

## Antimicrobial Property of Musa Plant Extract Against Bacteria Isolated from Wound on The Extremities

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### INTRODUCTION:

Herbal medicines have a long history of usage in wound care management. It was discovered that Musa plant extract seem to have antimicrobial property. Current study was carried out to investigate the antimicrobial properties of *Musa paradisiaca* plant extract against the microorganism isolated from infected wound.

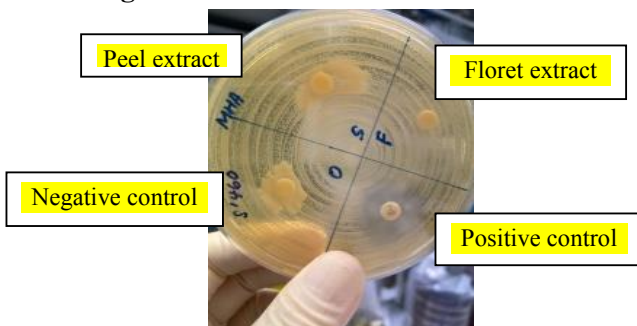
### METHODS:

A total of 100 patients admitted to orthopaedic ward of Sarawak General Hospital from July 2021 until March 2022 with wound at extremities who fulfilled inclusion criteria were selected. Tissue samples collected after surgical debridement was couriered to UNIMAS laboratory. *Musa* peel extracts were processed and tested against the isolated bacteria and the antimicrobial property of these extract were determined.

### RESULTS:

20µg *Musa* peel extract per disc showed negative results to all 74 isolated organisms. Figure 1 shows *Musa* extract interaction on Mueller-Hinton agar. There were no zone inhibition observe except on positive control. The most common organism isolated was *Staphylococcus spp.* with 28.4% occurrence. Among diabetic patient, majority of bacteria isolated are gram negative (55.6%).

Figure 1:



### DISCUSSIONS:

Due to the limitation of raw material, we only managed to prepare *M. Paradisiaca* peel extract at the concentration of 1mg/ml. 20µg of the extract tested against 74 isolated bacteria-cultured petri dishes to observe antibacterial property. The result after 24 hours incubation showed no demonstrable antimicrobial property.

Nevertheless, multiple previous studies have shown that *Musa* plant extract exhibited antimicrobial properties. The different parts of *Musa* plant have shown different concentrations in which they exhibit antimicrobial properties. Flower extracts have shown to have Minimal Inhibitory Concentration (MIC) ranging from 6-25µg, leaf extract(31.25-125µg), corm extract (0.5-1.5mg).

### CONCLUSION:

*Musa* peel extract at concentration of 20µg per disc did not pose any antimicrobial effect against the isolated microorganism from extremity wounds. Further research could be done with larger sample size, higher concentrations of *Musa* extract and with different parts of *M. paradisiaca*.

### REFERENCES:

1. Venkatesh(2013). Antibacterial activity of ethanol extract of *Musa paradisiaca* *Asian J. Pharm.Clin. Res*,6
2. Ariffin M.(2021). In vitro antibacterial evaluations of *Musa paradisiaca*. *Journal of Applied Pharmaceutical Science*, 11.