Original Article

Impact of COVID Pandemic on the Mental Well-Being of Orthopaedic Patients – A Single Centre Study

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Abstract

Objective: To assess the frequency of psychiatric diseases in orthopaedic patients during the COVID-19 pandemic.

Materials and Methods: This study was conducted from 20th April 2020 to 20th September 2020 at the Department of Orthopaedics, Benazir Bhutto Hospital, Rawalpindi, Pakistan. Patients aged 18 years and above and belonging to either gender with Orthopaedic injuries were included. Gender, age, injury mechanism, associated trauma, site of the fracture, use of tobacco and mental health disorder was recorded.

Data were analyzed using SPSS version 23.

Results: The study included 210 patients with Orthopaedic injuries. The mean age of patients in the study was 40.45±12.54 years. Falls were the most common mechanism of injury (50.4%) followed by motorcycle accidents (22.8%) and motor vehicle accidents (16.7%). 70.47% of patients with Orthopaedic injuries were diagnosed with a mental health problem. There were notably higher rates of depression (33.1%) and anxiety (24.3%).

Conclusion: There was a high frequency of psychiatric illnesses in Orthopaedic patients during the COVID-19 pandemic.

Keywords: COVID-19, mental well-being, orthopaedic injuries, psychiatric illness.

Introduction

COVID-19 is the source of severe acute coronavirus respiratory syndrome, which has caused havoc across the globe (SARS-COV-2).[1] In Wuhan, China, this outbreak first occurred in 2019.[2] Coronavirus disease 2019 (COVID-19) was announced by the World Health Organisation (WHO) as a global health emergency on 30 January 2020.[3] Given SARS-high CoV-2's infectiveness, governments have implemented widespread transport constraints, quarantines and territorial shutdowns.[4]

The outbreak of this emerging respiratory virus has been linked to evidence that the general population has raised stress, depression, insomnia and terror.[5] Moreover, broad media attention, house arrests and unparalleled unemployment rates have only exacerbated social anxiety and fear. Existing findings show that people with mental illnesses are more stress-prone than the general population and that they may have increased symptoms during a crisis period.[6] About 20% of adults in the USA are affected by such psychiatric illnesses.[7] Trauma survivors are especially vulnerable, and over half of the patients who are treated in the US have underlying medical problems.[8]

The research has shown that psychological diseases have an impact on orthopaedic disorders and postoperative results.[9] To our understanding, there has been no local research assessing how orthopaedic injuries in a world pandemic are influenced by mental illness. The objective of this research was to assess the frequency of psychiatric diseases in orthopaedic patients during the COVID-19 pandemic.

Materials and Methods

Following acceptance by the Institute Review Board of the hospital, patients presenting with Orthopaedic injuries from 20th April 2020 to 20th September 2020, to the Department of Orthopaedics, Benazir Bhutto Hospital, Rawalpindi, Pakistan after taking an informed consent were made part of the study. Patients aged 18 years and above and belonging to either gender were included. Individuals not having an orthopaedic injury were left out of the study. Gender, age, injury mechanism, associated trauma, site of the fracture, use of tobacco and mental health disorder was recorded.

The frequency of the number of persons affected by the mental health disease was noted. Mental health diagnosis was identified based on the WHO International Classification of Diseases. Depression was defined as a persistent sense of depression and lack of motivation that prevents you from engaging in everyday activities. Anxiety was characterised as a state of fear, tension, or uneasiness caused by the expectation of risk, which may be internal or external. Post-traumatic stress disorder was taken as a psychological disorder that affected individuals who had undergone or endured a traumatic incident. Schizophrenia was defined as a severe psychiatric disorder that impaired a person's ability to perceive, feel, and act normally. Individuals suffering from schizophrenia seemed to have lost contact with nature. Bipolar disorder was taken as a psychiatric illness that manifests itself by irregular swings in attitude, motivation, activity rate, attention, and capacity to perform daily tasks.[7] In order to include a diagnosis, mental health or primary healthcare provider had given medication for this disorder to the patient. Injuries arising from blunt or penetrating assaults or other domestic abuse were also noted.

Categorical variables were represented as frequencies and percentages, while continuous variables were presented in the form of mean and standard deviation. Data were analyzed using SPSS version 23 and p-value < 0.05 was taken as significant.

Results

The study included 210 patients with Orthopaedic injuries. Age, gender, history of diabetes and tobacco smoking status were noted and their statistics are shown in Table 1.

Table 1: Demographic profile of patients

Characteristic		*Number of patients (n)*	*Percentage (%)*
Gender	Male	162	77.1%
	Female	48	22.9%
Smoker	Yes	74	35.2%
	No	136	64.8%
Diabetes mellitus	Yes	24	11.4%
	No	186	88.6%
Mental health diagnosis	Yes	148	70.5%
	No	62	29.5%

The mean age of patients in the study was 40.45±12.54 years. Falls were the most common mechanism of

injury (50.4%) followed by motorcycle accidents (22.8%) and motor vehicle accidents (16.7%). (Table 2)

Table 2: Mechanism of Injury

Mechanism of Injury	*Number of patients (n)*	*Percentage (%)*
Fall	106	50.4%
Motor cycle accidents	48	22.8%
Motor vehicle accidents	35	16.7%
Firearm injury	12	5.7%
Crush injury	3	1.4%
Pedestrian injury	5	2.3%
Non-accidental trauma	2	0.9%

70.47% patients with Orthopaedic injuries were diagnosed with a mental health problem. Mental health diagnoses in these patients consisted of anxiety, depression, post-traumatic stress disorder, opoid dependence, schizophrenia, alcohol dependence, bipolar disorder or a combination of these. Frequencies of specific diagnoses are listed in Table 3. There were notably higher rates of depression (33.1%) and anxiety (24.3%).

Table 3: Mental health diagnosis

Mental Health Diagnosis	*Number of patients (n)*	*Percentage (%)*
Depression	49	33.1%
Anxiety	36	24.3%
Post-traumatic stress disorder	14	9.4%
Opoid dependence	9	6.1%
Schizophrenia	5	3.37%
Alcohol dependence	4	2.7%
Bipolar disorder	8	5.4%
Multiple diagnosis	23	15.5%

Discussion

In orthopaedic trauma patients, the frequency of mental-health conditions during the 2020 COVID-19 pandemic was considerably higher (70.47%). The percentage of men with fractures was high (77.1%). Prior research has shown that the likelihood of among men compared to women, which may clarify this result.[10] The psychological effect of health problems like pandemics is deep. Many trials have shown the possible long-term detrimental physical and mental health effect of increased stress reaction during or after a crisis.[11] World media focus was paid to the spread of the Ebola virus in West Africa in 2014.[12] Like the COVID-19 pandemic, there is widespread terror, hysteria and social exclusion. Not only have people with the virus, but even members of the general population have been shown to have high levels of fear, depression, adaptation disorder and posttraumatic stress disorder. Consequently, psychosocial approaches as part of a potential break-up approach to clinical trauma connected with them were proposed by practitioners of mental well being during the epidemic.[13,14] Social isolation and quarantine may have led to psychological tension in the pandemic because it is important to decrease the transmission of the virus. Hwang et al. concluded that the inability to see loved ones, travel constraints, and lurking can all have a significant impact on loneliness.[15] Previous findings show that prolonged quarantine periods lead to poorer mental wellbeing effects with higher post-traumatic stress, avoidance and frustration levels. In addition, quarantine actions taken during the COVID-19 can often lead in the form of an escalated domestic attack to interpersonal abuse. The likelihood of family disputes and relationship violence could increase by forcing isolation, coupled with the mental and financial stresses of the pandemic.[16,17]

In the modern age, information consumption reaches electronic devices and ongoing social media connectivity through television networks. In periods of turmoil, the population is overwhelmingly dependent on the media for their information supply. However, over-reporting by the media has demonstrated that anxiety and fear are included. Holman et al. discovered that exposure to over 6 hours of bombing-related coverage has greater acute tension than the immediate exposure to the real bombings.[18] Many tests have found that repeated exposure to behavioural health issues persists for years after coverage. The anxiety, isolation and attention of the media around the COVID-19 pandemic could affect patients with underlying diagnoses of mental health. Enhanced stress in relation to the general public will lead to relapses or deterioration of mental health problems that already occur. The rigid exclusion instructions and travel limitations pose additional difficulties in developing and treating this at-risk group, sometimes also with drugs. In trauma patients, a mental disorder is more often seen, meaning that it may be a contributing factor for orthopaedic injuries, particularly through no pandemic has occurred.[19,20]

Our trial found that the frequency of orthopaedic trauma and mental illness was higher in the COVID-19 pandemic. In the patients, we also found depression

(33.1%) and anxiety (24.3%) to have a higher frequency among mental health illnesses. Our findings suggest that COVID-19 stress may increase the likelihood of these behaviours and, as a result, subsequent fractures in patients with mental health issues. Despite the limitation of being conducted at a single trauma centre, our research gives a novel and useful insight into the effects on orthopaedic trauma patients of the coronavirus pandemic of underlying psychological conditions. Increasing consideration of providers will increase care outside the orthopaedic conditions for people with psychiatric and social needs.

Conclusion

There was a high frequency of psychiatric illnesses in Orthopaedic patients during the COVID-19 pandemic.

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