

Prevalence of psychological problems and the quality of life of spinal cord injury patients

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ABSTRACT

Objective: To assess spinal-cord injury patients for the presence of psychological problems and the side effects on the quality of life (QoL).

Materials and Methods: A prospective cross-sectional study was conducted in three different rehabilitation centers in Islamabad and Rawalpindi, Pakistan among 50 volunteers (32 males and 18 females) ranging from 20 to 45 years in age. WHO QoL-BREF 1996 was used to assess QoL. The presence of psychological problems was recorded using Hospital Anxiety Depression Scale (HADS) and General Health Questionnaire (GHQ-12).

Results: The duration of illness was 1-2 years. 32 were diagnosed as primary traumatic spinal cord injury, 16 as non-traumatic spinal cord lesion and two as stroke. 15 of the subjects had stress disorder, 21 anxiety disorder and 14 depressions.

Conclusion: Patients with spinal cord injury, a prolonged disability requiring inpatient rehabilitation, have impaired QoL that affects all life domains. There is high prevalence of psychological problems in these patients. Results shows QoL does affect functional abilities of the patients, but there is no significant relationship between psychological problems and functional abilities

Key words: quality of life, psychological problems, spinal cord injury, rehabilitation, functional abilities

INTRODUCTION

QoL is an individual's perception of life, in context to his cultural systems and values. Many researchers have focused their investigations on long term QoL after stroke and spinal cord injury¹⁻². Vall et al.³ and Wilkinson et al.⁴ have investigated the correlation between QoL and functional abilities of patients who had suffered stroke. There is evidence of direct effects of the disease, as well as the side effects of the treatment on QoL in patients with spinal cord injury (SCI). The major medical consequences of injury affect different physical and psychological aspects such as loss of sense, palsy, depression and disturbance of body image. Difficulties in adjusting to chronic illness may lead to multiple medical problems and poor self-care⁵.

Judd et al.⁶ and Howell et al.⁷ have measured the frequency of the occurrence of major depression after acute spinal cord injury, regardless of the level of injury. The early diagnosis and treatment of

depressed patients must be incorporated in the rehabilitation process⁸⁻⁹.

QoL is adversely affected in patients with spinal cord injuries (SCI). Patients who have been living with SCI for more than three years reported a better QoL, as compared to recently injured patients, suggesting an adaptive process operating over a long period¹⁰. The presence of complicating medical problems, such as spasticity, severe pain, and incontinence, seem to have more negative effects on QoL than the extent of SCI itself.

The present study was conducted to assess the QoL and prevalence of psychological problems in patients with spinal cord injury admitted to different rehabilitation centers in Pakistan, and to assess any correlation between QoL, anxiety and depression and their functional abilities/disabilities.

MATERIALS AND METHODS

Research participants

This prospective cross-sectional study was conducted in three different rehabilitation

centers in Islamabad and Rawalpindi, Pakistan among 50 volunteers (32 males and 18 females) whose ages ranged from 20 to 45 years.

The duration of illness in the study subjects varied from 9 to 24 months. Twenty two patients had 11-21 months' duration of illness and 26 patients had 9-23 months' duration. Two stroke patients with global or sensory aphasia and with cognitive deficit were excluded from the study. The data was analyzed using SPSS.

Procedures

All the patients were assessed using Hospital Anxiety and Depression Scale HADS¹¹, General Health Questionnaire GHQ and World Health Organization-Quality of Life-Geneva 1996 WHO QoL-BREF and Barthel Index for Functional ability^{8,11-14}.

RESULTS

A total of 50 patients were enrolled and among them 32 were males and 18 females, with age ranging 20-45 years. The duration of illness was 1-2 years, with 32 patients having been diagnosed as primary traumatic spinal cord injury, 16 as non-traumatic spinal cord lesion and 2 with stroke.

On comparing the duration of illness with all four domains of QoL in the patients, the results showed a significant correlation between the duration of illness and the social domain of QoL ($P < 0.05$), and insignificant but positive correlation between the duration of illness and physical, psychological and environment domains of QoL.

Based on GHQ 73% patients ($N=35$) qualified for caseness, out of whom 69% patients ($N=24$) scored more than 15, denoting distress, and 31% patients ($N=11$) scored more than 20, showing severe problems and psychological distress.

To assess psychological problems HADS was used in the study. Results showed that 83% patients ($N=40$) had abnormal anxiety, among whom 63% ($N=25$) showed mild anxiety, and 38% ($N=15$) showed moderate to severe

anxiety.

Fifty eight percent patients ($N=28$) scored high on HADS Depression Scale, out of whom 82% ($N=23$) showed mild depression while 18% ($N=5$) moderate to severe depression.

Spearman Rank Test and Barthel Index score showed insignificant but positive correlation between anxiety and depression.

The patients' scores on mean Barthel index at the time of discharge were compared with the mean admission score, which showed significant functional recovery ($P < 0.001$).

DISCUSSION

Disability causes psychological problems, which may manifest as anxiety and depression.

In the present study HADS showed that 83% patients had abnormal anxiety while 35% patients had abnormal depression.

A special rehabilitation plan, which included major psychotherapy sessions alone or along with occupational therapy and anxiolytic or anti-depressant medications (after evaluation by a psychologist and psychiatrist), was designed to help these patients.

The patients' scores on GHQ showed that 73% ($N=35$) qualified for caseness, out of whom 69% patients ($N=24$) scored above 15, denoting distress, 31% patients ($N=11$) scored above 20, showing severe problems and psychological distress.

Prevalence of depression was also examined. It was found to be associated with the occurrence of secondary complications of SCI such as pressure sores, urinary tract infections, and contractures. Dryden et al.¹⁵ observed in his study that 28.9% of the patients with spinal cord injury required treatment for depression; he reported, "individuals at the highest risk were those with a pre-injury history of depression, a history of substance abuse or permanent neurological deficits".

In our study, one patient had a history of depression prior to SCI and 11 patients had a history of substance abuse in the

form of smoking cigarettes for more than five years. No other forms of substance abuse were reported. Five smokers required to take anti-depressant medication for the management of their anxiety/depression. No recorded secondary data was available for comparison of the prevalence of depression and anxiety among SCI patients in the Pakistani population to show the statistical significance of this data.

In the present study, the correlation between anxiety and depression and functional abilities of the patient was positive but not significant, which is contrary to the study conducted by Lo RS et al.¹⁶.

QoL is a useful tool in gaining a better understanding of patients' reactions to their illnesses and for the development of rehabilitation plans; it also helps in monitoring the efficacy of these rehabilitation plans both in the acute phase as well as on long term follow up. The present study showed that patients with SCI have QoL in all domains which was seen even after long term follow-up. No recorded secondary data was available for the comparison of the results for Pakistani population to show the statistical significance of this data.

To see the effects of disability of patients on their functional abilities Barthel Index scores were correlated with QoL domains.

Social domain includes personal support, personal relationship and sexual activity of the patient. The results of our study showed a significant relationship between the social domain of QoL and mean Barthel Index score. Kwok et al.², Vall et al.⁵ have observed similar results.

The findings emphasize that the patients with SCI need strong family and social support to motivate and to assist them in attaining functional independence. Sexual rehabilitation is also essential, along with physical and psychosocial rehabilitation, and it needs to be integrated in rehabilitation program.

CONCLUSION AND RECOMMENDATIONS

Our study revealed a high prevalence of psychological problems along with low quality of life in patients with SCI. The functional abilities of these patients were also adversely affected.

The rehabilitation plans designed by the Rehabilitation Psychologist of the Federal Ministry of Health, Pakistan were also tested through this study, which happen to be effective in 52% patients (N=25). The male:female ratio of 10:15 as regards the effectiveness showed that the need exists for the design of gender-specific rehabilitation plans.

LIMITATIONS OF THE STUDY

The study was performed with a small group of patients. A study with a larger sample size and follow-up can produce better understanding of the QoL issues and the prevalence of psychological problems in patients with SCI.

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REFERENCES

1. Haacke C, Althaus A, Spottke A, et al. Long-Term Outcome after stroke evaluating health-related quality of life using utility measurements. *Stroke* 2006;37:193-198.
2. Kwok T, Lo RS, Wong E, et al. Quality of life of stroke survivors: A 1-year follow-up study. *Arch Phys Med Rehabil* 2006;87:1177-82.
3. Vall J, Brage VA, De Almeida PC. Study of the quality of life in people with traumatic spinal cord injury. *Arq Neuropsiquiatr* 2006; 64:451-5.
4. Wilkinson PR, Wolfe CD, Warburton FG, et al. Longer term quality of life and outcome in stroke patients: Is the Barthel index alone an adequate measure of outcome? *Qual Health Care* 1997;6:125-30.
5. Malec J, Neimeyer R. Psychologic prediction of duration of inpatient spinal cord injury rehabilitation and performance of self care. *Arch Phys Med Rehabil* 1983;64:359-63.

6. Judd FK, Burrows DG, Brown DJ. Depression following acute spinal cord injury. *Paraplegia* 1986;24:358-363.
7. Howell T, Fullerton ZT, Harvey RF, et al. Depression in spinal cord injured patients. *Paraplegia* 1981;19:284-288.
8. Baune BT, Aljeesh Y. The association of psychological stress and health related quality of life among patients with stroke and hypertension in Gaza Strip. *Ann Gen Psychiatry* 2006;5:1744-859.
9. Bracken MB, Bernstein M. Adaptation to and coping with disability one year after spinal cord injury: An epidemiological study. *Soc Psychiatry* 1980;15:33-41.
10. Westgren N, Levi R. Quality of life and traumatic spinal cord injury. *Arch Phys Med Rehabil* 1998;79:1433-9.
11. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983;67:361-70.
12. Goldberg DP, Hillier VF. A scaled version of the General Health Questionnaire 1979;9:139-45.
13. WHO. WHO QoL-BREF, Introduction, administration, scoring, and generic version of the assessment. Geneva;1996.
14. Mahoney FI, Barthel DW. Functional evaluation: The Barthel Index *Md State Med J* 1965;14:61-5.
15. Dryden DM, Saunders LD, Rowe BH, et al. Depression following traumatic spinal cord injury. *Neuroepidemiology* 2005;25:55-61.
16. Lo RS, Cheng JO, Wong EM, et al. Handicap and its determinants of change in stroke survivors: One-year follow-up study. *Stroke* 2008;39:148-53.