

**UNIVERSITI TEKNOLOGI MARA**

**SENSITIVITY OF CONSUMER  
ANTIBACTERIAL AND NON-ANTIBACTERIAL  
BODY WASHES AGAINST BACTERIAL SKIN  
PATHOGENS**

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of the requirements for the degree of  
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## **DECLARATION BY STUDENT**

“I hereby declare that this thesis is based on my original work and has not been submitted previously or currently for any other degree at UiTM or any other institutions.”

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## ABSTRACT

Consumer antibacterial and non-antibacterial body washes namely Dettol, Lifebuoy, T3, Lux, Shokubutsu and Palmolive were investigated for their bactericidal activities against bacterial skin pathogens, which were *Staphylococcus aureus*, *Streptococcus pyogenes*, *Escherichia coli*, and *Pseudomonas aeruginosa*. Gentamicin 10 $\mu$ g was used as control. Both types of body wash were prepared by diluting into 1:1, 1:2, 1:4 and 1:8 concentrations, and were impregnated into filter paper discs. The bactericidal activities of the body washes were evaluated using the discs diffusion method. The inhibitory zones were recorded in millimeter (mm). The data shown represent the means of the experiment performed in triplicate. Among the antibacterial body washes, T3 was able to inhibit the growth of *S. aureus*, *S. pyogenes*, and *E. coli* at all concentrations. Dettol was able to inhibit the growth of *S. aureus* and *S. pyogenes* at all concentrations. Lifebuoy can only inhibit the growth of *S. pyogenes* at all concentrations. *P. aeruginosa* was resistant towards all of these antibacterial body washes at any concentrations. Among the non-antibacterial body washes, Palmolive showed bactericidal activity at 1:1 and 1:2 concentrations by inhibiting the growth of *S. aureus* and *S. pyogenes*. Lux and Shokubutsu showed inhibition zones at 1:1 and 1:2 concentrations against *S. pyogenes*. *E. coli* and *P. aeruginosa* were not affected at all by these non-antibacterial body washes at any concentrations. In comparing both types of body washes, the significant differences ( $P=0.00$ ) were observed for the inhibition zone produced among the pathogens. T3 body wash exhibited the highest bactericidal activity ( $19.31\pm 13.5$  mm) while Lux showed the least zone of inhibition ( $1.15\pm 3.09$  mm). *P. aeruginosa* showed the highest resistance ( $0.00\pm 0.00$  mm), while *S. pyogenes* was the most sensitive ( $9.33\pm 6.16$  mm) towards body washes tested. Complete resistance was shown by some of the bacterial strains even at the highest concentration of the antibacterial body wash. The non-antibacterial body wash showed satisfactory bactericidal activity on the tested pathogens. The findings suggest that non-antibacterial body wash is recommended in daily usage as the prolonged use of antibacterial agents lead to antimicrobial resistance.