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Mask or not to mask? a review of the effectiveness of Respiratory Protective Equipment (RPE) in preventing COVID-19 transmission in healthcare workers (HCW's)**Patricia U Obende***United Kingdom***Statement of the Problem:**

Mask availability, although widely discussed, the varied view on its effectiveness as Respiratory Protective Equipment (RPE) in preventing COVID-19 transmission in Health Care Workers (HCWs) in the early days of the pandemic remains debated. However, these perspectives have not adequately explored at that early stage the effectiveness of RPE in preventing COVID 19 among HCWs.

Methodology:

A systematic review addressed the issue of RPE with particular attention to preventing COVID 19 among HCWs. Explicitly electronic searches were undertaken between August and November 2020. The systematic review looked at 598 studies identified, of which 77 duplicates were removed, the remaining 521 articles were title/abstracted reviewed, resulting in the exclusion of 492 studies (Table). The remaining 29 studies were full texts reviewed, further excluding 11 articles for failing to meet the inclusion criteria. Overall, 18 studies were evaluated in the review. Cotton Surgical Masks and N95 Respirators contrasted with previous use with severe respiratory viruses. MERS a similar disease connection held about these.

Finding:

The review found evidence of confounding, exposure, and outcome ascertainment bias. FFP3/N95 respirators effectively protected against COVID-19 and non-COVID 19 viruses in healthcare workers. In addition, fluid-resistant surgical masks and FFP2 masks were almost as effective without respiratory mask-wearing. These findings reflected the broader literature's evidence of the use of the commonly called surgical masks' in reducing the transmission of other infectious pathogens of the respiratory tract.

The challenges to implementing recommended guidelines for HCWs are glaring. The evidence-based supported the type of masks that best assist HCWs in managing the spread of the COVID 19 virus, both to themselves, being a vulnerable population and the public.

Relevant Publications at the early stage of COVID-19 pandemic

1. Azhar, E. I., Haynes, L., Swerdlow, D. L., Jernigan, J. A. & Madani, T. A. (2016). Risk Factors for Middle East Respiratory Syndrome Coronavirus Infection among Healthcare Personnel. *Emerging infectious diseases*, 22, 1915-1920
2. Chughtai, A.A., Seale, H., Islam, M.S., Owais, M. and Macintyre, C.R., (2020). Policies on the use of respiratory protection for hospital health workers to protect from coronavirus disease (COVID-19). *International journal of nursing studies*, 105, pp.103567
3. Chung, S. J., Ling, M. L., Seto, W. H., Ang, B. S. & Tambyah, P. A. (2014). Debate on MERS-CoV respiratory precautions: surgical mask or N95 respirators? *Singapore medical journal*, 55, pp294-297.
4. Cohen, J. and van der Meulen Rodgers, Y., (2020). Contributing factors to personal protective equipment shortages during the COVID-19 pandemic. *Preventive Medicine*, pp.106263.
5. Costabile, F., (2020). Does air pollution influence COVID-19 outbreaks?. *Atmosphere*, 11(4), p.377

Biography

Patricia Obende has a passion for evidence-based practice, so in the early days of the COVID 19, with international variation, policies regarding RPE use varied across regions, no universally accepted practice, to find evidence-based support for RPE use. Amendable to seek evidence and advance practical recommendation in her Occupational Health Nursing clinical practice and her teaching role. As one responsible for facilitating practice learning of undergraduates and postgraduate students undertaking NMC Registered Specialist Community Public Health Occupational health Nursing, Patricia's experience gained within the UK and overseas in various private and public sectors, including oil and gas exploration and evidence-based risk management, is vital.

pat_obe@yahoo.co.uk

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