DOI: https://doi.org/10.53350/pjmhs20221612734

ORIGINAL ARTICLE

Prevalence of Anxiety and Depression among Orthopedic Trauma Inpatients

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ABSTRACT

Background and aim: Orthopedic trauma patients experience anxiety and depression, both of which are undesirable psychological issues. The present study aimed was to determine the prevalence of anxiety and depression.

Material and Methods: This cross-sectional study was conducted on 188 orthopedic trauma patients in Orthopaedics Department of Federal Govt. Polyclinic Hospital (FGPC) Islamabad and Wah Medical College / POF hospital Wah Cantt from October 2020 to September 2022. Prior to study conduction, ethical approval from research and ethical committee was taken. Informed written consent was obtained from each individual. Social characteristics, demographic details, and clinical examination were recorded. Hospital anxiety and depression scale (HADS) was used for the assessment of patient's anxiety and depression. SPSS version 26 was used for data analysis.

Results: Of the total 188 patients, there were 112 (60%) male and 76 (40%) females. The overall mean age was 46.82 ± 12.94 years with an age range (15-75 years). Age-wise distribution of patients was as follows: 56 (29.8%) in 15-30 years, 44 (23.4%) in 31-45 years, 38 (20.2%) in 46-60 year, and 50 (26.6%) in 61-75 years. Out of 188 orthopedic trauma patients, the incidence of road traffic accident (RTA) and ground fall was 96 (51.1%) and 92 (48.9%) respectively. The incidence of anxiety and depression before and after orthopedic surgery was 22 (11.7%) and 32 (17%) and 36 (19.1%) and 46 (24.5%) respectively. Anxiety and depression on HADS was 4.12 and 5.21 before surgery and increased substantially to 4.62 and 5.81 after surgery. The incidence of single, double, and triple fracture was 162 (85.2%), 24 (12.8%), and 2 (1.1%) respectively.

Conclusion: The present study found that orthopedic trauma in the elderly often leads to emotional disorders. Anxiety and depression levels were low before surgery and increased after surgery in orthopedic trauma patients. However, age, poverty, and gender are directly related to anxiety and depression. Patients with geriatric disorders should be monitored closely by clinicians.

Keywords: Orthopedic trauma, Psychological problems, anxiety, depression

INTRODUCTION

Several techniques for fixation, better understanding, and better implants of the biomechanical mechanisms of fixation have improved the treatment of orthopedic trauma patients [1]. Orthopedic trauma patients experience anxiety and depression, both of which are undesirable psychological issues [2, 3]. Orthopedic trauma patients may suffer from anxiety or depression in the range of 5–35% and 13–56%, respectively [4, 5]. Numerous studies reported that female gender, younger age, pain, injury severity, and nuclear family are significantly associated with emotional disorders such as anxiety and depression [6, 7]. Others found that psychological factors cause poor prognosis and adverse outcomes [8, 9]. As of today, there are a number of scales that assess anxiety, depression, and negative emotions individually [10, 11], but relatively few provide a concurrent assessment of these aspects. Due to their disadvantages, such as their excessive number of items, time requirements, and cultural and linguistic barriers, these scales are rarely used in routine clinical practice.

Depression and anxiety are a common form of mood disorder and considered as comorbid conditions that lead to poor prognosis and outcomes in chronic conditions. High incidence of depression has been found among orthopedic and general trauma patients. Anxiety and depression can be uniformly screen-out through an accepted scale known as Hospital Anxiety and Depression Scale (HADS). HADS cutoff value >7 was used to identify the anxious and depression cases with 97% specificity and 67% sensitivity [12]. The World health organization reported that orthopedic trauma is mostly caused by road traffic accidents and falls from the ground. Globally, orthopedic trauma burden is increasing due to road traffic accidents worldwide [13]. Patients suffering from orthopedic trauma could lead to various psychological problems such as depression and anxiety. According to various studies, Anxiety symptoms are more prevalent during psychological reactions and are related to depression [14, 15]. The present study aimed was to determine the prevalence of depression and anxiety among orthopedic trauma patients.

METHODOLOGY

This cross-sectional study was conducted on 188 orthopedic trauma patients in Orthopaedics Department of Federal Govt. Polyclinic Hospital (FGPC) Islamabad and Wah Medical College / POF hospital Wah Cantt from October 2020 to September 2022. Prior to study conduction, ethical approval from research and ethical committee was taken. Informed written consent was obtained from each individual. Social characteristics, demographic details, and clinical examination were recorded. Hospital anxiety and depression scale (HADS) was used for the assessment of patient's anxiety and depression. Orthopedic trauma patients of both gender and provided consent form were enrolled. Orthopedic trauma patients with other comorbidities and had lack of communication were excluded. Sample size was calculated based on 95% confidence interval, power of test 80%, absolute precision 20%, and previous prevalence 36.1%. The final sample size was 188. A specially designed questionnaire proforma was used for recording different parameters such as prior medical history, demographic details, current medical status, and socioeconomic data. HADS scale for assessing the anxiety and depression consisted of subscales; anxiety (HADS-A) and depression (HADS-D). After interviewing all the participant's patients, HADS score was calculated and anxiety and depression was separately diagnosed on HADS score ≥ 8. All the patients were interviewed before and after the surgery. SPSS version 26 was used for data analysis. Qualitative variables were expressed as frequency and percentages whereas quantitative variables were described as mean and standard deviation. Chi-square test was used for comparing the anxiety and depression outcomes before and after the surgery. All the descriptive statistics were carried out taking 95% confidence interval and 5% level of confidence.

RESULTS

Of the total 188 patients, there were 112 (60%) male and 76 (40%) females. The overall mean age was 46.82 ± 12.94 years with an age range (15-75 years). Age-wise distribution of patients were as follows: 56 (29.8%) in 15-30 years, 44 (23.4%) in 31-45 years, 38 (20.2%) in 46-60 year, and 50 (26.6%) in 61-75 years. Out of 188 orthopedic trauma patients, the incidence of road traffic accident (RTA) and ground fall was 96 (51.1%) and 92 (48.9%) respectively. The occurrence of anxiety and depression before and after orthopedic surgery was 22 (11.7%) and 32 (17%) and 36 (19.1%) and 46 (24.5%) respectively. Anxiety and depression on HADS was 4.12 and 5.21 before surgery and increased substantially to 4.62 and 5.81 after surgery. The incidence of single, double, and triple fracture was 162 (85.2%), 24 (12.8%), and 2 (1.1%) respectively. Figure-1 depicts the gender's distribution. Demographic details of all the orthopedic trauma patients are shown in Table-I. Orthopedic patient's different clinical features are shown in Table-II. Anxiety and depression before and after surgery are compared in Figure-2. Figure-3 illustrates the age-wise distribution of patients.

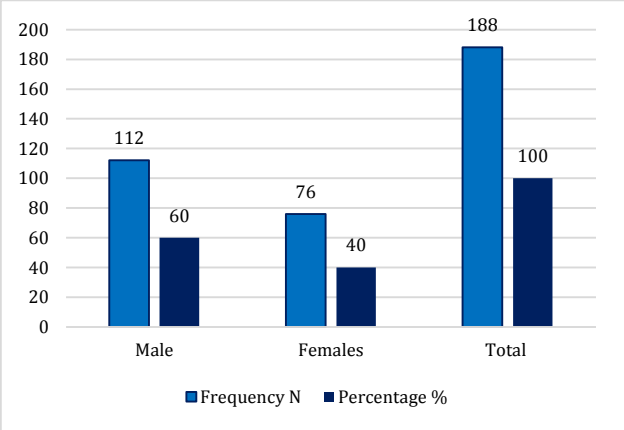

Figure-1: Gender's distribution

Table-1: demographic details

Parameter	N (%)
Gender	
Male	112 (60)
Females	76 (40)
Marital status	
Single	66 (35.1)
Married	122 (64.9)
Working	42 (22.3)
Tobacco use	50 (26.6)
Illicit drug use	8 (4.3)

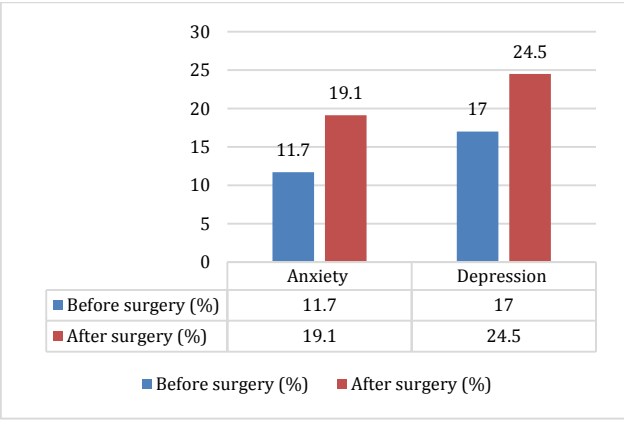

Figure-2: Anxiety and depression comparison before and after surgery

Table-2: Orthopedic patient's different clinical features

Parameter	N (%)
Injury causes	
Road traffic accidents	96 (51.1)
Fall of ground	92 (48.9)
Bone fracture (N)	
Single	162 (85.2)
Double	24 (12.8)
Triple	2 (1.1)
Frequency of operated bones	
0	11 (5.9)
1	168 (89.4)
2	9 (4.8)

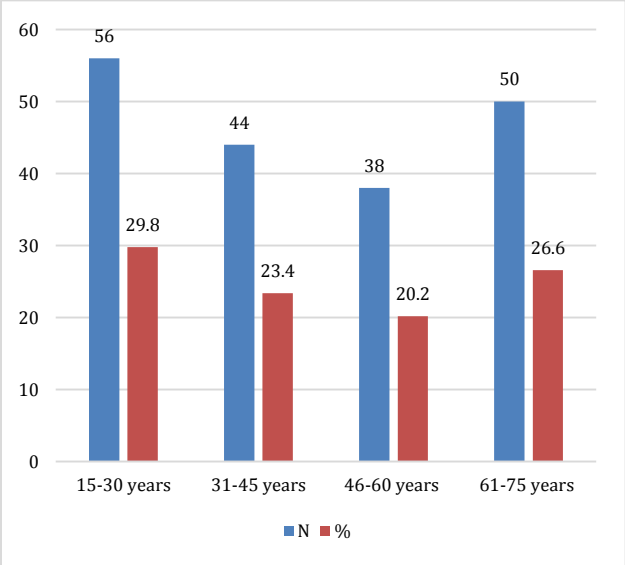

Figure-3: Age-wise distribution of orthopedic trauma patients

DISCUSSION

The present study mainly focused on the determination of prevalence of anxiety and depression among orthopedic trauma patients and found that incidence of anxiety and depression was lower before surgery but increased after orthopedic trauma surgery. The current study discovered that orthopedic trauma in the elderly frequently results in emotional disorders. Anxiety and depression levels in orthopedic trauma patients were low prior to surgery and increased afterward. Age, poverty, and gender, on the other hand, are all directly related to anxiety and depression. Surgery like orthopedic trauma surgery are complex and stressful directly causing psychological issues such as depression and anxiety before and after surgery among patients. In the case of orthopedic surgery, hospitalization for an extended period of time is a main aspect prior to surgery, while complications is another main aspect in anxiety and depression following surgery [16, 17].

In the present study, 188 orthopedic trauma patients were assessed for depression and anxiety before and after the surgery. The incidence of male and females were 60% and 40% respectively. The overall mean age was 46.82 ± 12.94 years. The female patients' mean age was 48.91±6.87 years showing that they are more susceptible to orthopedic trauma than male. According to a previous study [18], it was revealed that females are more likely to develop depression and anxiety after surgery than male patients. Another study by McCrabb et al [19] reported that depression and orthopedic trauma are mostly present in female's patients than male. Another study by Kumar et al. found that orthopedic trauma was present in 62.0% females, depression, and higher mean age than males [20]. Yang et al. found that 60.0% of males suffered from trauma, however females experienced more anxiety and depression [21].

Mostly orthopedic patients in the current study were due to road traffic accidents followed by fall on ground. Srahbzu M et al., reported similar causes by include 42.8% road accidents and 27.0% ground fall for orthopedic trauma [22]. It has been seen that majority of RTA cases involve younger age population due to their aggression, excitation, and concept of enjoying life with over speeding without considering the safety measures whereas osteoarthritis, or osteoporosis, arthritis causes older people's bones and joints to become stiff, weak, fragile, and painful.

On HADS score, the anxiety and depression before surgery was 4.12 and 5.21 and increased to 4.62 and 5.81 after surgery. Likewise, before surgery, the incidence of anxiety and depression was 12.7% and 18.2% respectively. The anxiety and depression prevalence increased to 16.4% from 12.7% and 23.6% from 18.2% respectively. A previous study conducted by Ngasa et al. found that anxiety and depression was 43.8% and 19% among orthopedic trauma patients which was higher than the present study findings [23]. Secinti et al reported that anxiety and depression were present in 34% and 50% orthopedic trauma patients [24]. Becini et al. discovered that 51.0% of patients were anxious before surgery and 15.7% were anxious afterward. The majority of studies [25] concentrated on anxiety and depression prior to surgery discharge. The difference in anxiety and depression studies was reported due to a variety of factors including economic status, level of satisfaction, health care facilities, and quality of life.

CONCLUSION

The present study found that orthopedic trauma in the elderly often leads to emotional disorders. Anxiety and depression levels were low before surgery and increased after surgery in orthopedic trauma patients. However, age, poverty, and gender are directly related to anxiety and depression. Patients with geriatric disorders should be monitored closely by clinicians.

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