Do We Really Need to Wear Coveralls in the Modern Intensive Care Unit during the Fight with Covid-19?

Mehmet Eren Yuksel[1], Seval Izdes[2], Aziz Ahmet Surel[3], Rahmet Guner[4]

Cite this article as: *Yuksel ME, Izdes S, Surel AA, Guner R. Do We Really Need to Wear Coveralls in the Modern Intensive Care Unit during the Fight with Covid-19? Eurasian J Med 2021; 53(1): 70-1.*

[1]Department of Intensive Care Medicine, Yildirim Beyazit University School of Medicine, Ankara, Turkey
[2]Department of Anesthesiology and Reanimation, Division of Intensive Care Medicine, Yildirim Beyazit University School of Medicine, Ankara, Turkey
[3]Department of General Surgery, Ankara City Hospital, Ankara, Turkey
[4]Department of Infectious Diseases, Yildirim Beyazit University School of Medicine, Ankara, Turkey

Received: June 18, 2020
Accepted: August 28, 2020
Available Online Date: Date: January 19, 2021

Correspondence to: Mehmet Eren Yuksel
E-mail: doctormehmeteren@yahoo.com

DOI 10.5152/eurasianjmed.2020.20195

Dear Editor,

There have been several reports that Coronavirus disease (Covid-19) has spread among healthcare workers all over the world during treatment of patients infected with Covid-19 [1, 2]. Since interventions for airway management are carried out in the intensive care unit (ICU), contamination risk of healthcare personnel within an ICU with Covid-19 is high. Even though ICU workers are fighting against the disease at the frontline, we have not encountered any physicians, nurses, or co-workers who have been infected with Covid-19 since the beginning of the pandemic on the 11th of March 2020 in our 14 ICUs, where each unit consists of 16 beds, with a total of 224 beds. Therefore, we would like to share our experiences with our colleagues in order to prevent Covid-19 infection in the ICU.

Although there were only 2 negative-pressured patient rooms in each of the 16-bed ICU unit at the onset of the Covid-19 pandemic, every isolated single-patient ICU room was immediately adjusted to have negative pressure within the room and positive pressure in the hallway, prior to the admission of Covid-19 infected patients, according to guidelines [3]. Negative pressure value was adjusted to −10 Pascals (Pa). Airborne infection isolation was achieved through installation of heating, ventilation, air conditioning (HVAC) filters, high-efficiency particulate air (HEPA) filters, and 16 air changes per hour adjusted within all isolation rooms. Moreover, we had enough time for systematic training and implementation, so that the ICU personnel were educated with face-to-face instructions about hand sanitizing and donning and doffing of personnel protective equipment, such as gloves, coveralls, N95 masks, goggles, and face-shields [4].

Because of this structure, physicians and nurses did not need to wear coveralls while they were outside of the patient rooms within the hallway in the positive pressure area. Coveralls that might cause discomfort and burn-out syndrome after long working hours because of body temperature rise, sweat, and movement limitation were only worn inside patient rooms. Thus, self-contamination while doffing was limited [5]. After exiting the patient room, the protective equipment was taken off except for the N95 mask and Bouffant cap. Therefore, healthcare workers could move freely in the hallway, separated from the patients, with their N95 masks and disposable Bouffant caps.

This approach, which consisted of wearing scrubs in the hallway and donning of personal protective equipment for the patient, when needed, had positive impact on the healthcare staff in the ICU. Despite the fact that the ICU staff had to work for long hours because of shortage of health workforce, their anxiety levels were observed to be low.

The Covid-19 outbreak may be the beginning of future outbreaks. Consequently, we think that, in order to be ready for new outbreaks, it is necessary to increase the number of modern ICUs, where the pressures of the ventilation systems are adjusted between the corridor and isolated single-patient ICU room. Within the modern intensive care setting, we are of the opinion that it is needless to wear coveralls all day long during working hours, which would increase burn-out and self-contamination risk.

References

1. Wang J, Zhou M, Liu F. Reasons for healthcare workers becoming infected with novel coronavirus disease 2019 (COVID-19) in China. J Hosp Infect 2020; 105: 100-1. [Crossref]
2. Adams JG, Walls RM. Supporting the health care workforce during the COVID-19 global epidemic. JAMA 2020; 323: 1439-40. [Crossref]
3. Sehulster L, Chinn RY. Guidelines for environmental infection control in health-care facilities. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). MMWR Recomm Rep 2003; 52: 1-42.
4. Verbeek JH, Rajamaki B, Ijaz S, et al. Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare staff. Cochrane Database Syst Rev 2020; 4: Cd011621. [Crossref]
5. Suen LKP, Guo YP, Tong DWK, et al. Self-contamination during doffing of personal protective equipment by healthcare workers to prevent Ebola transmission. Antimicrob Resist Infect Control 2018; 7: 157. [Crossref]