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# Antimicrobial activity of crude and semi-purified fractions of *Warburgia ugandensis* against some pathogens

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**Objective:** To investigate *in vitro* antimicrobial activities of leaves and heartwood crude and semi-purified fractions of *Warburgia ugandensis* (Canellaceae) (*W. ugandensis*) on some pathogens.

**Methods:** Crude and semi-purified fractions of the leaves and heartwood of W. ugandensis were prepared. Six bacteria [*Klebsiellapneumoniae (K. pneumoniae), Escherichiacoli (E. coli), Pseudomonas aeruginosa (P. aeruginosa*), *Shigellaboydii (S. boydii), Staphylococcus aureus (S.aureus*) and *Streptococcuspneumonia*] and one fungus (*Candida albicans*) were tested by agar well diffusion and broth dilution method to determine minimum inhibitory concentration (MIC).

**Results:** *S. boydii* and *S. aureus* were found to be the most susceptible bacteria isolated in agar well diffusion and broth dilution method of both the crude and petroleum ether extracts, while *K. pneumoniae* was the most resistant bacterium isolated under the same condition except in chloroform fraction. *K. pneumoniae* had shown MIC value of 10 mg/mL in the leaves and heartwood in both the crude and petroleum ether extract. *S. boydii* and *S. aureus* had shown the MIC value of 1.0 mg/mLin the crude extract for the both leaves and heartwood; whereas the petroleum ether semi-purified fraction had shown 0.5 mg/mL in the heartwood. In the crude extract, *E. coli* and *P. aeruginosa* exhibits similar MIC value of 1.75 mg/mL. In semi purified petroleum ether extract, *E. coli* had MIC value of 1.0 mg/mL; whereas *P. aeruginosa* had shown no change in crude extract. *Candida albicans* revealed equal MIC value of 1.0 mg/mL for the both crude and semi-purified fractions of the leaves and heartwood.

**Conclusions:** The crude and semi-purified fractions of *W. ugandensis* have considerable effect on pathogens. Semi-purified petroleum ether fraction has better antimicrobial activity in both agar well diffusion and broth dilution method. This study further shows the potential of *W. ugandensisfor* further study in order to be use as a modern drug.

## Biography

Yibeltal Merawie has completed his M.Sc. at the age 32 from university of Gondar in Applied Microbiology, and currently undertaking his PhD in Addis Ababa university. He has around ten years of teaching experience in different governmental and private institutions. He has published one article and has been granted two research projects from university of Gondar, which the manuscripts are currently ready for communication.

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