Operating 12-Hour Staff Shifts on Coronavirus Disease-2019 Patients: A Harmful and Unwanted Proposal

To the Editor

We read with great interest Dexter et al's[1] evidence-based approach for optimization of infection control and operating room management, as well as their proposed 12-hour work shifts. We must respectfully caution against the latter, as they could negatively impact anesthesiologists' neurobehavioral performance when caring for coronavirus disease 2019 (COVID-19) patients due to multiple factors (thereby increasing the likelihood of medical error).

First, working in close proximity to infected or at-risk COVID-19 patients requires the use of personal protective equipment (PPE), coupled with strict adherence to universal infection precautions. These protocols can result in a physically uncomfortable experience, as fluid-repellent PPE hinders the transfer of heat and moisture between human and environment.[2,3] In turn, heat stress is associated with decreased cognitive and psychomotor performance across multiple tasks.[3] In fact, during the Ebola outbreak in West Africa (2014), health care workers wearing impermeable PPE were limited to 40 minutes of working time before requiring a break for rest and cooling to remedy disrupted thermoregulatory homeostasis.[4,5]

Second, anesthesiologists may be required to stay in the operating room for longer periods, with extra time needed for preparation, decontamination, and recovery of the patient in the operating room. Consequently, COVID-19 patients can be difficult to care for, especially if they suffer from severe coughing, vomiting, or diarrhea, thereby producing significant viral loads with the attendant risk for cross-infection. The resultant feelings of emotional stress, uncertainty, and fear, as well as concerns about passing infections to families and friends, may contribute to mental fatigue among health care workers.[5,6]

Third, effective use of PPE constitutes a laborious process that requires guidance and training and, although essential, constricts mobility, which may hinder medical actions during lifesaving medical procedures, such as cardiopulmonary resuscitation.[2]

Fourth, double gloving may not be favored by many medical staff due to loss of grip control, as well as a decrease in dexterity and tactile sensitivity.[2,3,5,7] Anesthesiologists may experience a reduction in fine motor skills (eg, those required by intravenous/arterial cannulation), thereby exposing themselves to the added risk for needlestick injuries. Similarly, regional anesthesia blocks may be more difficult to execute due to the use of multiple gloves and decreased finger dexterity.

In a recent study, Parush et al[8] surveyed health care workers regarding the effect of wearing full level 1 PPE. Although all respondents recognized its importance, the survey uncovered limitations of PPE ergonomics (ie, physical discomfort, difficulties in seeing, hearing, speech comprehension, impaired communication, and situational awareness), as well as contamination problems during donning and doffing procedures. Wearing PPE negatively affects physical performance and individual well-being and influences concentration and error rates.[2,3,5] Despite these setbacks, anesthesiologists and intensivists, taking care of COVID-19 patients, are required to wear even higher levels of PPE (ie, type 2 or 3) during aerosol-generating procedures. Such precautions include a long-sleeved, fluid-repellent gown or a completely encapsulated coverall, tight-fit filtering face piece (FFP3/N95) respirators, and sturdy face shield, visor, or hood. In these situations, the use of personal cooling devices may be advantageous to mitigate increases in body temperature and weight loss.[4]

In summary, 12-hour work shifts in the current context of physically and psychologically demanding workloads may contribute to impairment of cognitive function. In turn, this could result in lapses in attention, altered clinical judgment, and inaccurate decision-making and could contribute to health care provider fatigue and burnout. Thus, psychological support for medical well-being and shorter shift times become essential. We agree with Cao et al's[9] alternative suggestion of replacing the consecutive 12-hour shift per day with two 4-hour shifts interspersed with a 4-hour break period.[2] In fact, physicians and nurses working with COVID-19 patients have already provided identical feedback on ideal work times (ie, 4- to 6-hour shifts) and longer recovery periods, thus underpinning the importance of adequate sleep restoration. Two centuries ago, Robert Owen,[10] a British textile-manufacturer and labor rights activist, opined that it would be more productive for companies to have happy and healthy employees rather than exhausted ones who are mistake and accident prone. In 1817, during his advocacy for 8-hour workdays, he coined the slogan "Eight hours labor, eight hours recreation, eight hours rest." We urge all colleagues to subscribe to such wisdom.

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