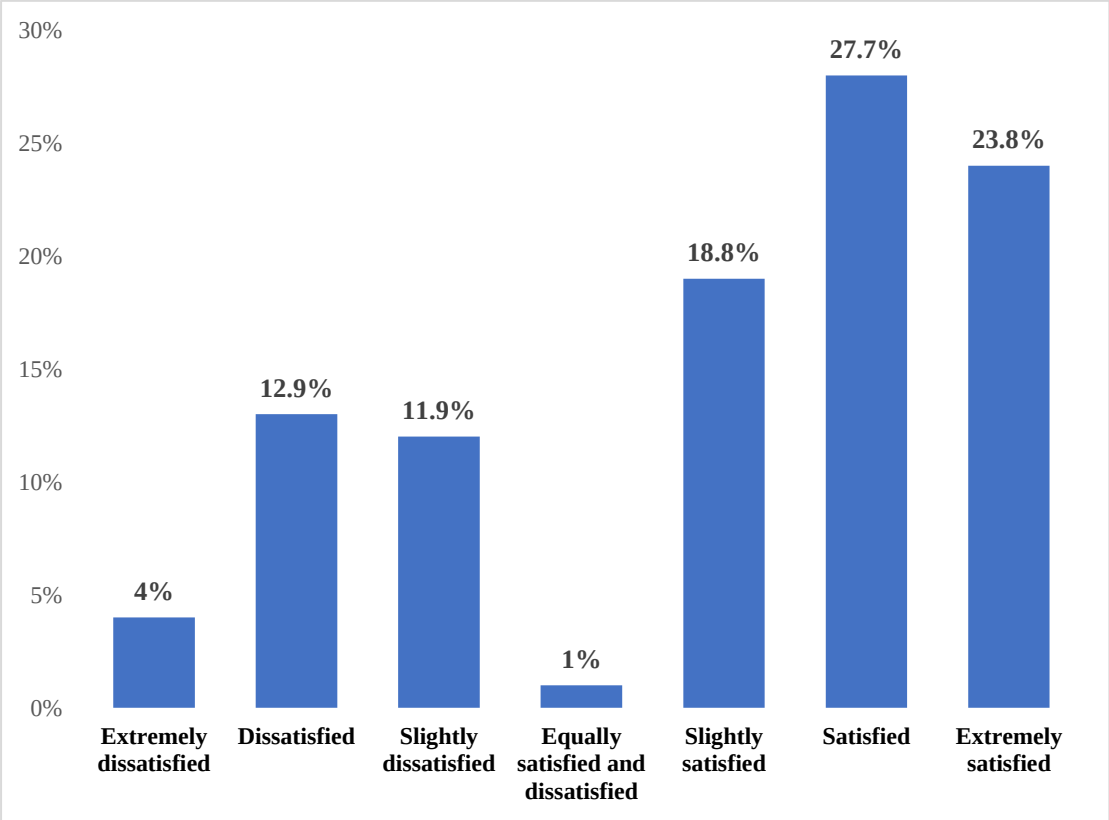

Figure 3: Life satisfactions of the participants

The majority of participants (86.1%) in this study reported relatively mild activity limits (n=87), whereas 12.9% had moderate to severe limitations (n=13) [figure 1]. 85.1% of participants encountered only mild environmental barriers (n=86), 14.9% encountered moderate barriers (n=15), and 0% encountered severe hurdles [figure 2]. Most participants were happy with their lives (27.7%, n=28), with 23.8% (n=24) being extremely happy, 18.8% (n=19) being happy, 12.9% (n=13) being unhappy, 11.9% (n=12) being unhappy, 4% (n=4) being extremely unhappy, and 1% (n=1) being neither happy nor sad [figure 3].There was a statistically significant relationship between age and both activity restrictions and environmental barriers ($p>0.001$), and a statistically significant relationship between injury type and activity restrictions ($p>0.001$). There was no statistically significant relationship between age or injury type and life satisfaction ($p > 0.05$).

Variable		P-value
Age group	Activity limitations	0.001***
	Environmental barriers	0.001***
	Life satisfaction	0.097
Types of injury	Activity limitations	0.001***
	Environmental barriers	0.265
	Life satisfaction	0.001***

Discussion

After spinal cord damage (SCI), women's life satisfaction and activity restrictions were evaluated. These factors were investigated in SCI women. To adjust for demographic factors that affect integration outcomes, normative data is needed [13-14]. The number of women with spinal cord damage is difficult to quantify due to a lack of survey data on SCI's consequences on women. The study involved 101 participants in 18–70 years old. Research in Haryana, India [15] and Jordan [16] matches this age distribution. Most participants had primary schooling, although several had doctoral degrees. Educational distributions were similar in a Bangladeshi socio-demographic survey [17] and a Greek study [18]. Most participants had thoracic injuries, followed by lumbar and cervical. Bangladesh [17] and USA [19] research match this distribution. This study found more severe than non-traumatic injuries. Japanese and Bangladeshi study yielded comparable outcomes. Most patients in this study were classified complete A on the American Spinal Injury Association (ASIA) Impairment Scale (AIS). Similar distributions were found in the same country [20, 17]. Paraplegics outnumbered tetraplegics in Bangladesh [21]. Age and paraplegia increased activity restrictions in most participants. Kader et al. [22] and Jo rgensen [23] support these findings. Environmental barriers were mild for most participants. Environmental barriers reduced with aging. Life satisfaction was high. Life satisfaction was linked to injury kinds but not age groups. his study analyzes how spinal cord degeneration impacts women's daily lives, including activity constraints, environmental obstacles, and life satisfaction. Demographic and normative data are needed to evaluate SCI outcomes, according to the findings.

Conclusion

The study on how spinal cord injury (SCI) affects women's daily lives shows significant and complex issues. Physical constraints impede movement and freedom for SCI women, increasing their dependence on caregivers. Due to body image and social views, depression and anxiety are common. Since social and leisure activities are difficult for these women, social isolation is widespread. Many face workplace discrimination and financial instability due to rising medical costs and fewer job options. Despite these hurdles, the study emphasizes the perseverance and flexibility of women with SCI and the need for comprehensive rehabilitation programs, community support, and governmental changes to improve their quality of life. Women with spinal cord injuries can gain inclusion, autonomy, and well-being by addressing these areas.

Conflicts of Interest: No conflict of interest

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