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Effectiveness of isopropyl alcohol and ultraviolet based sanitizer on decontamination of mobile phones used by dental personnel

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Statement of the Problem: Mobile phones have become an inevitable mode of communication. Dental office and the dental operators along with their personal equipment (mobile phones) are exposed to numerous pathogens as a part of their profession, which serve as an exogenous source of nosocomial infection. This study aimed at assessing the effectiveness of isopropyl alcohol and a customized ultraviolet chamber, in decontamination of mobile phones.

Methodology & Theoretical Orientation: A cross sectional study was carried out on 30 touch screen mobile phones belonging to dental professionals in a college setting. Swabs were collected along the screen, camera lens and on/off buttons of mobile phones which are frequently contacted. Swabs were streaked onto nutrient agar (NA) and incubated at 37°C for twenty-four hours for assessment of microbial load before and after the disinfection procedures. The disinfection process was performed using 70% isopropyl alcohol and an ultra violet chamber (TUV/15W/G15 T8). Mann Whitney- U test was used to compare the values between the two groups. Wilcoxon Signed Ranks Test was used to compare the values within each group.

Findings: There was a statistically significant reduction in the mean number of colonies ($p=0.001$) after decontamination by the two groups (Isopropyl alcohol and UV chamber) indicating that both agents were effective in disinfection. The reduction in microbial load in the mobile phones post intervention was 79.89% in the isopropyl alcohol group and 71% in the UV chamber group.

Conclusion & Significance: The study concluded that the percentage reduction in microbial load of the mobile phones was better with isopropyl alcohol compared to UV chamber. It is recommended that mobile phones in the dental setup be regularly decontaminated and dentists, as health care professionals must adhere to strict infection control protocols specifically in relation to hand hygiene to make this society illness and infection free.

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