

INTERNATIONAL CONFERENCE ON NEUROSCIENCE AND MENTAL DISORDER

JUNE 29-30, 2023 | (Mercure Roma West Rome, Italy)



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Impact of COVID-19 on the mental health of hospital workers and high-risk cardiac patients

Introduction: The prevalence of post-traumatic stress disorder (PTSD) among healthcare workers during the Covid-19 pandemic is reported as 13.5%. Risk perception, occupation group and gender were identified to be relevant to mental health symptoms. In patients suffering from COVID-19, the prevalence of PTSD varies greatly and depends on previous illnesses, medical care, age and gender.

Methods: For the first study arm, N = 78 hospital employees from the field of cardiology were included in the study. Of these, n = 40 had direct contact with those affected with COVID-19 (51%); n = 8 had contact with patients with suspected COVID-19 (10%) and n = 30 had no direct contact (39%). In the second study arm, N = 60 hospitalized high-risk patients with suspected COVID-19 were examined and the confirmed cases (n=19; 32%) were compared with the unconfirmed cases. At this stage, patients and treating medical staff were not aware of their COVID-19 infection status, which resulted in a double-blinded design of the study. The data collection took place between March and May, 2020. During the 2nd to 5th COVID wave, a further 153 risk patients were included according to the procedure described.

Results: In the first study arm, multinomial regression analyses showed that proximity had a negative (inverse) influence on avoidance behaviour as part of PTSD, physical symptoms, compulsiveness, paranoid ideation and anger expression-in as tendency to suppress anger [4]. In addition, female hospital workers had higher scores on several anger scales [2]. In the second study arm, the prevalence of PTSD in the at risk patients was 37.9% [95% confidence interval (CI) 35.5-40.3] in the first Covid wave [3] and 31.4%[95% CI 23.9-38.9] in waves 2-5 [5]. Trait anger was identified as a risk factor, which explains up to 25% of the variance of PTSD [4]. There was a significant correlation ($r = 0.35$; $p = 0.019$) between the diagnosis of COVID-19 and stress of the PHQ stress module. In a subsequent chi-squared test with the dichotomized values, there was a significant difference between the groups: $\chi^2 (1, N = 50) = 5.56$; $p = 0.018$ with more patients with COVID-19 in the high general stress group [3].

Discussion: The results suggesting that the medical staff are less psychologically stressed when working closer to patients with COVID-19 are inconsistent with previous studies [e.g. 1]. This is attributed to the locus of control (LoC) that good protection against infection is possible in contact with patients. The more frequent double burden of work and family among female employees could explain the gender-specific differences in anger. In the second part of the study, patients at risk with suspected COVID-19 showed an unexpectedly high prevalence rate of 38% for probable post-traumatic stress disorders. Even the life-threatening pre-diagnoses represent a medical trauma. The additional occurrence of COVID-19 with a very poor medical prognosis is considered to be the cause of this high rate. The small number of participants limits the results. An ongoing, large-scale confirmatory longitudinal study is investigating whether the results can be replicated.

Conclusions: The LOC of employees can be positively influenced by the employer. Protective measures within the facilities and their transparent communication by management are of crucial importance. Routine examinations or psychological counseling are strongly recommended for high-risk patients so as not to overlook mental disorders. By continuing the scientific psychocardiological collaboration, knowledge is to be gathered in order to further optimize the treatment.