In vitro Evaluation of the Herbal Cream Formulation from Methanolic Leaf Extracts of *Tephrosia vogelii* Hook.f for Topical Application

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ABSTRACT

Background: Topical infectious are among of global challenges which propelled up with antimicrobial resistances. This scenario compels for drug discovery and development. Herbal formulation is one of important struggle in the drug development with the purpose of overcoming various diseases distressing health care settings. Thus, this study aimed to formulate and evaluate herbal cream from leaf methanolic extracts of *Tephrosia vogelii* Hook.f for topical therapies.

Methods: Herbal cream was prepared by homogeneously mixing up cream base and methanolic leaf extracts of *Tephrosia vogelii.* Physicochemical properties and *in vitro* antimicrobial activities of the cream were evaluated. The stability, colour change, washability and texture were parameters used evaluate physicochemical properties of cream. Disc diffusion method was employed to evaluate antimicrobial activities of the cream against *Candida albicans* (ATCC 90028), *Escherichia coli* (ATCC29953) and *Staphylococcus aureus* (ATCC25923).

Results: Formulated herbal creams; $CBTV_1$, $CBTV_2$ and $CBTV_3$ with methanolic extracts concentrations content of *Tephrosia vogelii* 0.05 %, 0.10 % and 0.25 %, respectively, were prepared. All cream formulations were stable, washable by water, green in colour and soft. The $CBTV_3$ product exhibited with high prominent antimicrobial activity compared to the rest, henceforth promisingly to be effective for topical skin therapy.

Conclusion: The herbal cream formulation of methanolic leaf extract of *Tephrosia vogelii* at 0.25% appeared to have more antimicrobial performance. Therefore, it is considered as minimal concentration for the herbal cream formulation in future for clinical trials as a potential antifungal and antibacterial agent product for treatment of skin infections.

Key words: *Tephrosia vogelii*, herbal cream, topical therapy, skin infection, disc diffusion