Efficacy of aqueous plant extract in disinfecting water of different physicochemical properties

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Abstract

This study explored the possibility of disinfecting water using aqueous extract of medicinal plants. Seven medicinal plants used by Samburu herbalists for the treatment of stomach illnesses were investigated for water disinfection. Aqueous extracts of the dried powdered plant material were directly used to treat the water samples collected. Efficacy of water treatment with medicinal plants expressed as percentage reduction in bacteria colonies revealed that Acacia nilotica extract with a mean percentage reduction of 99.86% was the most effective in reducing the number of bacterial colonies. Albizia anthelmintica extract with a mean of 9.47%, had the lowest reduction of bacterial colonies. The study also revealed a possible interaction between plant extracts and water source ($P < 0.05$, df = 54). The results obtained in this study point out a possibility of using aqueous extracts from A. nilotica in disinfecting water of different physicochemical properties.

Keywords: aqueous extract; bacterial colonies; disinfection; medicinal plants