

## Comparison of *in vitro* antibacterial activity of commercial antiseptics soaps

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**Introduction:** Soaps formulations have amphiphilic compounds that are able to solubilized hydrophilic and hydrophobic composts, promoting cleaning and, in order to enhance these antiseptics characteristic, actives are added to the soaps. Currently, with the emergence of new infection diseases manifested by microorganisms is important to analyze the quality of the antiseptic used compounds and their spectrum of action against the different pathogens.

**Objective:** This work aimed to compare antibacterial activity of commercial soaps against *E.coli*. **Methods:** Five commercial antiseptic soaps containing these actives compounds were screened for *Escherichia coli* by disc diffusion assay (OLIVEIRA; SILVA, 2008) in Muller Hinton agar. Positive control was Cefepime and for negative control it was used usual soap without antiseptic compounds. The samples analyzed in this work contained respectively: triclosan 1%; chlorhexidine 2%; PCMX; *Ziziphus joazeiro* and *Styrax benzoin* extract. *Escherichia coli* ATCC<sup>®</sup> 25922 was grown to the early stationary phase. Bacterial cultures were diluted to 0,5 MacFarland turbidity (SOARES et al., 2008). Antibacterial potential was verified according to NCCLS (2003). Statistical analysis was carried out in ANOVA and Tukey's test was employed to discriminate statistical differences among the analyzed variables. The significance level applied was 0,05 and ASSISTAT<sup>®</sup> was used as tool for the statistical analysis (SILVA; AZEVEDO, 2006). **Results:** The comparison of the respective antibacterial activity demonstrated significant differences among the antiseptic soaps ( $p < 0.01$ ). The Tukey's test confirmed ANOVA results, showing significant difference among the tested soaps. Triclosan 1% was the most efficient compound in antibacterial soap ( $p < 0.05$ ) followed by Chlorhexidine 2% and positive control Cefepime. PCMX and negative control did not show significant difference. Soap with naturals extracts was similar to negative control. Common soaps are able to interact with microorganisms due to antiseptics ingredients presented in the formulation such as parabens and EDTA (EGUCHI 2008; MIGLIATO et al., 2009). **Conclusion:** Soap containing Triclosan 1% was the most efficient sample tested against *Escherichia coli* ATCC<sup>®</sup> 25922 and the soap with natural extracts showed the less active in these analysis.

**Keywords:** Triclosan. *E. coli*. Soap

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