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Commentary

Keeping Workplace Safety Relevant In Difficult Economic Times

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DESCRIPTION

Protection of Health-Care Workers (HCWs) from potentially transmissible diseases is a fundamental principle of occupational health and safety. We should all be dedicated to providing the best possible care to our patients, but this principle should be balanced by lowering the patient's risk of contracting the disease for which he or she is being treated. This balance is especially important for healthcare workers who treat patients with potentially communicable respiratory infections.

The world has seen two epidemics of viral respiratory infection, the Severe Acute Respiratory Syndrome (SARS) outbreak and the avian influenza outbreak, both of which have begun. According to World Health Organization data, the SARS outbreak was associated with a case fatality ratio of 9.6% and a significant rate of infection in HCWs as a proportion of total cases. There is no information available about the specifics of disease transmission in the affected HCWs, including whether any were involved in the provision of Non-Invasive Ventilation (NIV). The avian influenza A (H5N1) outbreak had fewer cases overall but a much higher case fatality rate. NIV has been shown to help patients with acute hypercapnic COPD exacerbations. Its role in the management of patients with hypoxemic, normocapnic Acute Respiratory Failure (ARF) is, however, far less certain. This uncertainty is especially relevant to the potential management of patients with ARF associated with viral respiratory infections. We have conflicting data on efficacy and safety in this specific clinical scenario. Positive outcomes with NIV when compared to standard care in a nonrandomized study of NIV therapy in patients with SARS associated with ARF.

Including less need for intubation, shorter ICU stay, and faster improvement in chest radiograph appearance. There were no cases of infection transmitted to HCWs in this study; however, the number of patients treated with NIV was small. On the other hand, a study of SARS as an independent risk factor for the nosocomial outbreaks. As a result, it is clear that the efficacy and safety of NIV in patients with ARF secondary to viral respiratory infection are critical in determining the role of this therapy in current and future outbreaks. In the context of influenza and other respiratory virus epidemics, and with the potential use of NIV in patients with influenza and other respiratory viruses, the issue of HCW protection is critical.

There is limited evidence to support the use of NIV in this therapeutic scenario. We have little, if any; data on the real-world risk to HCWs who deliver NIV therapy to these patients. We have clear evidence of considerable exhaled air dispersion when NIV is used, at least in bench studies.

The current outbreak of swine influenza A (H1N1) in a number of countries of the world, including Mexico, Canada, and some states in the United States, has made these challenges more pressing at the time of writing. This influenza subtype's disease appears to be rather moderate in general, but it has a tendency to impact not just the elderly with comorbidities, but even children.

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