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Background: Experience from previous coronavirus outbreaks had shown that infected patients are at risk for developing psychiatric disorders, such as mood and sleep disturbances. Similarly, accumulating evidence suggests that patients with COVID-19 infection experience an excess of adverse psychological outcomes and neuropsychiatric complications [1,2]. The aim of this study was to investigate the impact of COVID-19 infection and hospitalization on the mental health, quality of life, and sleep of patients following hospital discharge.

Methods: Patients were assessed during follow up visits in the outpatient clinic 1-2 months after hospital discharge from a large Covid-19 reference hospital in Athens, Greece (from May 8th 2020 till February 4th 2021) using validated screening tools for Depression and Anxiety (HADS), post-traumatic stress disorder (IES-R), sleeping difficulties (Athens Insomnia Scale, AIS), and Quality of Life (EQ-5D-5L). Sociodemographic information, smoking history, comorbidities and severity of disease (hospitalization, ICU) were also collected.

Results: A total of 131 eligible patients who provided informed consent were included. Overall, Covid-19 patients experienced considerable levels of mental health symptoms following hospital discharge. Moreover, rates were significantly higher for female compared to male patients despite having shorter duration of hospitalizations (14.89 vs 18.82 bed days) and/or ICU admissions (13.51 vs 14.92). This finding was consistent across all recorded psychological outcomes i.e. depression ($p=0.004$), anxiety ($p=0.017$), traumatic stress ($p<0.001$), fear ($p<0.001$) and insomnia ($p=0.002$). In addition, differences in prevalence rates between genders were particularly marked for moderate levels of depression and traumatic stress and for severe levels of anxiety.

Smoking and comorbidities were not found to significantly correlate with the presence of affective symptoms or sleep dysfunction. However, an association was observed between severity and the existence of comorbidity with the proportion of patients with comorbidities increasing from 67.5% of the patients with minimal depression to 91.43% to those with mild and 80% with moderate depression ($p\text{-value}=0.018$). Finally, quality of life was worse for patients that have had an admission in the ICU (EQ-5D-5L: 15.82 ± 5.27) compared to those who were hospitalized but did not require ICU treatment (EQ-5D-5L: 8.39 ± 2.81) ($p\text{-value}<0.001$).

Conclusion: COVID-19 disease can have a significant psychological impact on hospitalized patients and particularly women despite the relative less severe course of their illness. This finding is in line with a previous study, showing that, despite significantly lower levels of baseline inflammatory markers, female patients suffered more for both anxiety and depression at one-month follow-up following hospital admission (3). Regardless of potential sex differences, the prevalence of moderate and severe mental illness symptoms in COVID-19 patients may be higher compared with the general population or other high risk groups such as different patient groups or healthcare workers [2-4]. Our results highlight the need for appropriate interventions to promote physical and mental wellbeing of COVID-19 survivors and cater for long-term needs.

No conflict of interest

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Acute peritraumatic distress predicts post-traumatic stress disorder at 6 months in patients with bipolar disorder followed during the COVID-19 pandemic

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Background: Patients with Bipolar Disorder (BD) are highly vulnerable to stressful events and can experience a wide range of symptoms and emotions in the immediate aftermath of exposure, leading to a later onset of Post-traumatic stress disorder (PTSD) [1]. Peritraumatic Distress (PD) encompasses several negative physiological, emotional, and cognitive responses that occur immediately after the event, such as: a sense of personal life threat; feelings of fear helplessness and horror; guilt, shame and anger; loss of bowel and bladder control; shaking, trembling, and increased heart rate [2,3]. Increasing studies highlighted that PD may predict the development of PTSD symptoms in subjects exposed to potential traumatic events [4]. However, scant data are still available about the effects of the COVID-19 pandemic on the clinical course of BD [5].

Objective: The aim of this study was to investigate PD symptoms related to the COVID-19 emergency in a sample of patients with BD in euthymic phase at the time of the acute phase of the pandemic and their possible correlation with PTSD symptoms emerged within a 6-month follow-up.

Methods: Ninety-two patients with BD were enrolled at the Psychiatric Clinic of the University of Pisa (Italy) during the first wave of the COVID-19 pandemic in Italy and assessed at baseline (T0) by means of the Impact Event Scale - revised (IES-R), to explore PTSD symptoms, and the Peritraumatic Distress Inventory (PDI), to investigate PD; the IER-R was submitted again after a 6-month (T1) follow-up. Com-

parative analyses were performed using Student's t-test for parametric variables. In the case of comparison of categorical variables, chi-squared test was utilized. A logistic regression model was used to identify the factors associated with the development of PTSD at T1.

Results: Thirteen (14.1%) patients with BD reported PTSD symptoms (IES-R score ≥ 24) after a 6-month follow-up. Subjects with PTSD at T1 were more represented by females (92.3% vs. 58.2%, $p=0.040$) and reported higher IES-R (26.4 ± 14.5 vs. 16.2 ± 12.2 , $p=0.008$) and PDI (18.8 ± 9.4 vs. 11.2 ± 7.0 , $p=0.001$) total scores at T0 than subjects without PTSD. Finally, a logistic regression model showed as PDI total scores at T0 was the only factor positively associated to the PTSD development at T1 [$b=0.119$ ($SE=0.056$), $p=0.033$].

Conclusions: COVID-19 pandemic represents a traumatic experience for individuals exposed to contagion, isolation or social-distancing measures and the death of a loved one. Our findings suggest that PD related to the acute phase of COVID-19 outbreak could lead patients with a severe psychiatric disorder, such as BD, to be more prone to develop PTSD. Detecting symptomatological post-traumatic stress trajectories by means of clinical longitudinal assessments (including the impact of subjective experience on trauma psychopathology) will be useful for the investigation of possible predictive factors of unfavourable outcome after a traumatic event in BD.

No conflict of interest

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Does pain that does not kill people make them stronger?: Six-month follow-up of healthcare workers during the COVID-19 pandemic

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Introduction: COVID-19 pandemic has a significant impact on the mental health and well-being of healthcare workers (HCW). Although compelling life events may cause psychiatric disorders, sometimes they may end up with positive changes like post-traumatic growth.

Aims: We aimed to evaluate HCWs' traumatic stress, anxiety, and depression levels, as well as post-traumatic growth levels in the stressful period of the pandemic. Besides we intend to determine the changes of these variables during the pandemic process.

Methods: We took the first measurements between May 2020 and July 2020, the second measurements between November 2020 and January 2021. We used sociodemographic data form, Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Impact of Events Scale-Revised (IES-R), Post-traumatic Growth Inventory (PTGI) for data collection. Statistical analyses were performed using the statistical program for social sciences SPSS version 23. Measures of skewness and kurtosis were used to assess the normality of the data. Since the data showed a normal distribution, we used paired sample T-test to compare the baseline and six-month follow-up of the measurement tools.

Results: 66 health care workers (HCW) were recruited in this study. 42 (%63.6) HCWs were female, 42 (%63.6) of them were frontline HCWs, 40 (%60.6) participants were married. The mean age was 33.51 ± 9.33 , the median value of working years was 8 (4-17). While 16 (24.2 %) HCWs reported major depressive symptoms during the first study, this prevalence increased to 22 (33.3%) after six-month measurement. 15 (22.8%) HCWs reported generalized anxiety symptoms in the first measurement, this trend remained the same, 15 (22.8%), in the second measurement. When the traumatic stress symptoms were examined, 19 (28.8%) HCWs stated that severe level of distress in the first measurement, this prevalence elevated to 20 (30.3%) in the follow-up measurement. 22(33,3 %) HCW reported moderate and high levels of PTG during the first measurement, 18 (27,3%) HCW reported moderate and high levels of PTGI.

There was no significant difference between the baseline depression scores and six-month follow-up ($p > 0.05$). Similarly, non-significant differences were found between baseline and six-month follow-up measurements for anxiety and traumatic stress scores ($p > 0.05$). As we compared PTGI scores of HCWs in the first and second measurements, a statistically significant difference occurred ($p=0.023$). PTGI scores of the participants significantly decreased over time. Although the change in depression and distress scores of the participants in the first and second measurements was not