HOSPITAL ANXIETY AND DEPRESSION SCALE SCORES IN PATIENTS OF SPINAL CORD INJURY AT A TERTIARY CARE HOSPITAL

Mohammad Tariq, Farrukh Hayat Khan*, Atta ullah

Combined Military Hospital Pano Aqil, * Combined Military Hospital Bahawalpur, Pakistan Naval Ship Punjab

ABSTRACT

Objectives: The study was planned to find out frequency of anxiety and depression in patients suffering from spinal cord injury (SCI) and comparing it with normal subjects, to ascertain whether anxiety and depression were more common in patients suffering SCI.

Study Design: A case control study.

Place and Duration of Study: The study was conducted at Psychiatry, Neurosurgery and Rehabilitation Departments of PNS Shifa Hospital Karachi from Jan 2009 to June 2009.

Patients and Methods: Purposive, Non probability type sampling was used to select the study group. Group 1 (n=80) comprised of patients who suffered SCI and Group 2 (n=80) comprised of healthy hospital staff and healthy relatives of patients as controls. Hospital Anxiety and Depression Scale Urdu version was used for psychiatric evaluation. Data was analyzed by using Statistical Package for Social Sciences (SPSS) version 10.

Results: In group 1, 30% suffered from anxiety and 42.5% suffered from depression as measured on Hospital Anxiety and Depression Scale. In group 2, 6.3% had anxiety while depression was produced in 1.3%. Significant difference was found in the frequencies of anxiety & depression between both groups.

Conclusion: Both depression and anxiety are more common in patients with SCI as compared with normal people which raises the need for screening the patients suffering SCI with a valid tool such as HADS for better treatment out come and reducing the disability.

Keywords: Spinal Cord Injury, Depression, Anxiety.

INTRODUCTION

Injury is the leading cause of death and functional disability in adults and children. Spinal cord injury is one of the most devastating incidents that can occur to an individual as it results in life being suddenly and long lastingly changed. Advances in injury care systems have seen an increase in the number of seriously injured people surviving their injuries. An annual incidence of 15 to 40 traumatic spinal cord injury cases per million population has been reported worldwide[1]. The incidence of head and spinal injury is on the rise in developing countries. A four year study in Pakistan showed that majority of SCI patients presented during second decade (i.e. 33.2%) followed by first and third decade. There were 75% males, and 25% females with a ratio of 3:1. Road traffic accident was the commonest cause of head trauma. The total mortality was 18%2. Psychiatric disorders following accidents are very common. The spinal cord injury is associated with psychiatric morbidity i.e. >40% even for those who undergo rehabilitation programmes[3]. Spinal cord lesion may cause problems in the areas of sleeping, discomfort and vitality in particular, which results in poor quality of life and may be a cause for poor compliance with rehabilitation treatment and poor outcome of surgical interventions[4]. Negative emotional responses (e.g depression, anxiety) to SCI, disengagement-type coping (eg, disability denial, avoidance), and the severity and impact of disability were related to lower levels of adaptation to SCI[5].

Accurate information regarding the psychopathological consequences of surviving traumatic injury is of great importance for effective health service, design and planning. This study will help in emphasizing the need for multidisciplinary approach in dealing with disabling spinal cord injury patients in improving their quality of life and a future template for further studies to improve patient care.

Correspondence: Maj Mohammad Tariq, Graded Psychiatrist, CMH Pano Aqil Cantt
Email: tariqdocpk@yahoo.com
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MATERIAL AND METHODS

This case control study was carried out of psychiatry, nuerosurgery and rehabilitation departments of PNS shifa hospital Karachi from Jan 2009 to June 2009. Eighty SCI patients were included in the study as cases, while 80 healthy individuals were included as controls through convenient sampling.

The patients with past history of any psychiatric ailment, patients with positive family history of psychiatric illness, patients suffering from non traumatic SCI and those taking drugs causing depression or anxiety were not included in the study.

Main instrument used in the study was Urdu version of Hospital Anxiety and Depression Scale (HADS-U). It consists of 14 questions followed by four options that are on a continuum of severity / intensity of symptoms. HADS comprised of two question sections; the Anxiety Questions section and the Depression Question section (Odd and Even number questions throughout the questionnaire respectively). The score range was 0-7 normal, 8-10 borderline abnormal and 11-21 abnormal.

A semi-structured interview proforma including demographic details and type of spinal cord injury was used for recording and assessing other important variables.

Subjects of the study were contacted in consultation with the medical officers in charge of the respective wards and OPDs. Patients were told about the nature and purpose of the study and their consent was obtained. A brief history/interviewing session was conducted with every patient to rule out confounding variables like having a psychiatric disorder or a history of the use of any of the psychiatric medication or family history of psychiatric illness.

Performa containing basic demographic details of the participants was filled and HADS was offered to the patients. For illiterate patients it was read over by the rater. All the subjects were interviewed and their instruments were rated by the author himself. The questionnaires were scored.

Data had been analyzed using SPSS version 10. Descriptive statistics were used to describe the data. Chi-square test was used to check the significance of difference of anxiety and depression between cases and controls and also to study the association of duration of SCI with anxiety and depression. p value of <0.05 was considered as significant.

RESULTS

Mean age of patients was 39.70 (SD 10.25) and that of age matched controls was 39.88 (SD 10.28). 82.5% were male and remaining 17.5% were females in both groups. Majority i.e 92.5% from each group were well educated i.e. matriculate or higher so they could all attempt the HADS by themselves, 12.5% were single in each group, while 1.3% was divorced. All others were married and living with their spouse. At the time of sustaining injury 71.3% were employed while 28.8% were unemployed. 75% of patients sustained SCI less than a month prior to the study time, 16.3% were suffering from SCI for last one year, 6.3% were suffering for last three years and 2.5% had SCI for last five years.

Amongst patients of SCI 30% were found to have anxiety on HADS. Amongst controls 6.3% were found to have anxiety on HADS. Amongst patients of SCI 42.5% were found to have depression on HADS. Amongst controls 1.3% was found to have depression on HADS. Inter group comparison of frequency of anxiety and depression using Chi square test revealed a statistically significant difference ($p < .001$).

Assessment of patients for frequency of anxiety and duration of SCI, it was found that 31.7% of those with SCI less than one month had anxiety while 38.5% of those with SCI of one year duration were suffering from anxiety. None of the patients suffering from SCI for three to five year was suffering from anxiety.

Similarly when they study group was assessed for depression against duration of SCI, frequency of depression in patients with less than one month duration was 38.3%, it was 38.5% in patients with one year duration and as the disease became chronic percentage of depression also climbed to 80% and 100% in patients with SCI of three and five year

duration respectively, indicating association of depression with chronic nature of illness although it was not statistically significant.

DISCUSSION

In this study attempt has been made to evaluate the frequency of anxiety and depression in patients suffering from spinal cord injury as compared to healthy controls. The results of the study indicate a highly significant association between frequency of anxiety and depression with spinal cord injury i.e. 30% of patients had anxiety and 42% showed depression. In a study by Wayne J Katon it is revealed that patients with chronic medical illness have a high prevalence of major depressive illness. Major depression may decrease the ability to habituate to the aversive symptoms of chronic medical illness, such as pain. The progressive decrements in function associated with many chronic medical illnesses (such as SCI) may cause depression, and depression is associated with additive functional impairment[6].

A systematic review conducted at

Table- 1: Demographic features of study population.

Demographic feature	Frequency	Percentage
Age group		
18-30 yrs	15	18.8
31-45 yrs	45	56.2
46-60 yrs	20	25.0
Gender		
Male	66	82.5
Female	14	17.5
Education		
Illiterate	04	5.0
Primary	02	2.5
Matric / Inter	17	21.3
Graduate	42	52.2
Masters	15	18.8
Employment status		
Employed	57	71.3
Unemployed	23	28.7
Marital status		
Single	10	12.5
Married	69	86.3
Divorced	01	1.2
Duration of spinal cord injury		
<01 Month	60	75.0
01 year	13	16.3
03 year	05	6.2
05 year	02	2.5

Table-2: Frequency distribution of cases versus controls.

Disease	Status	Cases (n=80)	Control (n=80)	*p*-value*
Anxiety	Present	24(30%)	5(6.3%)	<0.001
	Absent	56(70%)	75(93.7%)	
Depression	Present	34(42.5%)	1(1.3%)	<0.001
	Absent	46(57.5%)	79(98.7%)	

*Chi square test

university of Sydney Australia emphasized on further research to get clarification on the psychological consequences following SCI, however results of the review showed that 30% of people who suffered spinal cord injury were at risk of depression although in rehabilitation program and 27% are at risk of having raised depressive symptoms when living in the community. The review also established that people with SCI have higher comparative risks of anxiety disorder, elevated levels of anxiety, feeling of helplessness and poor quality of life (QOL)[7]. In another study conducted in Australia, psychological morbidity in relation to traumatic injury was one fifth of the study population for one or more co-morbid psychiatric diagnoses[8]. In an American study at University of Michigan, the frequency of major depressive disorder was found to be 10% in SCI patients without any gender difference and it was emphasized that screening of every patient suffering from spinal cord injury for depressive symptoms is mandatory[9].

The findings of this study showed increased frequencies of anxiety and depression in SCI patients as compared to international data. It can be hypothesized that increased frequency can be due to various socio-cultural stressors specific to Pakistani population for depression and anxiety. Such factors has been shown in study carried out by Ali and Naeem in urban middle class population of Karachi, looking specifically at the psychosocial risk factors they found, extended family systems to be a particular risk factor in general population which might be exaggerated in sufferer of the injury[10]. Other reported risk factors for depression in Pakistani studies are low level of education, poverty and economic constraints[11]. These factors can adversely affect spinal cord injury and its subsequent disability leading to psychiatric morbidity. Keeping in mind that these factors were not considered in this study therefore these factors should be evaluated in subsequent studies in order to validate this hypothesis.

The present work attempted to identify psychiatric morbidity in spinal cord injury patients to help health care workers involved in dealing with this group of patients, so that they are able to identify psychiatric symptoms and reduce the burden of the disability caused by the spinal cord injury.

Clinical Implications

1. Psychiatric morbidity found in spinal cord injury patients are significantly higher and needs clinical attention.

2. Emphasis should be made on use of screening instrument such as HADS, which is ingenious and can be applied locally.

3. Studies of clinical and educational interventions suggest that those interventions which improve patient's health status and perceived ability to control their disease result in improved quality of life[12].

CONCLUSION

Spinal Cord Injury is a disabling chronic condition affecting individuals, it is important to exclude anxiety and depression in these patients using HADS as a screening instrument.

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