Commentary

Breathing Rooms: A Strategy to Improve the Performance of Healthcare Workers During COVID-19 and Future Pandemics

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Abstract

Healthcare workers (HCWs), as frontline soldiers in the fight against COVID-19, were more exposed to the risk of contracting this disease. In addition to facing psychological, social, and physical trauma and post-traumatic stress due to the corona pandemic, HCWs were also exposed to complications due to the use of personal protective equipment (PPE). The impermeable and confining nature of some PPE poses complications for HCWs that can endanger their physical health, while also affecting the quality of healthcare they provide. Among the complications of using PPE, respiratory problems are more worrisome than other complications. This article makes a suggestion of a breathing room (BR) to improve the health and performance of HCWs in caring for patients with infectious respiratory diseases. A debate on the strengths of the implementation of a BR in hospitals is described.

Keywords

breathing rooms, performance, healthcare workers

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Introduction

COVID-19, or severe acute respiratory syndrome caused by the coronavirus, is a major problem for public health worldwide (Saffari et al., 2020). Healthcare workers (HCWs), as frontline soldiers in the fight against COVID-19, were more exposed to the risk of contracting this disease (Choudhury et al., 2020). International health organizations, such as the World Health Organization (WHO), developed guidelines and protocols to protect the safety of HCWs. One of the most important guidelines was the proper use of personal protective equipment (PPE). HCWs were required to use protective clothing, a head cap, respiratory protective equipment (RPE), face shields, along with gloves and goggles during the global pandemic (WHO, 2020).

According to general studies, in addition to facing psychological, social, and physical trauma and post-traumatic stress due to the corona pandemic, HCWs were also exposed to complications due to the use of PPE (Davey et al., 2020; Kalantary et al., 2020). Agarwal et al. (2020) aimed at determining the complications of using PPE and its management method pointed out that suffocation and breathlessness were the most common complications.

Hence, the debate described the useful and accessible interventions to prevent or repair these complications with the suggestion of a breathing room (BR).

Discussion of Topic

The impermeable and confining nature of some PPE poses complications for HCWs that can endanger their physical health, while also affecting the quality of care that HCWs provide (Daghmouri et al., 2020; Mahmud et al., 2022). Among the complications of using PPE, respiratory problems are more worrying than other complications (Davey et al., 2020; Garra et al., 2021). Breathing problems may be due to increased resistance during inhalation, increased dead space, accumulation and rebreathing of CO_2 in the mask chamber, and hypercapnia. Long-term use of PPE can affect the upper airway related to the disruption of the humidification process of inhaled air leading to possible nasal obstruction and eventually, mouth breathing. These conditions predispose HCWs to rhinitis and chronic inflammation

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of the nasal mucosa (Hopkins et al., 2021). The occurrence of these complications in the long term may cause HCWs to reduce their attention to the use of PPE or to be absent from work to prevent or repair these complications, leading to dysfunction and decrease in the quality of performance of HCWs (Kalantary et al., 2020).

One of the goals of healthcare service delivery systems managers is to maximize productivity of HCWs, therefore, considering the effects of the use of PPE on physical and mental health and the quality of care provided by HCWs, useful and accessible interventions are needed. One appropriate intervention is the suggestion of a BR to improve the health and performance of HCWs in caring for patients with infectious respiratory diseases.

Current Insights and Interpretations

The BR in each department of the hospital provides a place for HCWs to spend a few minutes in a quiet environment by removing PPEs and breathing healthy air (without a mask) and then continuing their work with renewed energy. The BR must have a negative pressure air purifier with ultra violet (UV) or UV-C lamps to make the surfaces and air of the room free from any virus, including SARS-CoV-2 and bacteria. HCWs in a BR environment can breathe safely and relax and not worry about the transmission of pollution. The BR can be established in an open space like a terrace, but conditions must be provided so that it is not placed in the passage of the exit air of the departments. Other components that can be considered to complete the BR are facilities related to visual, auditory, and olfactory senses. A monitor to display natural scenery, a suitable lighting system, a sound system to play relaxing music, access to the Internet and electronic decision support systems, health brochures, magazines, and a humidifier with pleasant aromas can make this room a peaceful place for renewing energy. Although there are rooms called relaxation or recharge rooms with some similar components, the purpose of creating relaxation or recharge rooms is improvement in mood, focus, and concentration (Bussard & Mahoney, 2022). The benefits of BR are not just mental and provide more than relaxation or recharge rooms provide.

Conclusions

A BR assures a person they are in an environment free of viruses and bacteria. This will decrease the stress of transmission and infection due to not using PPE. Reducing stress, workloads, fatigue, caring errors, psychological trauma, and complications of using PPE, and improving comfort, satisfaction, and performance are other benefits of a BR.

The success of this plan requires the cooperation of managers and planning of health policymakers to facilitate the implementation of this idea by allocating resources and spaces in hospitals. It is also suggested to conduct studies on the impact of the BR in improving the performance of HCWs and increasing the quality of patient care.

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NZ conceptualized the article. NS wrote the first draft and contributed to the content. NZ and NN reviewed and edited the article.

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