

International Conference and Expo on

# Water Microbiology & Novel Technologies

July 18-19, 2016 Chicago, USA

## A blinded, *in vitro*, pilot study on a cost-effective anti-bacterial for church holy water

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**Background:** Holy water from fonts in Christian churches have been cultured and found to contain enteropathic bacteria. The aim of this study is to determine a cost-effective, anti-bacterial agent with a sustained duration of action that can be safely added to holy water.

**Methods:** Holy water from 4 area churches was cultured at temperatures simulating ambient temperatures in these churches. Positive samples were combined into a master sample (MS) to represent average microbial content and densities. 10% to 100% concentrations each of liquid bathroom cleaner (L), 70% rubbing alcohol (A), dishwashing liquid (D), bleach (B), hydrogen peroxide (P) were individually added to the MS and cultured. The lowest concentration exhibiting no growth was determined for each cleaning liquid (BC) and unit costs were analyzed. Comparable cost-effective combinations of (BC+MS) solutions were then cultured 2, 4 and 6 days after preparation to determine sustainability of effect. MS was added daily to solutions to simulate continuing exposure to bacteria.

**Results:** All church samples were positive for bacterial growth. Cultures with added 10% solutions of L (L10), B (B10), or P (P10) exhibited no growth. B10 had 1 colony detected after 6 days, while cultures using P10 were negative for the entire duration.

**Conclusion:** An optimal concentration of ~1.4% peroxide in holy water was found to be a cost-effective agent with anti-bacterial properties present during a time period reflecting the interval between weekly water changes. Costs for maintenance water treatments amounted to approximately <\$0.02 per gallon of water treated.

### Biography

Rod Mateo has completed his MD from the Mount Sinai School of Medicine and Fellowship studies from the University of Pittsburgh, School of Medicine. He is the Surgical Director of Halifax Center for Transplant Services, a taxing district healthcare organization. He has published more than 40 papers in reputed journals and is serving as an Executive Board Member of the National Kidney Foundation of Florida.

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