

In vitro Evaluation of Antimicrobial Activity of Selected Ethno veterinary Medicinal Plants Collected from Dawuro Zone, Southern Ethiopia.

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Abstract

Ethno -veterinary medicinal plants have long been used in Ethiopia to treat both human and livestock diseases for generations. Currently, few studies have been conducted on their antimicrobial activity evaluation in Ethiopia. This study, therefore, aimed to evaluate the antibacterial activities of selected ethnoveterinary medicinal plants used for treating livestock ailments in Dawuro Zone, Southern Ethiopia. Ethanol extracts of plants obtained by maceration of roots and leaves of four medicinal plant species were studied for potential antimicrobial activity using a disc diffusion method against *S. aureus* and *E. coli*. Data obtained from experiments was analyzed using ANOVA and significantly test was set to $P < 0.05$. The *in vitro* evaluation of the antibacterial activities of four ethanol extracts of leaves of *Withania saminfera* L., *Becium obovatum*, *Ageratum conyzoides* L., and root of *Pentas lanceolata* (Forssk.) Defiers indicated good activity against *S. aureus* but not effective on *E. coli*. The result showed that there was no significant difference between tested plant species and concentrations ($p > 0.05$). The minimum inhibitory concentration (MIC) of the four test extracts were ranged between 6.25 to 25mg/ml, while the bactericidal activity ranged from 12.5 to 100 mg/ml. This finding on the selected medicinal plants of Dawuro Zone supports the traditional claims of effective antimicrobial activity on the treatment of livestock health management. Hence, the study suggests further investigations needs to be conducted to isolate and elucidate active ingredients in the plant materials tested.

Keywords: *Antibacterial activity, Dawuro zone, Evaluation, Medicinal plant*