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Original Article

Post-Traumatic Stress Disorder (PTSD) Among Healthcare Workers of Tertiary Care Hospitals of Rawalpindi; Amid the COVID-19 Pandemic

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ABSRACT

Objective: To determine the prevalence of PTSD symptoms and its severity among HCWs, amid the COVID pandemic in a tertiary care setting.

Study Design: Cross sectional analytic study.

Place and Duration of Study: Pakistan Emirates Military Hospital, Rawalpindi Pakistan, from May to Aug 22.

Methodology: The study was conducted on 173 healthcare workers of a tertiary care hospital. The sample size was calculated using the Rao-soft calculator. Validated questionnaires such as the Impact of Event Scale-Revised (IES-R) and PTSD Checklist Civilian Version (PCL-C) were used to collect the data. Data was entered and analyzed by using Statistical Package for Social Sciences (SPSS) version 26.

Results: Out of 173 participants, majority of participants 90(52%) were male and single 103(63%). Mean age of the participating HCWs was 27(SD= 2.3). HCWs performing duties the in COVID-19 ward for one year were 66(38.2%) and majority were from Emergency medicine 61(35.3). Almost 150(86.71%) of HCWs did not experiencing any PTSD symptoms and those exhibiting a higher severity of symptoms were only 5(2.9%). There was no statistically significant difference in total and sub scales mean scores of IES-R among males and females (p=0.28).

Conclusions: Our study concluded that prevalence of symptoms of PTSD was significantly low in Health Care Workers despite of the fact, majority of doctor participants were working in COVID-19 ward for one year. The symptoms were evident among healthcare professionals, however there was modest severity.

Keywords: Health care worker, Post traumatic stress disorder.

How to Cite This Article: *Mohsin S, Zahoor M, Mashhadi SF, Khan MA, Khalid T, Amanullah M, Khan S, Abbasi A, Khan S. Post-Traumatic Stress Disorder (PTSD) Among Healthcare Workers of Tertiary Care Hospitals of Rawalpindi; Amid the COVID-19 Pandemic. Pak Armed Forces Med J 2022; 72(Suppl-4): S698-702. DOI: https://doi.org/10.51253/pafmj.v72iSUPPL-4.9641*

INTRODUCTION

The COVID-19 Pandemic, has led to a high degree of mortality and morbidity in the general population.[1,2] Health Care Workers (HCW) have been particularly vulnerable and at risk of infection and even death since the start of the pandemic.[3] Studies indicated that each successive wave of the pandemic augmented the psychological strain on HCW that manifested as insomnia, anxiety, PTSD symptoms, depressive tendencies, and exhaustion.[4] A study conducted in the Hubei province of China found that nearly all HCWs, who worked in high-risk areas, were vulnerable to anxiety, depression and a higher use of sleep medications.[5] Evidence indicated the higher frequency of PTSD among doctors and paramedics who served as the frontline workers.[6] A study conducted in Wuhan, China among among the 42,600 reserve medics displayed significant levels of stress symptoms (35.6%), anxiety (46.7%), and depression (16%) Almost a quarter of these participant (31.6%) had clinically significant PTSD symptoms.[7] In another research conducted in Tongji Medical College, China it was concluded that one-fifth of the HCWs who survived the COVID-19 outbreak developed PTSD six months later.[8] This is especially important for those care providers who have medical conditions, a history of mental illness, and inadequate social support.[9] The risk factors of developing PTSD in a study conducted in Italy, revealed exposure level, operational role, years of experience, professional and social support, job organization, containment, age, gender and marital status.[10] Despite the widespread psychosocial and mental health effects, the majority of HCWs rarely seek or receive comprehensive mental health therapy,[11] Research indicates that Periodic PTSD screening, increased social support, psychotherapy and psycho-pharmacological treatment should be a part of comprehensive mental health therapy for vulnerable population such as HCWs.[5,12]

In Pakistan frontline healthcare workers (HCWs) have experienced both physical and psychological effect of the pandemic due to high risk of infection, inadequate protective gear, isolation, and a lack of

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contact with family members.[13] HCWs have also been exposed due to the inadequate infrastructure and lack of resources, which has compromised their mental health and increased the psychological strain. However, there are few studies available in Pakistan regarding the psychological impact of COVID-19 among frontline HCWs.[11] The current study aims to ascertain the prevalence of PTSD symptoms and its severity among HCWs working in tertiary hospital settings.

METHODOLOGY

A cross-sectional analytical study was conducted in a tertiary care setting (Pakistan Emirates Military Hospital), Rawalpindi Pakistan between 31st May and August 2022. Using Rao Soft's sample size calculator, with a 5% margin of error and a 95% degree of confidence and the anticipated prevalence of PTSD was 13%.[14] the sample size determined was 180. A purposive sampling strategy was used.

Inclusion Criteria: Included all cadres of doctors in the setting, with a minimum exposure of 01 month in the COVID ward.

Exclusion Criteria: Doctors without a viable internet connection and exposure of more than 01 month and a response time of > 01 week were excluded.

Data was collected on Google forms after informed consent was taken. All participants provided their demographic information (age, sex, ethnic group, educational background, and classification of their medical profession) and completed a series of questionnaires, including Impact of Event Scale Revised (IES-R)(Cronbach's α=0.75) and PTSD Check-list Civilian Version (PCL-C)(Cronbach's α=0.96).[15,16] The IES-R scale has 22 items and is divided into three subscales: avoidance, hyper arousal, and intrusiveness. The range of the scale is 0 to 88. An IESR score of greater than 33 indicates the presence of PTSD symptoms. A standardized self-report rating scale the PCL-C has 17 items and is used to measure the main symptoms of PTSD. We used PCL-C as it applies to any traumatic event. Data was entered and analysed by using Statistical Package for the Social Sciences (SPSS) version 26. Continuous data was transformed to categories. Descriptive analysis was applied to determine the frequencies and percentages of categorical and mean and standard deviation of continuous variable.

RESULTS

In our study 173 HCWs out of 180 respondents were considered for analysis, due to missing items value, the response rate was 96%. Demographic information of respondents showed in Table-I. Majority of participants 90(52%) were male and single 103(63%). Mean age of the participating HCWs was 27(SD=2.3). Sample comprised of 93(53.8%) MBBS doctors, mostly having no children 139(83.35%) and 108(62.4%) doctors were with 2 to 3 years of working experience. HCWs working in COVID-19 ward for one year were 66 (38.2%) followed by 57(32.9%) participants who worked for 6 months.

Table-I: Demographic Information of Respondents

Variable	Frequency (%)
Age	
24 to 27 years	119(68.8)
> 27 years	54(31.2)
Gender	
Male	90(52)
Female	83(48)
Marital Status	
Single	103(63)
Married	61(35.3)
Separated/ Divorced	9(1.7)
Number of children	
No	139(83.3)
One	29(16.8)
Two	5(2.9)
Years of working	
2 to3 years	108(62.4)
4 to 5 years	57(32.9)
> 5 years	8(4.6)
Qualification	
MBBS	93(53.8)
FCPS	80(46.2)
Duration in Covid 19 Ward	
1 year	66(38.2)
6 months	57(32.9)
4 months	50(28.9)

Figure-1 showed the majority of participating HCWs were from Emergency medicine 61(35.3), followed by Pediatrics Medicine 36(20.81%) & General Surgery 34 (19.65%) respectively.

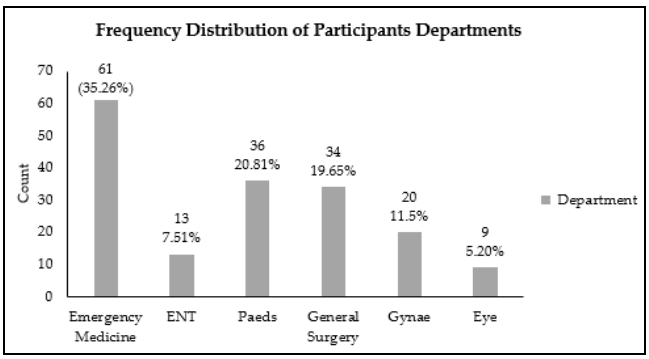

Figure-1: Frequency Distribution of Participants Departments

Prevalence of PTSD symptoms among HCWs contributing in current study showed (Figure-2) that majority 150(86.71%) of them were not experiencing any symptoms of PTSD despite continuously working in tertiary care hospital during COVID-19 period. However only 23(13.29%) exhibited PTSD symptoms assessed by IES-R Scale.

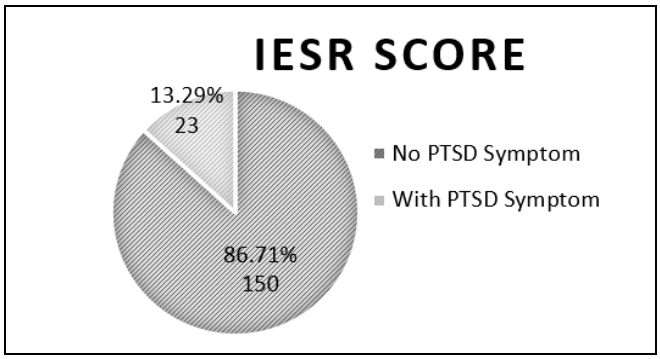

Figure-2: PTSD Symptoms (IES-R Scale)

Health Care Workers exhibiting a higher severity of symptoms were only 5(2.9%) of the total observed HCWs. Total 18(10.4%) and 150(86.7%) HCWs were having moderate severity and little or no severity respectively as evident from Figure-3.

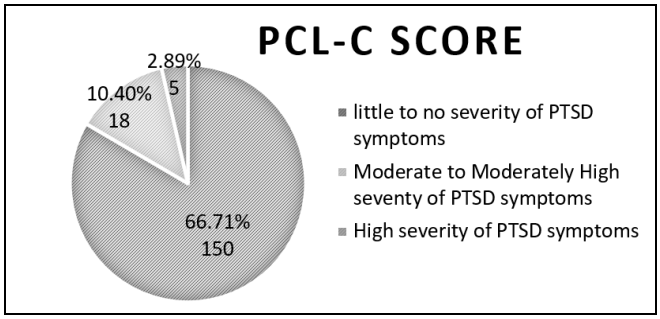

Figure-3 Severity of PTSD Symptoms (PCL-Civilian Scale)

There was no statistically significant difference in total and sub scales mean scores of IES-R among males and females as shown in Table-II (p=0.28). However, the intrusion scores were significantly different between gender categories (t=1.255, p=0.01).

DISCUSSION

Posttraumatic stress disorder (PTSD), a prevalent psychological effect of significant disasters and pandemics, has emerged as a significant mental health concern for the general public, COVID-19 patients, and healthcare professionals.[17] To our knowledge it was the first study ascertain the prevalence of PTSD symptoms and its severity among HCWs working in tertiary hospital settings in Pakistan.

In our current and study, only 23(13.29%) exhibited PTSD symptoms assessed by IES-R Scale. However almost a quarter (16.7%) of the HCWs in Greece,[18] and 32.2% in Italy,[19] met the requirements for a possible PTSD diagnosis. In a study conducted in Ottawa, Canada, the prevalence of PTSD to be 21.94 percent.[20] This disparity may be due to the fact that Frontline HCWs in China and western countries were overburdened by the care of COVID-19 patients and exhibited much higher rates of potential PTSD, at 19.6%.[21]

In our current study, Health Care Workers exhibiting a higher severity of symptoms were only 5(2.9 %) of the total observed HCWs. Despite the fact that all of these workers had higher degree of exposure to the COVID patients nonetheless displayed low prevalence and severity of PTSD symptoms. Contrary to our findings one research showed the PCL-C scores the respondents indicated moderate or severe symptoms of PTSD.[22] Another study releveled that most often seen outcomes were clinically significant severity of post-traumatic stress symptoms (PTSS), with a frequency estimate of 23.4% in the acute phase.[17] However, these findings ascertain that in comparison to the general public HCWs might be more trauma-tized during the pandemic; therefore, it might be harder and take longer for them to recover from PTSD.

There was no statistically significant difference in total mean scores of IES-R among males and females (p value=0.281). One study reported opposite finding done in Turkey ,showing significant difference in the mean scores of women's total IES-R were higher than men.[23]

Table-II: Comparisons of the IES-R scores among Socio Demographic Variables

Socio Demographic Variables									
Continuous variables	Gender			Age			Qualification		
	Male n=90	Female n=83	p-value	<27y n=119	>27y n=54	p-value	MBBS n=93	FCPS n= 80	p-value
Total IES-R Scores	20.31±7.2	19.14±6.8	0.28	19±6.7	20±7.6	0.15	19.4±6.7	20.1±7.4	0.49
Hyperarousal	5.8±2.3	5.3±2.2	0.26	5.5±2.4	6±2.5	0.16	5.5±2.2	5.7±2.4	0.54
Intrusion	6.7±2.27	6.3±2.1	0.01*	6.4±2.2	6.9±2.3	0.22	6.5±2.2	6.6±2.2	0.81
Avoidance	7.7±3.1	7.4±2.9	0.45	7.3±2.7	8.1±3.4	0.13	7.4±2.8	7.8±3.4	0.34

**The p value of ≤ 0.05 was considered statistically significant*

This study sub scales mean scores of IES-R among males and females, the intrusion scores were significantly different between gender categories (t=1.255, p=0.01). in one study Zhang compare mean scores of IES-R subscales with non-clinical and clinical HCWs (opposite to our study) reported that the differences between avoidance (p=0.630), hyperarousal (p=0.543) and intrusion (p= 0.672) were not significant across occupational groups.[14] Such findings provide preliminary evidence that despite the low frequency of PTSD in our population measures should be adopted to concentrate on efficient ways screen for HCW having an increased exposure to COVID-19. Health Care authorities should provide support for creating and implementing health promotion and educational programmes to aid HCWs in battling post-traumatic stress disorder (PTSD).

ACKNOWLEDGEMENT

The student authors would like to thanks, supervisor Lt. Col. Shamaila Mohsin and Co Supervisor Dr. Mamoona Zahoor for their support, guidance and encouragement throughout the study.

LIMITATION OF STUDY

This was a single centre-based study with a small sample size; therefore, lack of appropriateness for generalization of results. Questions relates to PTSD symptoms during the past one month, recall bias is unavoidable.

CONCLUSION

Our study concluded that prevalence of symptoms of PTSD was significantly low in Health Care Workers despite of the fact, majority of doctor participants were working in COVID-19 ward for one year. The symptoms were evident among healthcare professionals, however there was modest severity.

Conflict of Interest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

SM: Supervision, Conception, Study design, analysis and Interperitation of data, Critically reviewed manuscript & approval for the final version to be published.

MZ: Co-supervision, Data entry, analysis and interpretation, manuscript writing & approval for the final version to be published.

SFM: Critically reviewed, Drafted manuscript & approval for the final version to be published.

MAK:, TK: Data colllection, Entry and analysis of data, preparation of rough draft & approval for the final version to be published.

MA:, SK:, AA:, SK: Data collection and entry & approval for the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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