



IMPORTANCE OF TOOTH-BRUSH DISINFECTION IN SARS Cov-2.

Medical Science

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ABSTRACT

As public distribution of vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is underway, prevention of coronavirus disease 2019 (COVID-19) relies on minimizing spread. Toothbrushes are a potent source of infection as it harbours the microorganisms and increases the viral load as well. It also increases the chances of cross infection among family members. Therefore disinfecting toothbrushes after every use may be a viable option to decrease the total viral load as well as to limit the chances of cross - infection.

This communication aims to focus on the fact that toothbrushes may be another potential source of infection in this pandemic, thereby this needs to be disinfected after every use and once person is recovered, it should be replaced with a new one.

KEYWORDS

SARS Cov-2, Toothbrush, Chlorhexidine, Disinfectant.

INTRODUCTION

The availability of vaccine has indeed brought some respite, but the threat of contagion still lingers. Number of positive cases soaring across the globe, among them yet to be vaccinated. By far it is well versed that using mouth mask and practicing social distancing can significantly cut down the risk of infection. A toothbrush may be a potent source of infection when used by a infected person thus, disinfecting it can be a new way to stay safe. Regularly used toothbrush by a SARS Cov-2 infected patient may act as a reservoir for virus and capable of remaining in them from days to weeks, when continued to use the same after recovery, infection could be reintroduced into the mouth. This can cause cross-infection among the other family members.

There are many disinfectants available in the market which can help in disinfecting the toothbrush. This will not only prevent reinfection but will also help in reducing the chances of spread.

DISCUSSION

According to study conducted by Konidala et al, Hexidine, 3.0% hydrogen peroxide and Listerine showed 100% efficacy, whereas Dettol showed 40% effectiveness in decontaminating the toothbrushes against this various.¹

Study conducted by Haug showed when chlorhexidine used as an oral rinse, SARS-CoV-2 was eliminated from the oropharynx in 62.1% of patients. In this study chlorhexidine gluconate was investigated as a topical antimicrobial agent against SARS-CoV-2.²

Aznita WH et al conducted a study to demonstrate the quantitative presence of microorganisms adhered to toothbrush bristles and to determine potential of using antimicrobial agent (such as chlorhexidine and hexitidine) in commercialized mouth rinses to reduce microbial contamination and concluded that, Although toothbrush rinsed with mouth rinses containing antimicrobial agents such as chlorhexidine still harbour microorganisms, but the viral load has been very much lowered when compared to the control toothbrush. Thus, this indicates that toothbrush rinsing with mouth rinse after the normal oral hygiene is very convenient and cost effective to reduce tooth brush contamination.³

Given the recency of the SARS-CoV-2 virus, researches have been performed on mouth rinses and are still being conducted and conclusions are still need to be made. Among the research methodology in vitro studies were mostly conducted and very few in vivo. It is clear that chlorhexidine gluconate (CHX), hexitidine, cetylpyridinium chloride (CPC), hydrogen peroxide (H₂O₂) and povidone-iodine (PVP-I) all holds great promise against SARS-CoV-2 for decreasing viral load in the oral cavity.⁴

Much of the research already performed has focused on the efficacy of only one of these agents; therefore, it will be beneficial to compare agents in a controlled in vivo experiment using the same form of measurement and under same conditions for each to see which one is most efficacious against the SARS-CoV-2 virus in the oral cavity. Additionally, many of these experiments contained small sample sizes, which may be due to the recency of the virus and the circumstances of the pandemic. Nevertheless, it will be necessary to increase these sample sizes for more accurate results that can be extrapolated to a larger population.

CONCLUSIONS

Considering these common facts toothbrushes may become another potent source of infection in this pandemic, thereby it is recommended to dip toothbrushes in chlorhexidine gluconate (CHX) solution to reduce viral load and once person is recovered replaced it with a new one.

Within the limitations of this brief review and despite little clinical evidence, we suggest to dip toothbrushes in chlorhexidine solution to reduce SARS-CoV-2 viral load and to reduce the crossinfection risk during the pandemic. Clinical studies, including control subjects and in large scale, are required to evaluate the efficacy of antiseptic mouthwashes on SARS-CoV-2. Research is urgently needed to determine its potential for use against this new virus.

REFERENCES:

- [1] Konidala U, Nuvvula S, Mohapatra A, Nirmala SV. Efficacy of various disinfectants on microbially contaminated toothbrushes due to brushing. *Contemp Clin Dent.* 2011;2(4):302-307.
- [2] Huang YH, Huang JT. Use of chlorhexidine to eradicate oropharyngeal SARS-CoV-2 in COVID-19 patients. *J Med Virol.* 2021 Mar 23.
- [3] Aznita WH, Fathilah AR. The Potential Use of Chlorhexidine (CHX) and Hexitidine-containing Mouth Rinse in Maintaining Toothbrush Sterility. *Jour Med Sci.* 2006; 6: 59-62.
- [4] Arsenault P, Sachdeo A, Kaihalanen A. Virucidal activity of oral rinses against SARS-CoV-2. *Dentistry IQ.* 2021 Jan 8.