Graduate Student; Population, Health and Wellness

Depression in patients with spinal injury in Qatar: a mixed-methods study

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Introduction

Spinal injury
- A life-threatening traumatic event
- Associated with devastating health burden

Spinal injury causes medical problems and severe physical disability
- Loss of motor, sensory, neurological functions
- Physical and physiological complications Negative influence on health and performance of daily living activities

Middle East: ~15 cases per million every year

Qatar
- 1.25 spinal injuries per 100,000 yearly
- In 2010, 12% of with spinal injury patients treated in Hamad Hospital and Rumailah Hospital; increased rate 17.2% by 2013

In **Qatar**, *depression* is the most common mental disorder
25% - 30% of spinal injury patients experience significant depressive symptoms associated with:
- Lack of social support
- Sociodemographic factors
- Cultural factors
- Prolonged rehabilitation process

Limited studies on mental health after spinal injury
- Available evidence show high prevalence of depression
- Few studies assess depression and spinal injury in Arab Gulf region
- Association between depression and spinal injury has not been yet established in Qatar

Aim

❖ **To explore the issue of depression in hospital patients with spinal injury in Qatar**

Objectives

1. Determine the prevalence of depression in hospital patients with spinal injury
2. Determine the association between the level of depression and cause and site of spinal injury, sociodemographic factors, and social support in hospital patients with spinal injury
3. Explore the experiences of depression in hospital patients with spinal injury

Methods

Study design
- Cross-sectional mixed methods study
- Fully mixed methods concurrent equal status design
  - Qualitative and quantitative methods incorporated in all aspects of the design, were conducted concurrently, and had equal value to the study

Population
- N= 106 patients admitted between 1 January 2020 - 30 December 2020
  - Hamad General Hospital (Trauma, and Neurological) Inpatient Units, TICU, Trauma Stepdown, Trauma OPD and Qatar Rehabilitation Institute Inpatient Unit and Outpatient)
- Inclusion criteria: Males and females; 18 - 65 years; conscious and able to communicate; inpatient and outpatient (recently acquired spinal cord/ column injuries; traumatic and non-traumatic)
- Exclusion criteria: patients with confused state, critical condition, inability to give informed consent, past psychiatric history of depression, and previous suicidal attempts or if injury resulted from suicidal attempt

Data collection methods
- Patients approached two weeks after admission
- Interviewer administered questionnaire and semi-structured interview

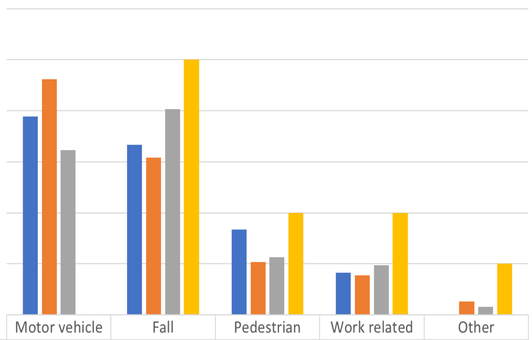
Data collection instruments
- Sociodemographic characteristics
- Patient Health Questionnaire (PHQ-9)
- Social Support Survey
- Semi-structured interview guide

Results

Table 1 Demographic characteristics

	Mean±SD or N (%)
Age (years)	35.82±10.00
≤35	59 (55.7)
>35	47 (44.3)
Sex	
Male	100 (94.3%)
Female	6 (5.7%)
Marital status	
Married	72 (67.9)
Single	34 (32.1)
Total number of children	
0	39 (36.8)
1-3	50 (47.2)
4-6	11 (10.4)
7-9	6 (5.7)
Nationality origin	
Asia	72 (67.9)
Africa & Europe	10 (9.4)
Middle East	24 (22.6)
Education	
Uneducated	20 (18.9)
School	61 (57.5)
University	25 (23.6)

Fig 1 Cause and site of injury



Social support

- 31.8% had support from family and friends within the country
- 30.2% had support from family and friends outside the country
- 22% had support from colleagues
- 15% had support from their employer
- 1% reported having no social support
- Overall average Social Support Index score was 4.12±0.99
- Subscale scores: emotional/informational support 4.23±1.03, tangible support 3.9±1.4, affectionate support 4.25±1.19, and positive social interaction 4.04±1.26

Prevalence of depression

- Mean PHQ-9 score was 4.82±5.25 (approximately 5; mild depression)
- 69% of participants had some level of depression
- ~ 28% of them had mild, 25.5% minimal, 7% moderate, 7% moderately severe, and 0.9% severe depression

Table 2 Depression and cause of injury

	Depression n=73; 69%	No Depression n=33; 31%
	n (%)	n (%)
Fall	28 (71.8)	11 (33.3)
Motor Vehicle	25 (62.5)	15 (37.5)
Pedestrian	9 (81.8)	2 (18.2)
Work Related	7 (9.6)	3 (9.1)
Back Pain	2 (50)	2 (50)
Other	2 (100)	0 (0)

Table 3 Depression and sociodemographics

	Depression N=73; 69%	No Depression N=33; 31%	P value
	N (%)	N (%)	
Age			0.27
≤35	38 (64)	21 (36)	
>35	35 (75)	12 (25)	
Gender			0.09
Male	67 (67)	33 (33)	
Female	6 (100)	0	
Nationality			0.20
Asia	46 (64)	26 (36)	
Africa & Europe	7 (70)	3 (30)	
Middle East	20 (83)	4 (17)	
Education			0.99
School	42 (69)	19 (31)	
University	17 (68)	8 (32)	
Uneducated	14 (70)	6 (30)	
Number of children			0.095
No children	28 (72)	11 (28)	
1-3 children	33 (66)	17 (34)	
4-6 children	10 (91)	1 (9)	
7-9 children	2 (33)	4 (67)	
Marital status			0.79
Married	49 (68)	23 (32)	
Single	24 (71)	10 (29)	

Table 4 Depression and spinal injury site

	Depression n=73; 69%	No Depression n=33; 31%	P value
	n (%)	n (%)	
Cervical spine	25 (69)	11 (31)	0.92
Thoracic spine	25 (64)	14 (36)	0.41
Lumber spine	44 (71)	18 (29)	0.57
Sacral spine	7 (70)	3 (30)	0.93

Table 5 Depression and social support

	r	P value
Overall Social Support Index	-0.189	0.053
Emotional/Informational support	-0.202	**<0.001***
Tangible support	0.045	0.648
Affectionate support	-0.120	0.221
Positive social interaction	-0.210	**<0.001***

Table 6 Experiences of depression

Topic	Themes	Participants N=12
Impact of spinal injury	Negative influence on lifestyle	8
	Less self-esteem and confidence	2
	Psychological challenges	8
	Reduced physical health functioning	6
	Interrupted sleeping patterns	3
	Death thoughts	1
Coping with injury	Strong religion and faith	3
	Social support	6

Conclusion

- Depression is prevalent among patients with spinal injury;
- Depression is associated with social and spiritual support
- Results are expected to:
  - Contribute to the quality of clinical care and rehabilitation of patients with spinal injury through
  - Highlight the need for policies to ensure the early detection, referral and treatment of depression, and enhance social support for people with spinal injuries

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