

**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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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.