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LETTER TO THE EDITOR

Povidone-iodine gargle as a prophylactic intervention to interrupt the transmission of SARS-CoV-2

Coronavirus disease 2019 (COVID-19), caused by a novel coronavirus, SARS-COV-2 was declared a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO) in January 2020. Human-to-Human transmission occurs through close contact with an infected person or surfaces that are contaminated with droplets or secretions. When infectious disease spreads via direct contact or droplet transmission, respiratory pathogens adhere to and colonize in the oropharyngeal mucosa to develop upper respiratory tract infection (URTI) (Kanagalingam et al., 2015). Considering the complexity in infection progression, how a prophylactic mouth rinse having virucidal activity may interrupt the progression of infection is noteworthy.

It was reported that povidone-iodine (PVP-I) products in the form of mouthwashes and throat sprays have a prophylactic effect on SARS-CoV transmission during the outbreaks (Kariwa, Fujii, & Takashima, 2004). The Japanese Clinical Respiratory Guidelines recommend gargling with PVP-I as an effective antiseptic against pandemic influenza and prevention of hospital-acquired pneumonia ("Prevention of hospital-acquired pneumonia (strategies for prevention of hospital-acquired infections).", 2004). A systematic review and evidence synthesis summarizing the importance of oral hygiene interventions, including gel/mouthwash, standard oral care and professional oral hygiene protocols in reducing the risk of pneumonia have been documented (Manger et al., 2017).

While, SARS-CoV-2 viruses are genetically related to SARS-CoV, the viral load in the oropharynx with SARS-CoV-2 infection is as high in asymptomatic patients as those with symptoms (Zou et al., 2020). It is therefore imperative to reduce the viral load in oropharynx with adequate oral prophylactic measures. As the SARS-CoV-2 curve continues to peak, researchers around the globe are intensifying their efforts for hitherto-elusive vaccine. In the absence of any specific anti-viral treatment against SARS-CoV-2 infection, management is primarily supportive to alleviate symptoms. While we are in a phase where containment is possible, prophylactic mouth rinse with anti-viral formulations to reduce the SARS-CoV-2 viral load is worth considering.

While there is a strong evidence to suggest that the use of PVP-I is effective in managing common URTI (Kanagalingam et al., 2015), impending clinical research and targeted programs to assess the efficacy of gargling/mouthwash as a preventive measure to minimize the risk of SARS-CoV-2 infection is still underway. It is thus timely to roll out community-wide prophylactic clinical trial on an active treatment group and assess the efficacy of gargling/mouthwash in reducing the viral load in the oropharynx.

While mechanical plaque removal with tooth brushing as an oral hygiene intervention in hospital patients reduces the complications of pneumonia, chemical intervention with chlorhexidine or PVP-I reduces the risk of ventilator-associated pneumonia (VAP) in intensive care (Manger et al., 2017). SARS-CoV-2 being vulnerable to oxidation, use of 0.5% H_2O_2 or 0.2% PVP-I as gargle/mouth wash may minimize the risk of SARS-CoV-2 transmission. Oral health care is being treated as a "Cinderella Service" in community and among hospital patients. Timely prophylactic oral hygiene regimen and awareness of the deleterious outcomes of poor oral health may greatly improve the health among vulnerable patients and bridge the gap between oral and general health for better patient care.

AUTHOR CONTRIBUTIONS

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