

ANTIMICROBIAL EFFECTS OF SELECTED
WILD HONEY AND COMMERCIAL HONEY
AVAILABLE IN MALAYSIAN MARKET
AGAINST PATHOGENIC BACTERIA

LIOU WING SAN



B.Sc. (Hons.) FOOD SCIENCE & NUTRITION
FACULTY OF APPLIED SCIENCE
UCSI UNIVERSITY

2009

ABSTRACT

Wild honey is defined as natural honey which its nectar is collected from uncultivated floral sources without undergoing any chemical processes. While, commercial honey is processed honey which can be classified into different types and brands in markets. The objective of this study was to investigate the antimicrobial activity of the different types of wild honey and commercial honey using agar well diffusion method against different types of microorganisms. Nine honey samples from different floral sources and geographical locations were selected and the honey samples were diluted into different concentration (83%, 71%, 63%, 56% and 50%). Antimicrobial activity of honey has been attributed to its hydrogen peroxide, osmolarity, acidity and non-peroxide compounds including phenolic compounds. The strength of antimicrobial activity was according to the size of inhibition zone formed. This study showed that commercial honey exhibited greater inhibition zone which might be due to its high sugar content compared to wild honey. While, the reduced antimicrobial activity wild honey could be caused by improper storage conditions and its processing methods. 83% and 71% concentration of both types of honey samples effectively inhibits *B. subtilis*, *S. aureus*, *E. coli*, and *S. typhi* but some of commercial honey samples could inhibit *B. cereus* growth. Whereas, 63% and 56% concentration both types of honey samples were shown antimicrobial activity against some tested bacteria. No inhibition was observed for honey samples of 50% concentration. Current studies had provided interesting preliminary findings, future studies using other methods such as broth microdilution should be conducted to confirm this preliminary findings.