# EVALIUATION OF AQUEOUS EXTRACT OF RED AND YELLOW *Allium cepa* (ONION) AGAINST PATHOGENIC BACTERIAL ASSOSIATED WITH OCULAR INFECTIONS

**By**

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# DECLARATION

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

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# ABSTRACT

The emergence of antibiotic resistance in pathogenic bacteria has led to changed interest in exploring the potential of natural resources as an alternative therapeutic strategy to combat microbial infections. The present study was conducted to evaluate the antimicrobial activity of aqueous extract of red and yellow *Allium cepa* (*A. cepa*) bulbs (onion) against *Staphylococcus aureus* (*S. aureus*), *Bacillus cereus (B. cereus), Esherichia coli (E. coli)* and *Pseudomonas aeruginosa* (*P. aeruginosa)*. Antimicrobial susceptibility testing (AST) by disc diffusion method and minimum inhibitory concentration (MIC) by using the microdilution broth method was performed. The results of AST showed that the *A. cepa* extract has the highest inhibiting effect against *S. aureus* (16mm) for red *A. cepa* and 11mm for yellow *A. cepa*, while the extract showed little effect against *E.coli* where 9mm for red *A. cepa* and 7 for yellow *A. cepa* while for *B. cereus* there were the same diameter for AST (11mm). There is no zone of inhibition against *P. aeruginosa.* The result of MIC value showed the minimum concentration of *A. cepa aqueous* extract to inhibit the *S. aureus* (red=125mg/ml, yellow= 250mg/ml) *B. cereus* (red=62.5mg/ml, yellow= 250mg/ml) and *E.coli* (red=62.5mg/ml, yellow= 250mg/ml). The study managed to prove that red and yellow aqueous extract of *A. cepa* has potential to be used as natural antimicrobial agent.



Keywords: Antimicrobial, *A.cepa,* eye infection, aqueous