# Evaluating antimicrobial potential of ozonated water in preliminary trials

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In response to the growing demand for sustainable disinfection solutions, ozonated water emerges as a promising antimicrobial agent. This study evaluates the efficacy of ozonated water against microbial strains such as *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Candida albicans* under standardized laboratory conditions. Sterile distilled water was ozonated using a portable ozone generator of 13 W for 30 min. Ozone concentration was confirmed using test strips. Nutrient broth and peptone water were used for bacterial and fungal growth, respectively. The study had three groups: negative control (uninoculated media), positive control (media inoculated with microbes) and test group (ozonated media inoculated with microbes). Microbial growth was assessed by solution turbidity after 24 h for bacterial species and 48 h for fungi. Additionally, the bactericidal and fungicidal activities were determined by transferring 10 µL of the test group sample into fresh nutrient broth and peptone water, followed by incubation. The results confirmed antimicrobial activity of ozonated water. Also, the bactericidal and fungicidal activity of ozonated group confirmed by the clear broth in the test group, like the negative control, suggests its applications in various domains including healthcare. Further research is necessary to evaluate its compatibility with various materials for optimal applications.

**Keywords**: *Candida albicans*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*