

PSYCHOSOCIAL RISK FACTORS AT WORK IN PHYSICIAN ASSISTANTS DURING A WAVE OF THE COVID-19 PANDEMIC

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Abstract

The aim of the study was to determine the most important occupational psychosocial risk factors for mental health in physician assistants and paramedics during the pandemic of COVID-19. The survey was conducted using 29 questions on psychosocial risks related to the organization of work and anti-epidemic measures, interpersonal relations at work, professional and personal characteristics. For assessment of mental health disorders the self-report scale DASS-21 was used, with 21 items on symptoms of depression, anxiety and stress. The survey was conducted in October 2022 with a total of 68 physician assistants and paramedics from inpatient, outpatient and emergency medical care. Psychosocial factors with the greatest risk frequency were "absence of adequate additional training in epidemic conditions", "uncertainty in the anti-epidemic measures applied", and "change of workplace, work tasks and organization of work without asking the opinion of workers". At a significant frequency of risk were also worries about patients' life and health, personal, and family members' life and health. The last two factors correlated with the severity of depression, anxiety and stress. Looking at the interpersonal relations at work, the most problematic were "absence of recognition and encouragement for a job well done" and "inability to freely discuss problems and make decisions in the work team". Professional psychosocial risk factors with the highest frequency were "insufficient professional experience with infectious patients", "very high workload during the wave of COVID-19" and "lack of job satisfaction". These three factors correlated significantly with levels of depression, anxiety and stress.

Key words: *psychosocial risks at work, physician assistants, COVID-19, mental health.*

Introduction

A novel coronavirus named SARS-CoV2 emerging from Wuhan, China, has led to a fast spreading outbreak of COVID-19 pneumonia. The World Health Organization has declared COVID-19 a public health emergency of international concern [1]. Major epidemic outbreaks pose increasing demands on healthcare workers [2]. Constant increase of infected cases, a rise in death rates, lack of any specific medicine or vaccine, extensive media coverage, massive workload, deficiency of personal protective equipment, and feelings of inadequate support all contributed to the mental burden of healthcare workers [3]. In these situations, it was expected of health care staff to work long hours while they are under overwhelming pressure. They are at a risk of being infected while treating ill patients. On the other hand, similar to other individuals, they are exposed to a considerable amount of fake news and rumors, all of which considerably increase their anxiety [4]. Reports indicated that several healthcare workers (HCWs) became infected with SARS-CoV-2 while they were in close contact with infected patients [5]. In the initial phase of the SARS-CoV-2 outbreak, 29% of all hospitalized patients were HCWs [6]. Working in these situations leads to a risk of various psychological and mental disorders, as well as physical and emotional distress among medical staff [3, 5]. Given the insights acquired from the previous global outbreaks and their psychosocial impact, assessing the medical staff's mental health and considering appropriate psychological interventions is vital [11, 12].

Accordingly, considering comprehensive and practical actions to protect healthcare workers' mental health is critical [13].

The aim of this study was to determine the occupational psychosocial risk factors most important for mental health in physician assistants and paramedics during the pandemic of COVID-19.

Material and methods

The survey was conducted using a questionnaire with 29 questions concerning psychosocial risk factors in the workplace related to the organization of work and anti-epidemic measures applied, interpersonal relations at work, professional and personal characteristics. A validated self-report scale (DASS-21) was used to determine manifestations of depression, anxiety, and stress. Both groups of questions have a four-point scale of answers, rated positively or negatively depending on the questions. A total of 68 physician assistants from inpatient, outpatient and emergency medical care in ten settlements were interviewed. Respondents were guaranteed anonymity and issued informed consent to participate in the survey. The survey was conducted during a wave of COVID-19 in October 2022. The results were analyzed by IBM SPSS Statistics 19. The relative shares of answers for each of the questions have been determined. A correlation between answers to each question and the levels of depression, anxiety, and stress was sought using nonparametric Spearman correlation analysis. Besides Spearman's rho (ρ) coefficient and the significance level (p), a coefficient of determination (D) was also calculated. This coefficient determines the relative proportion of changes in the dependent variable (depression, anxiety or stress) that is due to changes in the independent variable (each of the psychosocial questions). The coefficient of determination expresses the degree of each psychosocial risk factor's impact on the manifestations of depression, anxiety and stress.

Results and discussion

The organizational psychosocial factors with the greatest risk frequency were "absence of adequate additional training for work in epidemic conditions", "uncertainty in the anti-epidemic measures applied", and "change of workplace, work duties and work organization without asking the opinion of the workers". When asked about additional adequate training in an epidemic situation, 60% of respondents denied receiving such (Figure 1). Half of the workers did not have a sense of security in the workplace safety and health measures during the pandemic. This uncertainty and the lack of sufficient training to achieve safe behavior in the workplace and adequate medical care give rise to significant psychological pressure. The aforementioned psychosocial risks could be the reason why a very large proportion of workers often or constantly worry about their own health and safety (44%), the health of their relatives (38%) and the health of patients (44%) – Figure 2. "Worry for the personal health" correlated significantly with manifestations of depression ($\rho=0.480$; $p<0.001$), anxiety ($\rho=0.479$; $p<0.001$) and stress ($\rho=0.395$; $p=0.001$). A significant correlation was also found between "worry for the health of relatives" and level of depression. "Worry for the personal health" was the reason for 23% of depression cases and 23% of anxiety cases. "Worry for the health of relatives" affects 16.5% of depression and 17.6% of anxiety cases. This indicates the need for personal or group interventions to control emotions and overcome anxiety and depression caused by the risk of infection and severe sickness. Providing more knowledge on risk reduction, safety training and adequate treatment, supported by clear and precise protocols and procedures, would give a greater sense of security to medical workers and reduce the risk to their mental health.

Another problematic risk factor was insufficient involvement of the staff in decision-making regarding workplace, work tasks and work organisation needed to treat the overwhelming number of COVID patients. Regarding change of workplace, 49% of the physician assistants replied that they

were only occasionally asked for opinion, and 29% were never asked (Figure 1). Although no significant correlation was found between responses to this question and mental health disorders, the problem's existence was confirmed by the negative answers to two other questions related to interpersonal relations in the work teams. Figure 3 shows that 47% of respondents cannot speak openly and calmly about problems in the work teams, and 42% participate in decision-making only occasionally or never. These results show the need for training for healthcare managers and work teams to build better communication, trust, collegiality, understanding and support between workers, and not only during a pandemic.

Another interpersonal relations issue was the lack of or insufficient recognition and encouragement for a job well done. Of the physician assistants surveyed, 41% replied that they only occasionally received recognition and felt appreciated, and 13% denied ever receiving recognition (Figure 3). A change is needed in the management of healthcare, such as overcoming the too strict hierarchical relationships and motivating the team by showing recognition and support in difficult situations. Although to a lesser extent, harassment in the workplace also present as a risk. 25% of the respondents believed that they themselves or some of their colleagues were often subjected to harassment, and 10% answered that it happened all the time. Additionally, harassment in the workplace correlated significantly with depression ($\rho=0.275$; $p=0.023$) and anxiety ($\rho=0.234$; $p=0.055$). Responses were similar for "fear of aggression from third parties – patients and their relatives". 24% of the surveyed workers frequently and 12% consistently experienced such fear, which also correlated significantly with depression ($\rho=0.441$; $p<0.001$), anxiety ($\rho=0.387$; $p=0.001$) and stress ($\rho=0.247$; $p=0.042$). A positive fact is that 72% of respondents trusted their colleagues and could count on their support in case of difficulties. This is a good foundation on which, with the help of psychologists, a healthy psychosocial work environment and better interpersonal relations in the work teams can be built.

The occupational psychosocial factors with the greatest risk frequency according to our study were "insufficient experience with the treatment of infectious patients", "too intense workload" and "insufficient job satisfaction" (Figure 4). The relative share of working medical assistants who had experience in the treatment of infectious patients was very small. Insufficient experience was reported by 46% of respondents, and 35% had no experience at all. This insufficiency in knowledge of both treatment of patients and protecting one's health is a serious psychosocial risk. This conclusion is confirmed by the fact that insufficient experience correlates significantly with manifestations of depression ($\rho=0.448$; $p<0.001$), anxiety ($\rho=0.437$; $p<0.001$) and stress ($\rho=0.384$; $p=0.001$). At the same time, only 9% of the surveyed workers did not feel sufficiently prepared for their usual work tasks, and no one felt that they were not doing well at their job. Obviously, the issue lies not in a lack of professional qualities, but rather a lack of adequate training to treat COVID-19 patients. It is important to conduct training before the physician assistants are entrusted with working with infectious patients, to which they are unaccustomed. Training should include not only appropriate protocols for patient treatment, but also ways and measures to protect the health of workers and their families. Another occupational risk factor that correlated significantly with manifestations of depression ($\rho=0.375$; $p=0.002$), anxiety ($\rho=0.339$; $p=0.005$) and stress ($\rho=0.360$; $p=0.003$) was too intense workload. Although only 25% of physician assistants replied that workload often or constantly exceeded their working capacity (Figure 4), the correlations found showed that this risk factor also affected mental health, albeit with a smaller coefficient of definition. The overload could be overcome with a more sensible distribution of working hours and shifts, especially for workers who take care of young children and/or elderly people in the family, those suffering from chronic diseases or workers with permanently reduced working capacity. There is also insufficient interest and low work satisfaction in

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25% of medical assistants. This risk factor shows a significant correlation with manifestations of depression ($\rho=0.352$; $p=0.003$), anxiety ($\rho=0.337$; $p=0.005$) and stress ($\rho=0.323$; $p=0.007$). The reduced interest and satisfaction are probably a result of insufficient training and increased workload during the pandemic wave.

With this study, we aimed to provide evidence on the potential psychosocial hazards for physician assistants during the pandemic of COVID-19 and to identify potential protective factors. One of the limitations to this study is lack of generalisability, the study sample size was small and, as such, might not have provided sufficient data to be representative for the country as a whole. However, the results can help healthcare managers to protect the mental health of physician assistants during this or other healthcare crises.

Other studies point out that one of the main health effects of prolonged stress and anxiety is burnout syndrome, or emotional fatigue, which leads to energy loss, fatigue, dissociation and depersonalization. The clinical signs are social isolation, anxiety, fear, depression, anger, addictions, personality changes, feelings of guilt and self-immolation, changes in eating habits, substantial weight gain or weight loss, memory loss, disorganization, concentration problems and sleep disorders [15]. A healthcare worker suffering from burnout syndrome is a risk for patients and needs immediate treatment. Burnout for HCPs working during the COVID-19 pandemic is caused by factors such as feeling pushed beyond training (high workload), making life-or-death prioritizing decisions (high job stress), work impacting the ability to perform household tasks (high time pressure) and lack of adequate PPE (limited organizational support) [14,15].

From the perspective of occupational health and safety, although the pandemic has exposed workers to new risks and increased levels of stress, it has also raised awareness about the need to manage work-related stress and mental health problems. Creating healthy workplaces and a positive psychosocial environment is the way that employers can foster workers' resilience and promote mental health, especially in times of emergencies.

Our survey shows the need for professional advice for healthcare managers during the pandemic and beyond. This intervention will help to overcome organizational failures, to adequately and timely train staff, to build professional and safe behavior, to support and care for the physical and mental health of workers. Psychological consultations and training sessions at a group level are necessary to improve relationships in work teams, and personalized interventions are recommended to address personality characteristics. It is extremely important that healthcare workers, and in particular physician assistants, are provided with professional psychological help and support in the workplace, especially during a pandemic.

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Conflict of interest

The authors have no conflicts of interest that need to be declared.

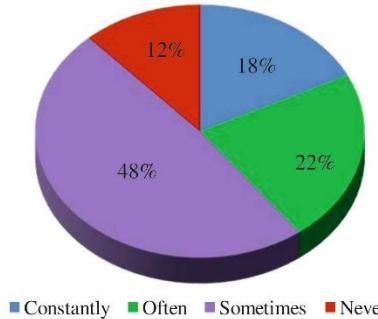
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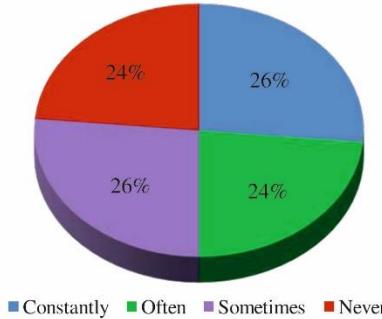
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Figure 1: Organizational psychosocial risk factors related to Covid-19.

Do you receive additional appropriate training when needed (e.g. in an epidemic emergency)?



Do the health and safety measures in your workplace make you feel safe?



Does management ask for your opinion when they change your work position, tasks or work organisation?

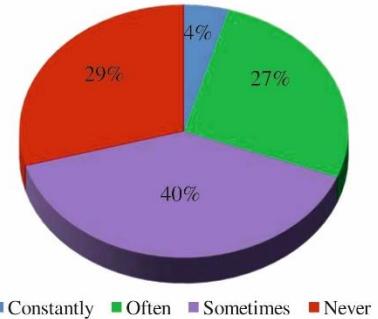
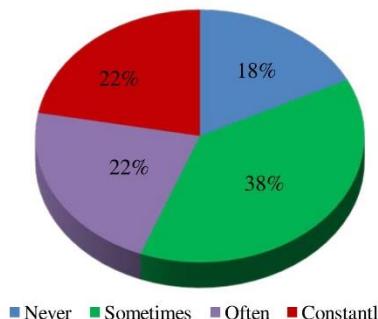
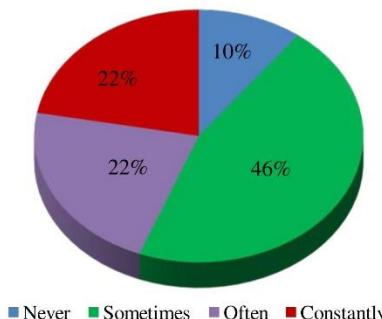


Figure 2: Psychosocial risks associated with personal characteristics.

Do you feel anxious about your patients' lives?



Do you feel anxious about your own health and safety?



Are you anxious that your work is endangering the health of your family?

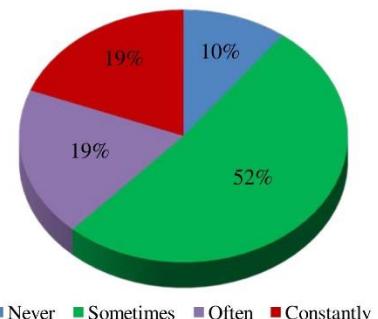
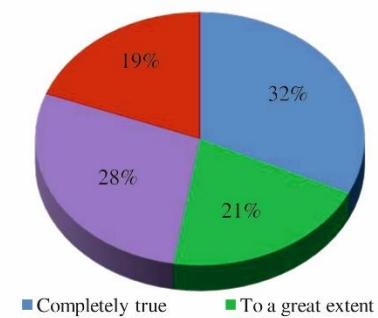
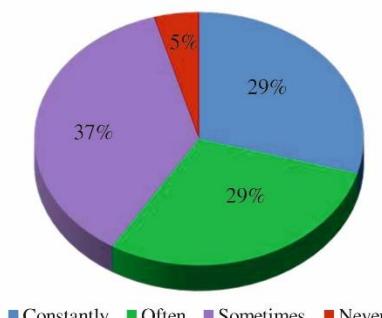


Figure 3: Psychosocial risks related to team communication.

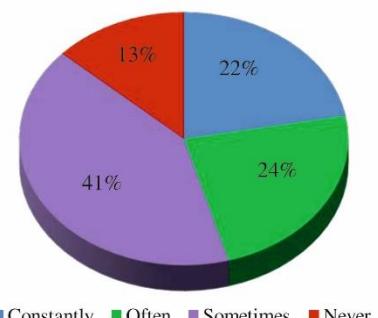
I can speak openly about problems/issues within the work team.



Do you participate in decision making in the work team?



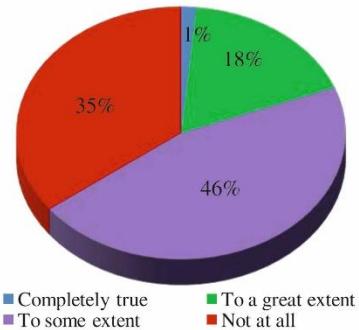
Do you get recognition for a job well done, do you feel appreciated?



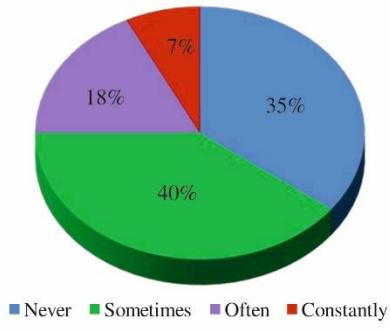
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Figure 4: Professional psychosocial risk factors.

I have enough experience with treating
infectious patients.



Do you think your work is too intense
and beyond your capacity?



I am interested in and satisfied with
my work.

