Post-Traumatic Stress Disorder (PTSD) in COVID Patients After Discharge from COVID-Intensive Care Unit (COVID-ICU) at a Tertiary Care Hospital

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Abstract

Objective: To evaluate the PTSD in patients who suffered from COVID 19, received treatment, and stayed at COVID ICU.

Method: Study was conducted in COVID-ICU SHL Lahore after 1st wave of COVID (May to August 2020). Among 100 sick Patients 60 discharged from the ICU and 34 participants were included in the study, who responded to our telephonic calls after 6-8 weeks of Discharge from ICU. Rest of the patients were excluded due to different reasons mainly wrong contact number/inadequate information by person interviewed. A Patient Health Questionnaire (PHQ- 9) was used to grade the symptoms of PTSD in the participants telephonically after taking informed consent. The PSDT was categorized into four categories as mild, moderate and severe categories.

Results: Forty-one %(n=14) patients had mild PSDT followed by 'moderate' 23%(n= 8) and minimal 20%(n=7). Fifteen out of 34 participants were of age 50-60 years. Highest PSDT was noted in short stayed patients.

Conclusion: High depression/PSDT in covid ICU discharged patient is alarming. All patients being discharged after covid should undergo depression screening and prescribe prompt treatment for mental health issues.

Keywords: TSD, post-traumatic stress disorder, mental health, COVID 19

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Introduction

COVID-19 Pandemic originated from China and spread out to more than 230 countries causing almost 800,000 deaths all over the world. Diseases remained a big health care burden with millions of ICU admissions and prolong hospital stay. Though mortality reduced over time, ICU stay and barriers affected the mental health of medical care staff.[1,2] ICU stay can be traumatic and complex, which can lead to extraordinary and tiresome physical, psychological, cognitive, and functional consequences for both patients and families.[3] Deep-rooted physical and psychological reverberations are seen influencing the standards of life when survivors of ICU treatment are called for long-term follow-up.[4]

Aggravating or new-onset dysfunction in physical, cognitive, or mental health after ICU medical care is known as post-intensive care syndrome (PICS). The PICS components, such as anxiety, depression, and post-traumatic stress disorder, are some major psychopathological conditions and are believed to occur in up to one-third of ICU survivors.[5] The precise clinical entity of posttraumatic stress disorder (PTSD) is developed due to a person's reaction to a disturbing incident affected by character traits, psychiatric pre-morbidity, gender, peri-traumatic dissociation, extended disability after a

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stressful event, deficient social support, and ineffective coping methods used by distressed individuals.[6,7]

This may also lead to depression and diminishing interest in practical life (especially social), and have substantial consequences on the quality of life.[8] A follow-up of 150 patients, who were admitted to ICU, was done for one year, which showed indefinite depressive symptoms related to an increasing rate of re-admissions in hospitals as well as to emergency sector visits.[9] Several factors are contributory for ICU anxiety, for example, respiratory inadequacy, pain with endotracheal tube placement, suctioning, the strain on the hypothalamic-pituitary-adrenal axis, release of inflammatory cytokines, administration of exogenous catecholamines, and inability to communicate.[10] COVID-ICU are sealed ICU with isolation, which means no physical contact with family is allowed. Moreover, Hazmat suits are used by doctors and paramedics, which also increase patient stress levels during ICU stay. We had 32 bedded well equipped ICU, centrally monitored by bedside monitors and overhead cameras for each patient. Dedicated ICU team including one consultant, 1 Pulmonology post graduate trainee (PGT) and one anesthesia PGT was present round the clock in ICU. We had 2:1 or 3:1 nurse to patient ratio. Every patient was managed according to treatment protocol designed by head of ICU after multidisciplinary input.

Material and Method

Covid ICU services hospital Lahore between May to August 2020. This is a Prospective Cohort Study. Among 100 sick patients admitted to this during Amy to end of August 2020, 60 patients were discharged. They were contacted by the phone numbers in the record and information were taken either directly from patients or the person directly taking care of patient. If the responding person wasn't involved in direct care he was excluded from study and labelled as non-responder. A total of 34 patients or care-givers responder and rest were non-responder due to multiple reasons like incorrect number, responder wasn't involved in direct care, death of patient. We used a shortened version of Patient Health Question-naire-9 (PHQ- 9) for depression with an additional question about daily work-related difficulties (make it 10 questions in total) to measure symptoms of post-traumatic stress disorder. This tool was used as it was translated in Urdu and validated tool to screen, rate and monitor depression in Pakistani population. Each question has 4-point scores from 0-4. All patients were called by phone and their answers were recorded after an informed consent; all questions were asked from the patients directly or a care giver directly looking after patient and the response was noted in a proforma. All data was noted along with demographics, patient's disease severity, and ICU stay. Data were analyzed by

Total Score	PTSD Severity
0-5	Minimal PSTD
6-10	Mild PSTD
11-16	Moderate PSTD
17-22	Moderately severe PSTD
23-30	Severe PSTD

SPSS 19.0. Severity was calculated as per PHQ-10 standard guidelines.

Results

Total of 34 patients were able to complete study and were included for data analysis. in the study, 17 males and 17 female patients. All were discharged home after variable ICU stay. Their age, length of ICU stays and comorbidities are tabulated in Table-1. Highest number

Table 1: *Age distribution, gender, ICU stay, co-morbidity and degree of hypoxia at presentation. NRM= non-rebreathing mask, NC= nasal canula, NIPPV=*

Age		n	Percen -tage
	Younger than 50 years old	14	41.%
	50 to 60 years old	15	44.%
	Older than 60 years old	5	14.7%
Gender			
	Male	17	50%
	Female	17	50%
Duration of Stay			
short	3-15 days	21	62%
intermediate	16-30 days	8	23%
Long	>30 days	5	15%
Co-Morbidities			
	DM	11	32
	HTN	15	44
	IHD		
	Chronic lung disease	5	14
Saturation on presentation			
	92-95% with 10-15L NRM	12	35%
	92-95% with NRM+ NC	15	44%
	88-92% with NIPPV	7	21%

of patients developed mild PTSD 41%(n=14) followed by moderate 23.5%(n=8) and minimal 20.6(n=7). There was direct correlation of duration of stay and severity of PTSD as 85%(18) of short stay has mild to moderate PTSD while 100% (n=5) among those who stayed longer had moderate to severe PSTD. Degree of hypoxia at presentation was a contributary factor but it was associated with prolong stay and it is difficult to assess which factor is more important. Comorbidities were diabetes and hypertension and both had almost same number and severity of PTSD.

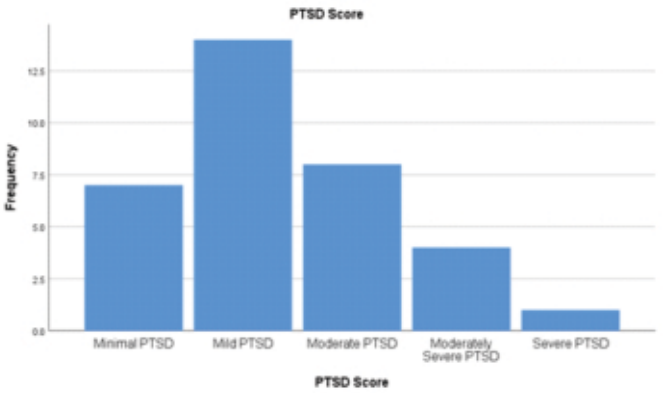

Fig 1: *Distribution of PTSG Severity among COVID Survivors.*

Discussion

This prospective cohort study is carried out on 34 COVID survivors, who were discharged after stay in the COVID ICU. In all the respondents, symptoms of PTSD were found on different severity levels. If we talk about the history of PTSD after being sick from a deadly disease, in 2003, an outbreak of SARS erupted in Hong Kong in which it was reported that the prevalence of PTSD was 5% in patients who were monitored for 3 months. But, when the observance window was increased, the PTSD had reached 25.6%.[1] The reason for this high rate could have been the fear of dying in the patients who had recovered, which is a similar case in the COVID outbreak since it spreads at a very high rate and its mortality rate is also very high.

In this study, the highest recorded PTSD severity was 'mild severity' which was presented by 14 participants. The second highest PTSD severity was 'moderate severity' which was presented by 8 participants. 15 out of 34 participants were of age 50-60 years. The highest PTSD that developed was during the short stay, after which 7 participants experienced mild PTSD symptoms. Presently, some studies and surveys are being conducted to figure out the prevalence of PTSD in COVID survivors. 603 people belonging to Tunisia were examined for after-discharge PTSD. It was noted that 33% of participants suffered from PTSD.[11] Similarly, 898 adults belonging to the USA were assessed for PTSD symptoms. The prevalence rate of PTSD in them was 31.8%.[12] 2286 people from Italy were diagnosed with PTSD, where the prevalence rate was 29.5%.[13] All of these studies had such participants who were diagnosed or who were not diagnosed with COVID 19. In our study, only those subjects were included who were diagnosed, treated, and discharged from the hospital. This study has small sample size and larger study is require to validate the results with different tools apart from PHQ-9

Conclusion

Generally, there is a risk of PTSD in COVID patients, particularly those who stayed in ICU even those who stayed for short duration. Counseling, psychological therapy and family support may minimize the risk.

Conflict of interest *None*

Funding Source *None*

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Authors Contribution

MH, AT: Conceptualization of Project
NN: Data Collection
AT: Literature Search
SM, AN: Statistical Analysis
SM: Drafting, Revision
AT, AN: Writing of Manuscript