ACADEMY OF SPINAL CORD INJURY PROFESSIONALS

Violence-related SCI (VR-SCI) is associated with reduced follow-up with rehabilitation medicine, outpatient physical therapy, and an increased risk of hospital readmission.

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Introduction:

-Violence-related spinal cord injury (VR-SCI) is the 3rd leading cause of SCI in the US.
-Individuals with VR-SCI are more likely to be younger, male, African American, and have a lower socioeconomic status.
–They are also more likely to have lower employment before and after the injury.

Objective:

-To investigate the differences between violent and non-violent SCI in medical care and rehabilitation services in the first year after injury.

Methods:

-Utilized the Harborview Medical Center (HMC) Trauma Database.
-Patients (n=41) were identified over ten years (2012 – 2022) who had VR-SCI in King County and completed inpatient rehab (IPR) at HMC.
-A control cohort with non-violent etiology of SCI was identified by propensity matching based on age, gender, race, and paraplegic versus tetraplegic status.
-Patient medical records were reviewed for IPR length of stay (LOS), discharge location, hospitalization in the first year, outpatient physiatry appointments, and outpatient therapy follow-up.
-Data were analyzed by multiple linear regression, controlling for relevant factors.

Results:

-VR-SCI was associated with a greater IPR LOS, with an average of 17.3 more days (p=0.023).
-VR-SCI was associated with less outpatient physiatry follow-up, with patients having 1.3 fewer appointments (p=0.023).
-VR-SCI patients had significantly fewer physical therapy follow-ups, with 9.5 fewer appointments (p=0.011).
-VR-SCI patients had significantly fewer occupational therapy follow-ups, with 5.6 fewer appointments (p=0.03).
-Hospitalizations were more common in the year after VR-SCI than matched non-violent injuries, with 0.78 more admissions (p=0.0027).

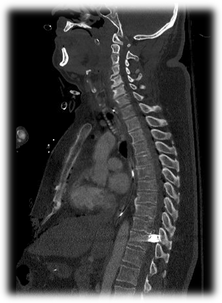

Image 1. Sagittal Thoracic spine CT imaging demonstrating a retained bullet within the spinal canal at the level T11.

Image 2. Transverse Thoracic spine CT imaging demonstrating a retained bullet within the spinal canal at the level T11.

*People with **violent spinal cord** injuries have **less physical and occupational therapy** after discharge and are **more likely** to be **readmitted** to the hospital.*

Scan for full poster details!

Tables and Figures:

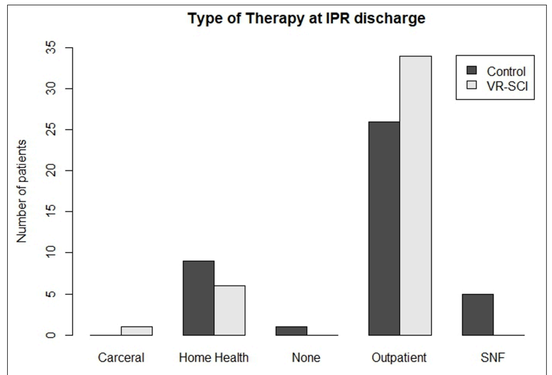

Figure 2. Type of therapy referrals placed at IPR discharge by etiology of injury. *VR-SCI = violence-related spinal cord injury, SNF = Skilled Nursing Facility.*

Table 1. Number of appointments attended by etiology of injury and correction for AIS grade, type (paraplegia vs. tetraplegia), age, gender, race, and year of injury.

Number of appointments by discipline (mean ± standard deviation)			
	Violence-related SCI	Other SCI etiology	p-value
Physical Medicine & Rehabilitation	2.5 ± 2.4	3.8 ± 2.2	**0.02**
Physical Therapy	8.9 ± 11.0	17.6 ± 15.3	**0.01**
Occupational Therapy	4.3 ± 7.9	10.0 ± 14.4	**0.03**
Therapeutic Recreation	0.29 ± 0.96	1.37 ± 2.86	**0.04**
Rehabilitation Psychology	1.22 ± 3.88	1.85 ± 3.49	0.36
Vocational Rehabilitation	0.46 ± 1.12	0.85 ± 1.93	0.15

AIS= ASIA Impairment Scale

Table 2. Missed appointments by discipline and corrected for AIS grade, type (paraplegia vs. tetraplegia), age, gender, race, and year of injury.

	Violence-related SCI		Other SCI etiology		p-value	
	N	% of total appointments	N	% of total appointments	N	% of total appointments
Physical Medicine & Rehabilitation	1.1 ± 1.5	25.2 ± 28.5 %	0.57 ± 0.92	9.9 ± 16.5 %	0.14	**0.01**
Physical Therapy	2.1 ± 2.7	26.0 ± 32.0 %	0.76 ± 2.1	4.2 ± 13.2 %	**0.04**	**0.01**
Occupational Therapy	1.1 ± 1.4	22.7 ± 30.0 %	0.9 ± 1.5	6.9 ± 11.4 %	0.84	0.06
Therapeutic Rehabilitation	0.22 ± 0.57	35.6 ± 39.2 %	0.12 ±0.40	8.4 ± 24.9 %	0.56	0.20
Rehabilitation Psychology	0.34 ± 0.86	24.5 ± 37 %	0.20 ± 0.56	14 ± 28.5 %	0.46	0.45
Vocational Counseling	0.20 ± 0.72	22.4 ± 36.2 %	0.05 ± 0.22	4.4 ± 11.7 %	0.37	0.24

N = number of missed appointments (mean ± standard deviation)
% of total appointments = number of missed appointments/total number of scheduled appointments (mean ± standard deviation)

Conclusion:

-VR-SCI is associated with reduced follow-up with rehabilitative medicine, physical therapy, and occupational therapy.
-It is further associated with longer hospital stays and an increased risk of readmission within the first year.
-Characterization of health disparities such as these can serve as the basis for future health initiatives, making further clinical investigation imperative.

Disclosures:

The authors of this study have no conflicts of interest or disclosures in presenting this research.