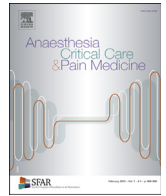




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Letter to the Editor

Ousted health care workers because of COVID-19 infection: Back to work is not an easy move


ARTICLE INFO

Keywords:
 COVID-19
 Health Care Workers

Dear editor,

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During the coronavirus disease 2019 (COVID-19) pandemic, Health Care Workers (HCWs) were on the front line. In addition to the impacts generated by the lockdown required by many countries, the COVID-19 disease itself was a major psychological stressor for front-line HCWs, who dealt with extreme workloads, ethical dilemmas, greater risk exposure, and poor reliable scientific knowledge of the disease. Despite all prevention measures, HCWs have been infected, especially in the beginning of this pandemic. With 44% secondary cases infected during the index cases' presymptomatic stage, HCWs have been considered to be part of the persistent community virus spread, nosocomial cases and colleagues contamination [1]. This led to several mental-health disorders among HCWs [2], already well reported, such as anxiety, depression, insomnia and stress [3,4]. Although recent reports focused on public health challenges to ensure a safe work environment, little is known about the relation between COVID-19 infected and non-infected HCWs. In this research letter, we focused on two front-line departments (respiratory and intensive care unit) in one of the first French hospitals to have treated COVID-19 patients. The main objective of this study was to evaluate the back to work period for HCWs who were ousted because of a COVID-19 infection presumption with perspectives from those who have continued to work (referred as ousted and held-in HCWs). The secondary objective was to assess the relatives' perception of the risk faced by their related HCWs. An anonymous questionnaire was provided to all staff members, through an electronic (Google form[®]) or a paper case report form (CRF) according to staff preferences. It included 5 sections: demographic (12 closed, semi-open and open questions), COVID-19 infection characteristics (10 semi-open and open questions), relatives' infection (5 semi-open and 1 open questions), back to work for ousted HCWs (5 semi-open and 1 open questions) and for held-in HCWs (5 semi-open and 1 open questions). As this study was not intended to evaluate mental disorders, no specific scales were

used. Questionnaires could be filled out and returned over a 3-week period, from the 15th of April to the 4th of May 2020. Results are descriptive and analyses were performed with R++[®] software. Ethics committee approval was obtained from the French Pneumology Society (CEPRO 2020-034).

A total of 136 HCWs (aged 36 ± 11 (21 to 71), 84 (62%) women, 88 (65%) nurses and assistant-nurses, and 44 (32%) physicians) completed the survey (81% participation rate). Of all participants, 23 (17%) worked in the respiratory unit, and 113 (83%) in the ICU. In our centre, the ICU capacity had more than doubled within a week thanks to a new ICU "beyond the walls", which was covered by anaesthesiologists. Overall, the ICU team was comprised by HCWs who usually worked either in the ICU ($n = 62$, 55%) or in the operating theatres ($n = 51$, 45%, anaesthesiologist physicians and nurses). Regarding the clinical signs and prevention measures, 115 (85%) HCWs thought they were properly informed about clinical signs and prevention measures. The main source of information was equally distributed between conventional/social media and institutional education programs. Almost a third (39, 29%) of the HCWs presented a COVID-19 infection presumption. When the study was performed, the testing capacity was unfortunately restricted in our centre, explaining why only 8 (20%) of them were able to have a serology confirmation. All these HCWs had a phone consultation with one infectious disease (ID) and hygiene specialist from our centre, who considered the infection was highly possible, leading to an eviction period of the concerned HCWs. They attributed the contamination to a patient (20%), a colleague (15%), a relative (15%) or unknown (50%). Ten of the ousted HCWs had a relative who developed a COVID-19 infection, thus being suspected of a secondary infection too. In our centre, it was decided by our ID specialists that the quarantine would last at least 7 days, which has to include 2 days without symptoms (based on knowledge on the contamination risk period and on the nasopharyngeal virus survival). However, after returning to work, 17 (44%) of the ousted HCWs were not fully back to normal functioning, with the most often cited complaint being related to a profound asthenia. Twelve (30%) of them felt animosity and anxiety coming from their held-in colleagues and 4 (10%) of them were concerned that they were putting the patients in danger. Indeed, 33 (34%) held-in HCWs thought the isolation period of the ousted HCWs should have been longer. However, a large majority of the held-in HCWs ($n = 73$, 75%) considered the ousted HCWs to be an asset to the team, thinking that they would have less chance of being re-infected while performing high-contamination risk procedures. No differences were found according to the place where the HCWs worked.

The dichotomy highlighted by the fear on one hand and the benefit on the other hand, both generated by the infection of a HCW, underlines the uncertainty and the anxiety that all HCWs faced. Several interpretations could be given to the anxiety reported and to the desire for a longer isolation period of the ousted HCWs: an empathy reaction towards their colleagues that might still be asthenic, a decrease in the risk of contamination for

themselves or both, underlying again this dichotomy. To decrease those feelings, several options might be considered. The first goal should be to improve the working atmosphere and to decrease stress and tension, with the support of strategies to increase resilience in HCWs [5]. As such, discussion groups would allow HCWs to share doubt, fears or worries. A clinician psychologist present in the medical units would provide an adequate support, easy to access. If the environment is large enough, meditation and relaxation rooms, with automatic massage chairs, might be part of stress management program supported by the local institution. One might suggest a new PCR testing before the ousted HCWs return to work. However, interpretation of a late positive PCR result is challenging, as no relation has been established between a late virus persistence (identified by RNA detection) and the virus contamination capacity. One other option would rely on specific-antibody against COVID-19 testing, which was not available during the study evaluation period. Although the antibodies' persistence and full protective capacity have to be further evaluated, recent studies suggest they might appear 2 weeks after symptoms onset with neutralising properties and might be considered to allow ousted HCWs to go back to work [6]. Another option could be to increase the work eviction period, which may unfortunately not often be possible in such intense workload periods. We could also hypothesise that working with unknown colleagues could explain a part of the reactions reported. In our centre, every external support and new staff member were introduced to everyone, and every staff member was identified by a large band on their back, with name and function, to avoid these problems [7]. Finally, based on our centre experience, we believe these reactions might be attributed to the evolving knowledge on the virus and the evolving prevention measures. As an example, the first protection measures used in the ICU of our centre in January 2020 were closed to the one used during the massive Ebola virus epidemic in 2014. In parallel, use of surgical mask for every HCW in our centre was only recommended at the beginning of April 2020. These adjustments might have generated a loss of confidence among HCWs. Thus, repeated institutional education programs, strategies to support resilience in HCWs, extensive personal protective equipment and large PCR testing, anytime a HCW displays potential COVID-19 symptoms, are the only reliable options to smoothen relations within HCWs.

An added stressor for the HCWs is that half of them reported deep concerns of their relatives about the contamination risk for both the HCWs and themselves, as HCWs were considered as part of the virus spread in the community. Indeed, the fear of spreading the infection to relatives was largely shared by HCWs. The flawless availability of protective equipment (masks, goggles, gowns...) the priority of access to diagnostic tests, more information about the little prevalence of COVID-19 infection among HCWs (< 5% of HCWs from AP-HP hospitals at the end of April 2020 [8]) could also help to reassure HCWs. Our study has several limitations, such as

the monocentric aspect of this study. However, we believe this aspect of the pandemic for HCWs has been poorly related and deserved to be further investigated. Because on our little PCR testing capacity, only 20% of the ousted HCWs were able to have a confirmation. We are aware that this could influence the feelings of the held-in HCWs. Finally, we were not able to evaluate the proportion of infected but asymptomatic HCWs because we did not perform systematic HCWs PCR testing.

This study underlines that all mental-health disorders studies should take into consideration the rate of HCWs with COVID-19 infection presumption and the effect of these infections on other staff members and relatives.

Conflicts of interest: None

Financial Disclosures: None

Acknowledgments

Thanks to all HCWs of our institution for their involvement during this pandemic. We are grateful to Sally Hunsberger (PhD, Biostatistical Research Branch, NIAID/NIH, Bethesda, USA) for her careful English editing and thorough comments (no compensation provided).

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Available online 7 October 2020