Anxiety and depression symptoms among paraplegic patients

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Complete paraplegia is defined as lower limb paralysis with loss of sensation. It is usually associated with loss of sphincter control both for bowel and bladder. Various medical and surgical causes may lead to complete paraplegia. Traumatic spinal cord injury (SCI) is one major cause. Paraplegic patients suffer from several problems due to the nature of their injury such as physical impairment, chronic pain, difficulties in social adjustment and financial problems due to the high cost of treatment. As a reaction to the difficult complications, SCI patients revealed clear signs of anxiety and depression. Luc et al[1] investigated the influence of environment in the lives of people with SCI; they suggested that the most primary environmental facilitators are social, whereas the main obstacles were physical. Psychological adjustment following traumatic SCI is considered a major issue of the future life of paraplegic patients. Wegener and Haythornthwaite[2] found that females and paraplegics tend to show better adjustment than males and tetraplegics. Also, they reported that the degree of disability, the pre-injury personality and coping mechanisms are important predictors of adjustment. Hughes et al[3] indicated that persons with physical disabilities appear to have greater risk for depression than the general population. It has been estimated that people with SCI are 5 times as likely to experience depression compared to people generally. Post et al[4] found that such patients have low-levels of life satisfaction, high levels of depression, marital maladjustment, decreased social interaction, decreased mobility and difficulties both in sexual life and vocational situation. He also investigated the relationship between pain and depression in acute traumatic SCI. He showed that pain and depression were independent at admission, but at discharge, they were significantly related. Changes in pain affected depression were greater than changes in depression affected pain and the aim of this study was to investigate the differences of anxiety and depression levels between paraplegic patients during the acute stage of treatment and after the completion of their rehabilitation programs.

The records of 64 SCI patients admitted to the Jordanian Rehabilitation Center, Amman, Jordan in 2001 were reviewed. We included only patients with complete SCI, which were traumatic in origin. Therefore, the sample of the study included 10 paraplegic patients still in the acute stage of treatment (PAS), with mean age of 27.8±4.08, and 10 paraplegic patients who had already completed their rehabilitation stage (PRS), with mean age of 31.01±2.43. The rehabilitation stage was 6-12 months, the control group (CG) consisted of 10 healthy persons, and mean age was 30.3±3.58. All groups were matched in socioeconomic and educational background. Two measures were used for data collection; personality scale of manifest anxiety and the depression scale.

A comparison between PAS and the CG on anxiety and depression scales, according to the test results, showed that PAS scored significantly higher than the CG on both anxiety and depression symptoms ($p<0.05$). These findings indicated that PAS suffered from anxiety and depression features due to the injury and its complications. **Table 1** represents the differences between the mean scores of these 2 groups. A comparison between PRS and the CG on anxiety and depression scales showed that there were no significant differences between the CG and PRS group regarding symptoms of anxiety or depression. A comparison between PAS and PRS on anxiety and depression scales clearly showed that PAS scored significantly higher on anxiety and depression scales than PRS.

The first result of this study confirmed that there were differences between PAS and the CG on anxiety and depression levels, this could be attributed to injury complications such as movement limitations, the loss of bowel, bladder and sexual function, and socioeconomic difficulties. The PAS expressed worry and tension symptoms regarding the consequences of injury, which is a normal reaction to an abnormal situation. They were hopeless and fearful from this dramatic event in their lives, as it would lead to major changes in their life style. Comparison between PRS and the CG did not show any significant statistical differences on anxiety and depression. The results indicated that

Table 1 - Comparison between PAS and control group on anxiety and depression scales.

Scales	Control group N = 10		PAS group N = 10		T value	*p* value
	Mean	SD	Mean	SD		
Anxiety	18.1	1.64	28.2	7.82	3.76	0.05
Depression	11.5	2.42	17.4	4.6	3.41	0.05

PAS - patients still in the acute stage of treatment

the rehabilitation program has an effective contribution in reducing the features of worry and tension as well as depressive symptoms. Therefore, PRS expressed adaptive responses more than PAS. This result contradicted studies in western countries,[5] which reported that PRS usually encounter many difficulties. This could be explained by the nature of Arab culture as it provides adequate social support and special care to the disabled. A closer look at anxiety and depression levels between PAS and PRS showed similar results. The PAS suffered from apparent symptoms of anxiety and depression, as the main psychological problems caused by paraplegia and its complications, which mean that PAS were confused and anxious regarding the future of their health. However, PRS results indicated that, they tended to have positive features of adjustment and they obtained the acceptable level of adaptation to their new environment. During our work with those patients through stages of treatment and rehabilitation, there are several factors that help the paraplegics to overcome their problems. These factors are the religious attitudes, family support and efficient socioeconomic circumstances. In addition, the degree of disability, the pre-injury personality traits and coping mechanisms are important predictors of adjustment. They play a major role in increasing or decreasing the levels of anxiety and depression.

This study shows that paraplegia caused by SCI induced anxiety and depression problems. These problems could be manipulated by intensive rehabilitation programs, both physical and psychological.

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