

Vocational Rehabilitation Awareness Among Spinal Cord Injury Male Patients in Saudi Arabia: A Brief Communication

Ahmad H. Alwashmi¹

1. Physical Medicine and Rehabilitation, Qassim College of Medicine, Buriyah, SAU

Corresponding author: Ahmad H. Alwashmi, draalwashmi@gmail.com

Abstract

Background: Motor vehicle accidents are the most common cause of spinal cord injury (SCI) in Saudi Arabia, mainly involving young adults. Much attention has been dedicated to obtaining work after SCI during the past decades because of the psychological, social, financial, and political implications. Since high unemployment rates pose a significant social burden due to the increase in the expenditures associated with benefits, it remains an important consideration in individuals with activity limitation after spinal cord injury. There are no current data or guidelines for community reintegration or employment rates in the spinal cord injury population in Saudi Arabia.

Objective: The objective of our study was to identify the awareness of vocational rehabilitation in individuals with spinal cord injury in Saudi Arabia.

Design and methods: This cross-sectional study was conducted in the outpatient department of the largest tertiary care rehabilitation hospital in Saudi Arabia. After obtaining informed consent, structured interviews were conducted from March 2018 through July 2018 (five months) by the primary investigator and a rehabilitation nurse. The interviews were administered in a one-to-one format.

Results: One hundred and twenty-one male patients with SCI were included in the study with mean age of 35.6 ± 13.9 years. Seventy (57.9%) were employed at the time of injury. The employment rate decreased significantly after injury; only 20 (16.5%) were employed, 38 (31.4%) had retired, and 11 (9.1%) patients resumed their studies.

One hundred and five (86.8%) patients received rehabilitation treatment as an inpatient. Ninety-four (77.7%) reported that they had no idea about vocational rehabilitation. Only five patients (4.1%) received services of vocational rehabilitation.

Conclusion: Vocational rehabilitation awareness among spinal cord injury male patients in Saudi Arabia is lacking. This needs to be addressed to overcome unemployment and improve the quality of life which in turn may reduce the economic burden and costs among spinal cord injury patients in Saudi Arabia.

Received 12/11/2018
Review began 12/21/2018
Review ended 01/11/2019
Published 01/15/2019

© Copyright 2019

Alwashmi. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 3.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Categories: Physical Medicine & Rehabilitation, Neurosurgery, Trauma

Keywords: spinal cord injury, saudi arabia, vocational rehabilitation, awareness, employment

Introduction

Traumatic spinal cord injuries (SCIs) are catastrophic to individuals and society. The motor vehicle is the main means of transportation in Saudi Arabia. Regional road traffic accidents (RTA) mortality for Saudi Arabia is high [1-2]. As a consequence, Saudi Arabia has the tragedy of having one of the highest rates of spinal cord injuries in the world [3]. Many spinal cord injury patients become discouraged to return to work because of their physical limitations [4]. Studies have shown that on the job spinal cord injury patients range from 13% to 48% [5].

In 2001, the World Health Organization (WHO) introduced The International Classification of Functioning, Disability, and Health (ICF), which describes health by including the aspect of "participation in activities" [6]. Much attention has been dedicated to obtaining work after an SCI during the past decades because of the psychological, social, financial, and political implications [7]. Among the most important consequences of being employed is the association of employment with better self-esteem, higher life satisfaction, and a sense of well-being [8]. Persons with an SCI who are not working report lower overall satisfaction and lower satisfaction with job opportunities and income [9]. This study survey was conducted to assess vocational rehabilitation awareness among spinal cord injury patients in Saudi Arabia.

Materials And Methods

How to cite this article

Alwashmi A H (January 15, 2019) Vocational Rehabilitation Awareness Among Spinal Cord Injury Male Patients in Saudi Arabia: A Brief Communication . Cureus 11(1): e3886. DOI 10.7759/cureus.3886

This cross-sectional study was conducted in the outpatient department of the largest tertiary care rehabilitation hospital in Saudi Arabia. After obtaining informed consent, structured interviews were conducted from March 2018 through July 2018 (five months) by the primary investigator and a rehabilitation nurse. The interviews were administered in a one-to-one format. Personal interviews were chosen over a collection by postal questionnaires based on research that found that there were differences in information collected when using a personal interview versus postal survey [10]. Their results detail the high potential for misclassification of occupational exposure in studies based on questionnaires, finding a tendency for over-reporting. Therefore, postal questionnaires are not considered an alternative to a job and task-specific personal interviews in epidemiological studies. The questionnaire used during the interview was prepared locally by an expert in the field of spinal cord injury rehabilitation. In addition, to be eligible for inclusion in the study, the patient needed to reside in Saudi Arabia and be discharged with persistent neurological damage but without cognitive impairment. Data were described as averages (mean \pm standard deviation (SD)) and percentages (frequency %) by the Statistical Package for Social Sciences (SPSS) (IBM SPSS Statistics, Armonk, NY) and the main outcome measure was the awareness of vocational rehabilitation.

Results

One hundred and twenty-one male patients with SCI were included in the study with a mean age of 35.6 ± 13.9 years (Table 1). Seventy-five patients (62.0%) were unmarried, and 89 (74%) were from the central and southern region of Saudi Arabia. Fifty-six patients (46.3%) were secondary school students and 33 (27.3%) were university level students (Table 2). Seven patients (5.8%) were complete tetraplegics, 16 (13.2%) were incomplete tetraplegics, 64 (52.9%) were complete paraplegics, and 34 (28.1%) were incomplete paraplegics. Seventy patients (57.9%) were employed at the time of injury; the employment rates decreased significantly after injury.

Table 1		
		n (%)
Age (yr)	mean \pm SD (min, max)	35.6 \pm 13.9 (17, 87)
Marital Status	Unmarried	75 (62.0)
	Married	46 (38.0)
Province of residence	Northern	17 (14.1)
	Eastern	6 (5.0)
	Western	8 (6.7)
	Southern	30 (25.0)
	Central	60 (49.2)
Education level	Illiterate or informal education	6 (5.0)
	Primary school	12 (9.9)
	Intermediate school	10 (8.3)
	Secondary school	56 (46.3)
	College or university degree	33 (27.3)
	Higher education	4 (3.3)

TABLE 1: Sociodemographic Data

These data were collected after spinal cord injury (SCI). The majority of our patients (75 patients (62%)) were single, 60 patients (49.2%) were from the central region, and 56 patients (46.3%) were secondary school students.

n: number; SD: standard deviation

Table 2		n (%)
At the time of injury, were you employed?	No	51 (42.1)
	Yes	70 (57.9)
Have you received any intensive rehabilitation program as an inpatient?	No	16 (13.2)
	Yes	105 (86.8)
Do you have any idea about vocational rehabilitation?	No	94 (77.7)
	Yes	27 (22.3)
Have you ever received services of vocational rehabilitation?	No	116 (95.9)
	Yes	5 (4.1)
Complete tetraplegic	No	114 (94.2)
	Yes	7 (5.8)
Incomplete tetraplegic	No	105 (86.8)
	Yes	16 (13.2)
Complete paraplegic	No	61 (50.4)
	Yes	64 (52.9)
Incomplete paraplegic	No	87 (71.9)
	Yes	34 (28.1)

TABLE 2: History of the Injury

These data were collected after the spinal cord injury (SCI) showing 70 patients (57.9%) were employed at the time of SCI. Sixteen patients (13.2%) did not have inpatient SCI rehabilitation during their admission. Ninety-four patients (77.7%) did not have any idea about vocational rehabilitation services. Only five patients (4.1%) received vocational rehabilitation during their inpatient admission. The majority of SCI patients (64 patients (52.9%)) were complete paraplegics.

n: number

Only 20 patients (16.5%) remained employed, 38 patients (31.4%) retired, and 11 patients (9.1%) resumed their studies (Table 3).

Table 3		n (%)
Employment status	Employed	20 (16.5)
	Unemployed and looking for a job	41 (33.9)
	Unemployed and not looking for a job	11 (9.1)
	Retired	38 (31.4)
	Student	11 (9.1)

TABLE 3: Status After Spinal Cord Injury (SCI)

Data showing that "unemployed and looking for a job" is the highest category post-SCI (41 patients (33.9%)), whereas only 20 patients (16.5%) were currently employed. Considering that at the time of the SCI, 70 patients (57.9%) were employed (Table 2), there was a significant drop in employment status.

n: number

One hundred and five patients (86.8%) received rehabilitation as an inpatient (Table 2). Ninety-four patients (77.7%) reported that they had no idea about vocational rehabilitation. Only five patients (4.1%) received the services of vocational rehabilitation.

Discussion

In this cross-sectional study of 121 patients, 94 (77.7%) reported that they had no idea about vocational rehabilitation and only five patients (4.1%) received vocational rehabilitation services (Table 2). "Unemployed and looking for a job" was the highest category post-SCI (41 patients (33.9%)), whereas only 20 patients (16.5%) were currently employed (Table 3). Considering that at the time of the SCI, 70 patients (57.9%) were employed (Table 2), there was a significant drop in employment status that needs to be investigated. Out of 121 patients, 60 patients (49.2%) were from the Central region of the Kingdom, followed by 30 patients (25%) from the Southern region, 17 patients (14.1%) from the Northern region, eight patients (6.7%) from the Western region, and six patients (5%) from the Eastern region. This difference in the numbers of patient distribution was attributed to the referral system from peripheral regions to tertiary hospitals where more proper medical and rehabilitation services were provided to the patients.

Our study revealed that most of the spinal cord injury patients were single and young secondary school students and their injuries were mostly due to automobile crashes, which concur with the most common cause of spinal cord injury globally [11]. In fact, more than 80% of the SCI patients in Saudi Arabia are men, particularly those in the younger age group [12-16]. Studies also reported that traumatic spinal cord injury primarily affects males between 18 and 32 years of age, with road traffic accidents being the primary cause [17]. Disability due to SCI at this young age prone these population out of the job market and the majority of these patients are not aware of vocational rehabilitation as indicated in our study. Disability due to SCI at this young age will, without doubt, contribute to this population being left out of the job market, especially if these individuals are unaware of vocational rehabilitation and its potential benefits. In fact, we found that the majority of these patients were not aware of vocational rehabilitation, at least in Saudi Arabia, as indicated in our study.

The goal of vocational rehabilitation (VR) services is to assist a person with disabilities to effectively find and sustain reasonable employment which, in turn, enhances their potential for participation in society [18]. Employment for individuals with SCI represents a complex outcome that is dependent upon psychosocial characteristics, as well as the social, physical, and economic environment of any given place and time [19-20]. Because of this, vocational rehabilitation is very important in assisting people in performing the behaviors necessary to move from undesirable states to more satisfactory ones [21].

Our study shows that the majority of our spinal cord injury patients did not know about vocational rehabilitation. It also highlights the importance of vocational rehabilitation awareness, and knowledge of vocational rehabilitation is crucial as this could change their quality of life and optimize their level of independence. This brief communication article is limited to one center and conducted only in male patients. Therefore, we recommend having a multicenter study that would include both genders, especially since women are currently allowed to drive in Saudi Arabia, to have a better depth of this issue.

Conclusions

Vocational rehabilitation awareness among spinal cord injury male patients in Saudi Arabia is lacking. This needs to be addressed to overcome unemployment and improve the quality of life which, in turn, could reduce the economic burden and cost among spinal cord injury patients in Saudi Arabia.

Additional Information

Disclosures

Human subjects: Consent was obtained by all participants in this study. Institutional Review Board of King Fahad Medical City, Riyadh, Saudi Arabia issued approval 17-312. **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

Acknowledgements

The author acknowledges Dr. Sami Ullah for his contribution in reviewing, as well as Hind Miqad Alotaibi (Registered Nurse, King Fahad Medical City) for her contribution in data collection.

References

1. Almalki M, Fitzgerald G, Clark M: Health care system in Saudi Arabia: an overview . *East Mediterr Health J*. 2011, 17:784-93.
2. Cripps R, Lee B, Wing P, Weerts E, Mackay J, Brown D: A global map for traumatic spinal cord injury epidemiology: towards a living data repository for injury prevention. *Spinal Cord*. 2011, 49:493-501. [10.1038/sc.2010.146](https://doi.org/10.1038/sc.2010.146)
3. Robert AA, Zamzami MM: Traumatic spinal cord injury in Saudi Arabia: a review of the literature . *Pan Afr Med J*. 2013, 16:104. [10.11604/pamj.2013.16.104.2902](https://doi.org/10.11604/pamj.2013.16.104.2902)
4. Krause JS, Sternberg M, Maides J, Lottes S: Employment after spinal cord injury: differences related to geographic region, gender, and race. *Arch Phys Med Rehabil*. 1998, 79:615-24. [10.1016/S0003-9993\(98\)90053-8](https://doi.org/10.1016/S0003-9993(98)90053-8)
5. Ville I, Ravaud JF: Work, non-work and consequent satisfaction after spinal cord injury (Article in French and English). *Int J Rehabil Res*. 1996, 19:241-52.
6. International Classification of Functioning, Disability and Health (ICF) . (2018). Accessed: December 16, 2018: <http://www.who.int/classifications/icf/en/>.
7. Meade MA, Lewis A, Jackson MN, Hess DW: Race, employment, and spinal cord injury . *Arch Phys Med Rehabil*. 2004, 85:1782-92. [10.1016/j.apmr.2004.05.001](https://doi.org/10.1016/j.apmr.2004.05.001)
8. Hess D, Meade M, Forchheimer M, Tate D: Psychological well-being and intensity of employment in individuals with a spinal cord injury. *Top Spinal Cord Inj Rehabil*. 2004, 9:1-10. [10.1310/UYQV-7KL9-QLPR-TWYH](https://doi.org/10.1310/UYQV-7KL9-QLPR-TWYH)
9. Anderson CJ, Vogel LC: Domain-specific satisfaction in adults with pediatric-onset spinal cord injuries . *Spinal Cord*. 2003, 41:684-91. [10.1038/sj.sc.3101535](https://doi.org/10.1038/sj.sc.3101535)
10. Blatter BM, Roeleveld N, Zielhuis GA, Verbeek ALM: Assessment of occupational exposure in a population based case-control study: comparing postal questionnaires with personal interviews. *Occup Environ Med*. 1997, 54:54-59. [10.1136/oem.54.1.54](https://doi.org/10.1136/oem.54.1.54)
11. Chen Y, Tang Y, Vogel LC, Devivo MJ: Causes of spinal cord injury . *Top Spinal Cord Inj Rehabil*. 2013, 19:1-8. [10.1310/sci1901-1](https://doi.org/10.1310/sci1901-1)
12. Alshahri SS, Cripps RA, Lee BB: Traumatic spinal cord injury in Saudi Arabia: an epidemiological estimate from Riyadh. *Spinal Cord*. 2012, 50:882-84. [10.1038/sc.2012.65](https://doi.org/10.1038/sc.2012.65)
13. Al-Jadid M, Robert AA: An analysis of the length of stay in traumatic and non-traumatic spinal cord injured patients. A rehabilitation unit experience in Saudi Arabia. *Saudi Med J*. 2010, 31:555-59.
14. Al-Jadid MS: A retrospective study on traumatic spinal cord injury in an inpatient rehabilitation unit in central Saudi Arabia. *Saudi Med J*. 2013, 34:161-65.
15. Al-Jadid MS, Al-Asmari AK, Al-Kokani MF: Quality of life in males with spinal cord injury in Saudi Arabia . *Saudi Med J*. 2010, 31:1061-63.
16. Al-Owesie RM, Moussa NM, Robert AA: Anxiety and depression among traumatic spinal cord injured patients. *Neurosciences (Riyadh)*. 2012, 17:145-50.
17. van den Berg ME, Castellote JM, Mahillo-Fernandez I, de Pedro-Cuesta J: Incidence of spinal cord injury worldwide: a systematic review. *Neuroepidemiology*. 2010, 34:184-92. [10.1159/000279335](https://doi.org/10.1159/000279335)
18. Bolton BF, Bellini JL, Brookings JB: Predicting client employment outcomes from personal history, functional limitations, and rehabilitation services. *Rehabil Couns Bull*. 2000, 44:10-21. [10.1177/003435520004400103](https://doi.org/10.1177/003435520004400103)
19. Murphy GC, Young AE: Employment participation following spinal cord injury: relation to selected participant demographic, injury and psychological characteristics. *Disabil Rehabil*. 2005, 27:1297-306. [10.1080/09638280500164644](https://doi.org/10.1080/09638280500164644)
20. Young AE, Murphy GC: A social psychology approach to measuring vocational rehabilitation intervention effectiveness. *J Occup Rehabil*. 2002, 12:175-89. [10.1023/A:1016894628429](https://doi.org/10.1023/A:1016894628429)
21. Roessler RT: Job retention services for employees with spinal cord injuries: a critical need in vocational rehabilitation. *J Applied Rehabil Counseling*. 2001, 32:3-9.