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ORIGINAL ARTICLE

Post Traumatic Anxiety and Depression Among the Patients of Orthopedic Department: A Cross-Sectional Study

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ABSTRACT

Aim: To determine the prevalence of anxiety and depression among post traumatic patients in the Orthopaedic Department
Study Design: Cross-Sectional Study
Place and duration: Muhammad Medical College and Hospital Mirpurkhas, Pakistan from March 2020 to August 2021
Methodology: The cross-sectional study was performed in the Orthopaedic department of a tertiary care general hospital. We assess the anxiety and depression among post traumatic patients, a self- reported and previously validated, Hospital Anxiety and Depression scale (HADs) was used. Data was analyzed using SPSS version 21.
Results: Data of 120 individuals reported a higher number of males and trauma due to road traffic accidents. A mean HADs score of 18.89 ± 7.31 was observed among the study participants. Anxiety score was found higher, and depression scores were lower. Anxiety was inversely correlated with the duration of the injury.
Conclusion: Anxiety and depression after an accident or trauma are common. Anxiety symptoms are more common in the early phases of acute orthopaedic trauma, while depression symptoms are more common in the later stages.
Keywords: Accident, Anxiety, Depression

INTRODUCTION

According to the World Health Organization (WHO), up to 50 million individuals are injured nonfatally in road traffic accidents (RTAs) each year, which may result in fractures, orthopaedic trauma and other injuries[1] In the United States, 2.3 million people are admitted to hospitals each year with an orthopaedic injury. Regardless of culture or country, traumatic orthopaedic injuries are prevalent and affect people of all ages. Pain is an unavoidable indication of orthopaedic trauma, and it has a major psychological impact on patients. Until they recover, injury causes severe socio-occupational dysfunction and productivity loss[2] In hospitals, the orthopaedic wards see a huge number of patients who have been injured in various ways, including road traffic accidents and falls from great heights. Psychological problems like anxiety and depression have been proven to have a negative impact on outcomes following orthopaedic injuries[3]. These patients frequently experience intense psychological post-injury stress reactions, such as nightmares, unease, sleep and food problems, as well as various levels of dread, anger, anxiety, and melancholy. The majority of studies have focused on post-traumatic stress disorder (PTSD) and acute stress reactions[4,5] In contrast, only a few studies have looked at the depression and anxiety disorders[6] When the World Health Organisation (WHO) or The Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for all of the disorders mentioned above are applied, many patients with psychological disturbances may not meet all of the criteria for the disorders. Still, they continue to have depressive or anxiety symptoms clinically, which may have an impact on their long-term and holistic recovery. Addressing psychological concerns earlier in the course may also improve quality of life, reduce the load on support services, and improve productivity and the progression of impairments to disabilities. Many studies that attempted psychological evaluation after a traumatic event has emphasized the importance of detecting morbidity early and developing interventions to improve long-term results[6,7]

This study aimed to assess the frequency of symptoms of depression and anxiety in Post-traumatic orthopaedic patients.

METHODOLOGY

The study was conducted at orthopaedic department of our hospital. consecutive sampling technique was used. The total sample size was 120. Patients 18 years or more with a history of fracture due to the accident were included. Patients with any psychiatric illness or under treatment with a history of any chronic medical condition for a period of more than 6 weeks following a traumatic event were considered ineligible. A semi- structured proforma was used to collect socio-demographic and clinical data. Permission was taken from the ethical review committee of institute. After receiving clear instructions and obtaining the consent, patients were given the previously validated HADS self-report scale.[8] The HADS is a 14-item self-report scale that consists of two 7-item depression and anxiety scales. The scale was created to test for mood problems in general medical outpatients (non-psychiatric). There are two subscales on this scale: depression and anxiety. It distinguishes depression from anxiety by focusing on subjective mood changes rather than physical indicators. Compared to other instrument scales, it concentrates on the emotional aspects of anxiety disturbances rather than somatic and cognitive symptoms. Depression and anxiety are the two subscales of the HADS. The scores on each subscale range from 0 to 21. The items are assessed on a 4-point Likert-type scale ranging from 0 to 3, resulting in a 0 to 42 points scale, with higher scores indicating more severe symptoms. The anxiety subscale comprises three items, and the generalized anxiety subscale has four. To acquire a score for anxiety, add the Anxiety questions and the Depression questions to get a score for depression. A score of 0-7 indicates normal levels of anxiety and depression; a score of 8-10 indicates borderline abnormal levels of anxiety and depression; and a score of 11-21 indicates abnormal levels of anxiety and depression. The previous study also reported the usefulness and validity in orthopaedic trauma patients.[9]

The scores for each of the patients were calculated using self-reported HADS. Pearson's Correlation tests were used to determine a correlation between duration since trauma and HADS scores using Shapiro-tests Wilk's for normality, assuming a normal distribution. SPSS version 20 was used for data analysis.

RESULTS

During the selection procedure, 180 individuals were evaluated, and 120 patients who met the inclusion criteria were recruited in the study. Males made up 77.5% (n= 93) of the sample. The mean age of the participant was 41.9 years ± 14.95 years. Patients were injured in 42.5% (n=51) of cases in traffic accidents, 29. 1% (n=35)

in household situations, and 18 percent in industrial situations. The average time since the trauma was 24 days ± 11.8 days. (as shown in Table 1). We found that the mean HADS score among the study participant was 18.89 ± 7.31. In post-traumatic individuals, the anxiety score was lower as compared to the depression score. (as shown in Table 2). The scores for each of the patients were calculated using self-reported HADS. Pearson's Correlation tests were used to determine a correlation between duration since trauma and HADS scores Anxiety scores are marginally but inversely correlated with the duration of trauma, while depressive scores are moderately correlated with the duration of trauma. This means that anxiety levels are higher in the first few days after a traumatic event, but depressed scores tend to rise as time passes. (as shown in Table 3)

Table 1: Characteristics of the study participants (n=120)

Variable	Frequency	Percentage
Gender		
Male	93	77.5%
Female	27	22.5%
Total	120	100.0
Cause of Injury		
Traffic accidents	51	42.5
House Hold Trauma	35	29.1
Industrial Injuries	22	18.3
Others	12	10.0
Continous Variable	Mean	Standard Deviation
Mean Age (In Years	41.9 +	±14.9 years.
Trauma Duration (In days)	24 days	± 11.8

Table 2: The score of HADS among the study participants.

Variable	Mean Score
Anxiety	08.78 ± 4.09
Depression	10.03 ± 5.26
HADS Score	18.89 ± 7.31

Table 3: Correaltion of Anxiety and Depression with the duration since trauma

	Duration Since Trauma (In days)	
HADS score	Correlation Coefficieant (r)	P-Value
Mean Anxiety Score	-0.3	0.025
Mean Depression Score	0.6	<0.001

DISCUSSION

This study found that moderate to severe symptoms of depression and anxiety in Post-traumatic orthopaedic patients are present. The findings of this study are in line with those of prior studies[10,11]

This study's primary goal was to determine anxiety and depressive symptoms following fractures, and it covers individuals with trauma durations ranging from one to forty-five days. Since injuries in many research, this time period has been referred to as acute duration. The acute length was used as the first assessment in many long-term studies, and patients were followed for three months, six months, and a year after their injuries to establish long-term outcomes. Many of the studies that assessed patients early after trauma focused primarily on acute stress disorder, post-traumatic stress disorder, and dissociative disorders, while many others did not focus on anxiety and depressive symptoms, which occur at higher rates but may not meet complete criteria. A study reported that seventeen per cent of the individuals had moderate to severe anxiety (Score 19 Beck Anxiety Inventory), and Fifteen had moderate to severe depression (Score 19 Beck Depression Inventory) when they assessed initial prevalence rates[7] Scores of 14-21 correlate to moderate- severe symptoms in anxiety and depression-according to HADS. Depression, in particular, is linked to poor functional results, decreased productivity, and worse satisfaction with care[12]

We found that twenty-six per cent of participants had Anxiety scores between fourteen and twenty, indicating moderate to severe anxiety, while thirty-six percent of participants had Depression scores between 14 and 21, indicating moderate to severe depression. In eight percent of patients, both scores were in the moderate to severe category. Participants in this study had significantly greater depression scores than those in the previous trial[13,14]. Another study performed in Pakistan reported contrasting findings[15]

Duration of trauma, gender, financial status, and employment family support are the major factors regulating anxiety and depression among the individuals who have gone through trauma[16] According to the above study although they may not meet all of the criteria for acute stress disorder, they do have re-experiences and arousal, especially in the first week after trauma. These symptoms are recorded under the anxiety domain of HADS in a broad sense because HADS does not have a specific anxiety disorder. This conclusion backs with our findings that there is an inverse relationship between the degree of anxiety symptoms and the time after the event.

CONCLUSION

Post-traumatic anxiety and depression are prevalent. Anxiety symptoms are more common in the early stages of acute orthopaedic trauma, while depression symptoms are more common in the later stages. Suitable interventions in the form of medicine or psychotherapies may be given to improve their long-term mental and physical rehabilitation outcomes.

Consent and ethical Approval: Permission was taken from the ethical review committee of university. Written and verbal informed consent was taken from the patients after explaining them the purpose and procedure of the study in detail and ensuring the confidentiality.

Competing Interests: Authors have declared that no competing interests exist.

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