



***Oxalis corniculata* L. in Tanzania: traditional use, cytotoxicity and antimicrobial activities**

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ABSTRACT

Objectives: *Oxalis corniculata* Linn (creeping wood sorrel) is a weed plant species traditionally widely used as a raw vegetable and in folk medicine to treat different human ailments by different Tanzanian ethnic groups. However, not many reports are available on the pharmacological rationale for its wide application in the country. This study presents the traditional use, cytotoxicity and antimicrobial activities of *Oxalis corniculata* indigenous from Tanzania.

Methodology and results: Extracts were made from whole plant using water, methanol and ethanol solvents. Traditional uses were collected from interviewing 25 ethnic groups each represented by at least five members using a guided questionnaire. The extracts were tested for antifungal, antibacterial activities and brine shrimp cytotoxicity. Results showed relatively mild cytotoxic activity against brine shrimp larvae LC₅₀ value of 156 µg/ml. The antimicrobial activities were positive against standard fungal and both Gram-positive and Gram-negative bacteria strains of medical importance with the highest inhibition zone in a Gram-negative bacteria *Escherichia coli* (7.5 mm/48 hrs) and a fungi *Candida albicans* (4 mm/48 hrs).

Conclusion and application of findings: The traditional uses of *Oxalis corniculata* in treating tonsillitis, toothaches, flu, diarrhea and antirust were recorded for the first time. Besides, the plant extracts showed strong antimicrobial activities against pathogens of human importance and less toxic to cells, which support its use as a cure for some human ailments. The study findings thus support its traditional medicinal use and envisage a purposeful thorough study for isolating the bioactive compounds, up scaling for possible developments into nutraceuticals and drugs.

Key words: *Oxalis corniculata*, cytotoxicity, folk medicine, *Escherichia coli*, *Candida albicans*, *S. aureus*, antimicrobial activity.