

Viewpoint

Four-phase safety checklist for health care providers in COVID-19 hospitals: A practical tool for survival!

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ABSTRACT

Pandemic of coronavirus disease 2019 (COVID-19) has generated immense viral exposure risk among frontline health care providers (HCPs), especially due to aerosol-generating events and procedures. This further increased the risk of serious mental health disorders amongst them. Hitherto, there is lack of any specific safety protocol specially during the pre- and post-exposure period for HCPs, who provide direct clinical care to patients suffering from COVID-19. We propose a four-phase checklist approach, which may help them in mental preparedness as well as organizing themselves prior and following virus exposure in clinical postings and may enhance the safety standards. The checklist comprises simple steps and may work as a documented track record of precautionary and preventive measures which must be followed by HCPs working in dedicated COVID-19 hospitals.

Keywords: COVID-19, SARS-CoV-2, Health care providers, Checklist, Aerosol generating events

INTRODUCTION

Recent pandemic of “severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), commonly called COVID-19, imposes a huge risk among health care providers (HCPs) of getting exposed to viral infection and further transmission to their close contacts and family members.^[1] It certainly generates a significant level of mental health issues which include overwhelming situations, complete disruption of social life, feeling of vulnerability, constantly being at risk of getting infected, and fear of transmitting the disease to families and loved ones.^[2]

Most of the frontline HCPs all over the world at present are facing enormous pressure, including a risk of infection and inadequate protection from contamination, overwork, frustration, discrimination, isolation, negative emotions, a lack of contact with their families, and over exhaustion.^[3] These unprecedented circumstances have significantly increased the risk of mental health disorders such as post-traumatic stress disorder (PTSD) or depression, anxiety-related disorders, substance abuse, and suicidal tendencies.^[3]

Recent studies observed that frontline health care workers possess more than ten-fold higher risk of testing positive with SARS-CoV-2 when compared with the general population.^[4] Further, the risk increases further by nearly 25% due to inadequate access to personal protective equipment (PPE) and other protective gear.^[4] According to initial estimates in developed countries, HCPs may account for nearly 10% of all diagnosed cases which might be further high in developing nations due to limited resources.^[5] The spread of infection is predominantly

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common in HCPs who are exposed to aerosol-generating events, where certain incidents and procedures are believed to generate aerosols and droplets as a source of respiratory pathogens.^[6]

There are many guidelines published to prevent transmission through aerosol-generating events and procedures.^[6-8] However, till now, there is a lack of literature on systematic approach for frontline HCPs working in hospital settings, particularly where direct clinical care is provided to patients suffering from COVID-19. Keeping in line with the aforementioned issues, we propose a four-phase checklist approach which may help them in mental preparedness as well as organizing themselves prior and following their virus exposure in clinical postings and may enhance the safety standards. The proposed checklist is simple steps to follow by HCPs by reducing the ambiguity about the actions required in the aforementioned hospital settings. The four-phase approach comprises “Pre-hospital Pre-Donning,” “In-Hospital Pre-Donning,” “In-Hospital

Post-Donning,” and “Out-of-Hospital Post-Donning” phase, respectively. The “Pre-hospital Pre-donning” phase is particularly highlighted and focused on the mental preparedness of HCPs before the start of high-pressure duties in COVID-19 wards and critical care settings. It includes an organized checklist of actions and conducts essential for relieving mental stress. Special attention is paid to isolation rooms for HCPs working in COVID-19 setups during their off-hours. These simple isolation rooms can be made in hostels or home place to ensure minimum contact with other hostel mates or family members. Basic facilities such as access to separate washrooms, provisions of sanitizers, and separate entry and exit passage for HCPs remain a primary requisite during their off-hours. This will certainly minimize the exposure to other people living with them and provides a sense of relief and assurance for the HCPs. The checklist also includes actions such as provisions for high-quality sleep, balanced nutrition, protective care of clothes and other accessories, and care taken during

Pre-Hospital Pre-Donning Phase	Yes	No	In Hospital Pre- Donning Phase	Yes	No
Arrangement of isolation room for minimum contact			Adequately trained for wearing PPE		
Isolation room with separate entrance and exit			Wearing watches/jewellery/piercings		
Dedicated bathroom and toilet with essential accessories			Carrying any purses/wallets		
Adequate stock of detergent, soap and body wash			Shoes adequately gripped and laced		
Separate wash tub for clothes			Wearing dedicated scrubs before donning PPE kit		
Adequate water supply with hot water access			PPE of your size available		
Adequate masks [3-Ply]			Pre-checked your PPE for any breach in its integrity		
Adequate supply of sanitizer			Donning room have the facility for storage of your clothes before you wear scrubs		
Dedicated dustbin with liner			Donning room have a mirror to check the PPE after wearing it		
Measures for good quality sleep			Attached dedicated stickers with your name on the front of PPE for communication		
Comfortable bed			In-Hospital Post-Donning phase	Yes	No
Entertainment provisions: audio-visual access			Provisions to discard scrubs in dedicated bins with disinfectants		
Adequate supply of night wears			Taken bath with soap and water		
Temperature and humidity control facilities (AC/Heater)			Disinfected or cleaned your spectacles		
Clothes care			Have extra appropriate cap, shoe cover and mask to wear		
Separate clothes wardrobe			Have dedicated sanitizer in bathing and changing room area		
Adequate fresh clothes for daily wear			Have provisions for fresh scrubs to wear		
Mobile phone safety provisions			Have you wear new dedicated mask before you start back to home		
Transparent waterproof pouches			Out of Hospital Post-Donning Phase	Yes	No
Dedicated phone chargers and power bank			Discarded your mask and cap in dedicated bin before you enter home		
Shoes care			Gargle your mouth with mouthwash at home		
Dedicated shoes provision			Placed your clothes in separate washing area		
Covered shoes with adequate grip			Taken bath with standard precautions		
Dedicated shoe rack			Wearing mask before moving outside your isolation room		
Spectacles care					
Lens cleaning with soap and water					
Antifogging agents					
Mode of transportation to COVID-19 Hospital					
Car					
Motorbike					
Public transport					
Safety Checklist in Car/Motorbike					
Accompanied with driver					
Driver wearing a mask and using sanitizer before driving					
Using spray sanitizer before touching your vehicle					
Wearing appropriate mask (N-95/KN 95) while travelling					
Provisions for adequate nutrition and hydration					
Access for proper nutritious food					
Adequately hydrated					
Provisions for pre- and post- duty hydration					
Provisions for post-duty nutrition					

Figure 1: Four-phase safety checklist for health care providers in COVID-19 hospitals.

commuting to hospital. The “In-Hospital Pre-Donning” and “Post-Doffing” phase includes some basic actions taken in addition to the universal precautions recommended while wearing protective gear and PPE. The “Pre-Donning” phase includes special emphasis targeted on the size, integrity, and labeling of PPE along with care and storage of clothes and other accessories before wearing-dedicated scrubs. The focal point of the “In-Hospital Post-Doffing” phase includes the provision of sanitizing facilities coupled with fresh scrubs and face masks in the hospital. In the “Out-of-Hospital Post-Doffing” phase, weightage is given to suitable disposal of the cap, mask, and clothes, washing, and bathing facilities together with provisions of fresh clothing’s and mask.

CONCLUSION

The proposed checklist may work as a documented track record of precautionary and preventive measures which must be followed by HCPs working in dedicated COVID-19 hospitals [Figure 1]. Each item is checked off as it is completed, verified, identified, and answered by placing a mark in a designated space. This will draw a sense of responsibility and provides intense amounts of mental satisfaction and assurance in their over-all conduct. The checklist highlights the essential criteria that must be considered in a particular area and it also helps the user to remember important criteria, achieves standardization of a process, and enhances an assessment’s objectivity and reproducibility with significantly increased efficiency.^[9]

Declaration of patient consent

Patient’s consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

Nil.

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