EVALUATION OF ANTIBACTERIAL ACTIVITY AND SYNERGISTIC EFFECTS OF *Psophocarpus tetragonolobus* (Linn.) D.C AND *Vigna unguiculata* (Linn.) Walp. ssp. sesquipedalis WITH ANTIBIOTICS AGAINST SKIN PATHOGENIC BACTERIA

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Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
in the Faculty of Applied Sciences
Universiti Teknologi MARA

JULY 2018

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude and deepest appreciation to my supervisor, Dr. Lo Chor Wai for giving me the opportunity to further my study under her supervision. Her brilliant ideas, suggestion, constant support, guidance, motivation and patience during her supervision, both academically and personally throughout this project are much appreciated. This project would not have been possible without her continuous guidance and support.

My sincere appreciation also goes to my lab mates, Nurfarahin Abu Bakar and Serafina Banyi for their assistance and advice throughout my research. My appreciation also goes to Marysia Denisius and Nurfaridah binti Syafie for helping me to collect plant samples. To all my fellow friends, lecturers (Mrs. Farnidah Jasnie and Mr. Ajimi Jawan) and also my parents, thank you for giving continuous help and encouragement throughout this project. My compliments and gratitude also conveyed to the laboratory assistants, Mr. Sufri and Mr. Hanafi for giving continuous assistance and cooperation during the experimental works.

Last but not least, I would like to sincerely thank everyone again who has contributed in the completion of this project either directly or indirectly. Your support and assistance are very much appreciated.

Hapy ak Bedindang

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ABSTRACT

EVALUATION OF ANTIBACTERIAL ACTIVITY AND SYNERGISTIC EFFECTS OF *Psophocarpus tetragonolobus* (Linn.) D.C AND *Vigna unguiculata* (Linn.) Walp. ssp. sesquipedalis WITH ANTIBIOTICS AGAINST SKIN PATHOGENIC BACTERIA

This study emphasizes on two species of plants which are *Vigna unguiculata* (Linn.) Walp. ssp. sesquipedalis and *Psophocarpus tetragonolobus* (Linn.) D.C. Previous study on these plants revealed their antibacterial activity potential against *Staphylococcus aureus* and *Pseudomonas aeruginosa*. The main objective of this study is to discover the potential of *Vigna unguiculata* and *Psophocarpus tetragonolobus* to treat skin infections through the screening of phytochemical constituents and also antibacterial activity against skin pathogenic bacteria, *S. aureus* and *P. aeruginosa*. This study also aimed to identify the potential of both plants in combination with commercial drugs to enhance the antibacterial activity of the drugs against tested organisms. Both plants in this study were extracted using absolute methanol and qualitative phytochemical screening was done using Standard Colour Tests. Disc diffusion method was used in both antibacterial and synergistic antibacterial activity against *S. aureus* and *P. aeruginosa*. For phytochemical screening of methanolic leave extracts of *Vigna unguiculata*, flavonoid, alkaloid, tannin, phenols and saponin were detected. While flavonoid, tannin, terpenoid, and saponin were present in the screening of methanolic pod extracts *Psophocarpus tetragonolobus*. Both plants did not exhibit antibacterial activities against the tested organisms. However, synergistic antibacterial activity of both plants with the commercial antibiotics was detected. Synergism effect was observed for combination of *Vigna unguiculata* with Kanamycin and also *Psophocarpus tetragonolobus* with Kanamycin against *S. aureus*. Synergism effect was also observed in combination of *Psophocarpus tetragonolobus* with Gentamicin against *P. aeruginosa.* Antibacterial activity against *S. aureus* showed indifference interactions for the combination of *Psophocarpus tetragonolobus* with Kanamycin and Gentamicin and *Vigna unguiculata* with Gentamicin. While for the activity against *P. aeruginosa*, indifference interactions were observed in combination of *Vigna unguiculata* with Kanamycin and Gentamicin and *Psophocarpus tetragonolobus* with Kanamycin. Antagonism interaction portrayed in the combination of *Vigna unguiculata* with Amoxicillin against *S. aureus*. In conclusion, although the individual plants with antibacterial phytochemical properties did not portray antibacterial activity but showed synergism effects with selected commercial drugs. For future study, it is recommended that quantitative phytochemical evaluation and further antibacterial efficacy be conducted.