Alcohol Based and Non-alcohol Based Hand Sanitizer: A Comparative Study of the Efficacy of Different Brands of Hand Sanitizer to Kill E. coli and S. aureus

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Background: Today, part of our daily lives is handwashing. This is a common practice that every individual uses to clean their hands after they handle or touched certain objects that may be contaminated with microorganisms. The widespread use of hand sanitizers has altered the transmission of common diseases in communities. Methods: The researcher compares the efficacy of various brands of hand sanitizers to kill bacteria causing disease. The researcher utilizes Escherichia coli (ATCC 25922) and Staphylococcus aureus (ATCC 29213) as control organisms in the study. Results: The dial hand sanitizer produced 0.8 and 0.9 cm zones of inhibition, showing the lowest efficacy level in controlling the E. coli and S. aureus. Germ X, Purell, and Personal care hand sanitizer produced almost the same efficacy on both E. coli and S. aureus. MediChoice and Paradise Spa both show lower efficacy on E. coli but higher on S. aureus. Personal care (alcohol free foaming) shows the highest efficacy on both E. coli and S. aureus. Conclusion: Based on the results of the study conducted, it is safe to conclude that there is a significant difference on the efficacy of various brands of hand sanitizers. The non-alcohol based sanitizer is more efficient at killing the S. aureus and E. coli than the alcohol based sanitizers. This is because the non-alcohol based sanitizer contained benzalkonium chloride while the alcohol based utilizes 65-70 percent alcohol.

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