ORIGINAL ARTICLE

POST TRAUMATIC STRESS DISORDER AS ONE OF EMERGING PSYCHIATRIC CONSEQUENCES OF COVID-19

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Submitted: November 28, 2022
Accepted: February 8, 2023

ABSTRACT

OBJECTIVE
This study aimed to assess the associated factors in the occurrence of post-traumatic stress disorder in patients recovered from COVID-19.

STUDY DESIGN
Cross-sectional study

PLACE AND DURATION OF THE STUDY
The study was conducted in the Medical OPD of DG Khan from August, 2021 to December, 2021.

SUBJECTS AND METHOD
120 PTSD patients were approached through a convenience sampling technique. PCL-5 scale was used to assess the severity of PTSD symptoms. SPSS-22 was used to analyse the data.

RESULTS
The severity of PTSD symptoms, in the patients re-experiencing symptoms were 31.7%, avoidance 30%, symptoms of negative alteration in cognition and mood were moderate 37.5% in most of the patients and hyperarousal was severe at 37.5%.

CONCLUSION
The findings confirm that PTSD symptoms were moderate to severe, including the re-experiencing, avoidance, alteration in mood and cognition and hyperarousal in most of the participants, who were exposed to COVID-19 symptoms. There should be some preventive measures and interventions to overcome and protect individuals from PTSD symptoms.

KEYWORDS
COVID-19, Post-traumatic Stress Disorder, Eyewitnessed

INTRODUCTION
In December 2019, an outbreak of the coronavirus disease (COVID-19) appeared in Wuhan, China, and quickly spread to other parts of the world. On March 11, 2020, the World Health Organization (WHO) declared this outbreak as a pandemic.[1]

COVID-19 pandemic severely gripped Pakistan after March 2020. Although the COVID-19 casualty rate is lower than that of SARS and Middle East respiratory syndrome, the highly infectious character of SARS-CoV-2 has been a crucial factor in the rising death toll of COVID-19 in the majority of countries.

Multiple studies have noted risk factors for COVID-19 progression, such as hypertension, ACE Inhibitor medication use, and neurological diseases. For instance, younger SARS-CoV-2 patients typically manifest milder respiratory symptoms than older patients. Significant alveolar destruction and progressive respiratory failure are likely to be present in elderly persons (60 years of age or older) with COVID-19 resulting in a 10% mortality rate. In people aged 50 years old or older, their death rate dramatically rose with age. Patients with COVID-19 alone have lower mortality rates than patients with Alzheimer's dementia.[1]

It has been identified that traumatic events can cause pervasive worry, tension, fear, and despair, which can result in a variety of mental symptoms. After suffering a catastrophic life event, people might develop post-traumatic stress disorder (PTSD), a condition in which the patient's feelings, memories, and thoughts from the trauma reoccur.[2] These can cause difficulties and limitations in their daily lives. According to a survey, there was a 31.8% frequency of PTSD among young adults in the United States between the ages of 18 and 30 during the COVID-19 outbreak.[3] Although SARS-CoV-2 patients are predicted to have a high prevalence of PTSD, very few research have focused on this crucial issue. Interpersonal conflict, a low socio-economic level, female sex, regular use of social media, and lack of resilience and social support are a few characteristics that have been shown to increase the chance of developing PTSD.[4]

PTSD symptoms were reported in 41(12.2%) COVID-19-positive in-patients during hospitalisation, according to one study. Many other studies found noteworthy post-traumatic stress symptoms in 42.1% and 96.2% 16 of COVID-19 hospitalised patients, respectively. An early assessment of post-traumatic stress symptoms during hospital stays may

reflect Acute Stress Reaction rather than PTSD. Even though pre-traumatic stress symptoms can be compared to post-traumatic stress symptoms, they are less severe and rarely require treatment.[5]

The COVID-19 pandemic could well be regarded as a traumatic event, because it put a great deal of psychological strain on the general populace in regards to their daily lives, work, and social interactions. Consequently, the goal of the current study was to ascertain the prevalence of PTSD among COVID-19 patients who received treatment.

SUBJECTS AND METHOD

Data were gathered from DHQ Teaching Hospital, Dera Ghazi Khan and Nishtar Hospital Multan, after the ethical approval was received from the Ethical Review Board, DHQ Teaching Hospital, Dera Ghazi Khan. The Ethics Committee informed consent was taken from the participants and were assured regarding privacy and confidentially. The duration of the study was three months (August 2021 to December 2021). The sample was selected by using purposive sampling techniques as PTSD cases after COVID were rare, and the research sample comprised 120 participants. Inclusion criteria for the study were the subjects as OPD cases diagnosed with covid-19 moderate-to-severe symptoms, both male and female with age range of 18-60 years. Patients who were screened for PTSD fulfilled the criteria for DSM-5 were included in the study. Patients with severe neurological conditions and other psychiatric and physical comorbidities were excluded.

PCL-5: PTSD symptoms presence and severity was assessed by using the Post-traumatic Stress Disorder Checklist-5 (PCL-5), 6consistent with the criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The PCL-5 is a self-reporting tool with 20 items scored on a five-point Likert scale, ranging from “Not at all” (0) to “Extremely” (4), resulting in a symptom severity score from 0 to 30. In the current study, PCL-5 used was in English because (80.7%) participants were educated and had the ability to understand the English language. For the remaining participants who did not understand the questions, the researchers filled the questionnaire for them as an interview.

SARS-CoV-2 diagnostic procedures: Real-Time PCR Testing Panel was used for diagnosis, which was further verified with the HRCT (high-resolution computerised tomography) severity index and necessary lab investigation, if required. HRCT attributes simplify the process of COVID-19 detection even in the early stages, and follow-up chest scans can also provide information on disease progression. It was compared with the previous studies related to HRCT severity of COVID patients and mentioned it in the discussion section.

Demographic Sheet: Demographic sheet was used to assess the information about the respondent's age, education, occupation, marital status, death of any family member due to covid-19, eye witness of death of any covid-19 patient and duration of hospitalisation.

Procedure: The present study was based on a cross-sectional research design and conducted in DHQ Teaching Hospital, Dera Ghazi Khan. The sample comprised 120 respondents who had recovered from the corona virus disease. The respondents were approached individually. In case the participant was not interested, he/she was permitted to leave the study. No breach of confidentiality was reassured, and any misconceptions were cleared.

All statistical analyses were conducted using IBM SPSS Statistics for Windows, version 22.0

RESULTS

Table 1

Demographic Characteristics of the Participants

Sociodemographic	Frequency(Percentage)	Sociodemographic	Frequency(Percentage)
Age		**Gender**	
18-30	40(33%)	Male	74 (61.7%)
31-45	51(42%)	Female	46 (38.3%)
46-60	29(24%)	**Family System**	
Marital Status		Joint	61(50.8%)
Married	60 (50.0%)	Nuclear	59 (49.2%)
Unmarried	60(50.0%)	**Occupation**	
Education		Student	24(20%)
Illiterate	--	House wife	16(13.33%)
Primary-Middle	6(5%)	Employee	36(30%)
Matric- Inter	17(14.1%)	Own Business	44(36.66%)
Graduation	50(41.6%)	**Vaccination Status**	
Post-Graduation	47(39.1%)	Vaccinated	84 (70%)
Any Medical illness		No Vaccinated	36(30%)
Yes	52 (43.3%)		
No	68(56.73%)		

Table 2

Different severity levels in PTSD Patients

PTSD	Not at all	A little bit	Moderately	Quite a bit	Extremely
	Frequency (Percentage)				
Re-experiencing	4(3.3%)	30(25%)	14(11.7%)	38(31.7%)	34(28.3%)
Avoidance	1(0.8%)	17(14.2%)	30(25%)	36(30%)	36(30%)
Negative alteration in cognition and mood	3(2.5%)	33(27.5%)	45(37.5%)	25(20.8%)	14(11.7%)
Hyper arousal	3(2.5%)	36(30%)	16(13.3%)	45(37.5%)	20(16.7%)
PTSD	6(4.2%)	16(14%)	31(25.3%)	29(24.1%)	38(32.4%)

Table3
Frequency of COVID-PCR in PTSD patients

COVID-PCR	Frequency (Percentage)
Positive	90 (80%)

Table 4
HRCT Severity in PTSD Patients

HRCT Severity	Frequency (Percentage)
Mild	36 (30%)
Moderate	45 (37%)
Severe	39 (32%)

Table 5
Treatment setting for Covid-19 in PTSD Patients

Treatment Setting	Frequency (Percentage)
Hospitalised	70 (60%)
Non-Hospitalised	50 (40%)

Table 6
Death of Family member due to COVID-19 in PTSD patients

Death of Family member	Frequency (Percentage)
Yes	28 (23.3%)
No	92 (76.7%)

Table 7
Ratio of eye witness of loved one's death in PTSD patients

Eye Witnessed	Frequency (Percentage)
Yes	70 (58.3%)
No	50 (41.7%)

Table 8
Mean, Standard deviation, t and p value on COVID-19 PCR among PTSD patients

Variable	COVID-19 PCR	N	M ± SD	t	p
PTSD	Positive	96	50.361 ± 8.12	6.46	.000
	Negative	24	24.58 ± 14.58		

Note. N=number of patients; M= mean; SD=standard deviation; df = 118 p< 0.05

Table 9
Mean, Standard deviation, t and p value on Death of family members among PTSD patients

Variable	Death of family members	N	M ± SD	t	p
PTSD	Yes	28	53.60 ± 19.13	2.56	.012
	No	92	42.65 ± 19.99		

Note. N=number of patients; M= mean; SD=standard deviation; df = 118 p< 0.05

Table 10
Mean, Standard deviation, t and p value on Eye witness of loved one's death among PTSD patients

Variable	Eye witness	N	M ± SD	t	p
PTSD	Yes	70	51.12 ± 17.49	4.02	.000
	No	50	36.92 ± 21.11		

Note. N=number of patients; M= mean; SD=standard deviation; df = 118 p< 0.05

DISCUSSION

The results showed the severity of PTSD symptoms, in the patients re-experiencing symptoms were quite a bit 31.7%, avoidance were extreme 30%, symptoms of negative alteration in cognition and mood were moderate 37.5% in most of the patients and hyperarousal was quite a bit severe 37.5% in most of the patients. Similar findings from a study also exhibit the prevalence of PTSD mild and severe symptoms after the COVID-19 epidemic outbreak was 53.2%. Mild PTSD symptoms accounted for 24.9%, and severe PTSD symptoms accounted for 28.3%.[7]another study is consistent with our findings and showed a high percentage of PTSD symptomatology (29.5%) was found in the representative population.[4]

COVID PCR was positive in 80% patients with PTSD, which was similar to a study which also explored the COVID-19 associated symptoms, such as depression, anxiety and post-traumatic symptoms after the acute phase of the disease in COVID-19 PCR positive patients.[8] The study showed that the Severity of HRCT was present in 30% (mild), in 37% (moderate) and in 32% (severe). Another study also supports our findings that the thorax HRCT severity scores were screened and it was found that nearly 46% of the participants scored moderately while presenting for COVID positive symptoms. In their participants, HRCT severity was mild in 25.4%,[9] moderate in 46.3% [10] and severe in 28.4%.[11]

In patients with PTSD out of which 60% were hospitalised and 40% took treatment for COVID-19 at home. Our findings coincide with another study that the prevalence of symptom-defined PTSD was 9.5% in hospitalised and 7.0% in non-hospitalised patients.[12-13] Our results showed that 23.3% PTSD patients experienced the death of their family member. Another study was consistent with our findings that approximately 26% of the hospitalised relatives died. PTSD symptoms were more common among bereaved family members of patients who died from Covid-19. [14] A study also exhibits that the 50.2% PTSD patients were experienced being an eyewitness to the death of their family members.[15]

Table 8 showed the symptoms of PTSD were severe in patients with positive PCR (50.361±8.12) as compared to those patients who were having negative COVID PCR (24.58±14.58) p<0.05. Table 9 showed the symptoms of PTSD were severe in those patients who exposed to death of their family members (53.60 ±19.13), as compared to those patients who did not experience death in the family (42.65 ±19.99) p<0.05. Table 10 showed the symptoms of PTSD was severe in those patients who were an eyewitness to death of their family members (51.12 ±17.49) as compared to those patients who were not eye witnessed to death in their family (36.92 ±21.11) p<0.05. In consistence with our findings, a study also showed significant differences in individuals who were eyewitness the death in their family as compared to those who were not witnessed in the Italian population.16-17These results are relevant from a clinical point of view because they suggest that the COVID-19 pandemic could be considered as a traumatic event.

CONCLUSION

It was concluded that the prevalence and occurrence of PTSD symptoms was severe in 32.4% patients, re-experiencing symptoms were quite a bit 31.7%, avoidance were extreme 30%, symptoms of negative alteration in cognition and mood were moderate 37.5% in most of the patients and hyperarousal was quite a bit severe 37.5% in most of the patients. Furthermore, symptoms of PTSD was severe in patients with positive PCR as compared to those patients who were having negative COVID-19 PCR. PTSD symptoms were also severe in those patients who experienced the death of their family members as compared to those patients who did not experienced death in the family. Similarly PTSD symptoms were more in those patients who had eye witness to death of their family members as compared to those patients who were not eye witnessed to death in their family. There should be psychological interventions to deal such psychopathological effects. Early interventions can be helpful to manage such mental illness after any disaster, such as psycho education on coping strategies, support groups could play important role in such individuals.

Limitation and Future Recommendations

The sample size was limited and a single study instrument was used.

For future studies, the sample size should be larger. Different instruments, such as anxiety or depression measures, may also be used to assess other aspects and risk factors to investigate PTSD symptoms.

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UNDERTAKING FORM

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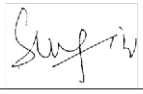
1	DrHafiz Shafique Ahmed	MBBS, FCPS(Psych) Assistant Professor Psychiatry Department of Psychiatry & Behavioral Sciences Nishtar Medical University Multan Email drhshafiq@ymail.com	Main script preparation, Supervision, Review of study, Final proof reading, Discussion	
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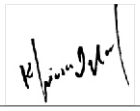
3	Khizra Iqbal	M.S.C, M.Phil Clinical Psychologist Department of Psychiatry & Behavioral Sciences, Nishtar Medical University, Multan Email: Khizraiqbal3@gmail.com	Method, Data collection, Data entry, Data analysis and Results, Drafting	
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