



In-vivo Antidiarrhoeal and In-vitro Antibacterial Activities Evaluation of the Root Extract and Solvent Fractions of *Brucea antidysenterica* J. F. Mill (Simaroubaceae)

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Abstract:

Diarrhoea is a pass of watery stool at least three times or more in a day. Up to now there is no definitive drug to cure patients with diarrhoea, emergency of drug resistance to the conventional antibiotics makes the treatment of diarrhoea more challenging. *Brucea antidysenterica* is one of the several medicinal plants used traditionally for the treatment of diarrhoea. Hence, the aim of the present study is to investigate the antidiarrhoeal and antibacterial activities of the crude root extract and solvent fractions of *B. antidysenterica*. Plant material was collected and authenticated. It was washed, dried, pulverized, and then extracted by cold maceration using 80% methanol and fractionated with different solvents. The antidiarrhoeal activity was tested using castor oil-induced diarrhoea, castor oil-induced charcoal meal test and castor oil-induced enteropooling models. Moreover, the antibacterial activity of the crude extract was conducted using agar well diffusion and broth micro dilution method. Minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were also determined. The highest concentration (800mg/mL) of test extract showed maximum antibacterial effect in all tested standard strains of bacteria (18.3 mm-22 mm). While MIC and MBC values (0.39 mg/ml and 1.56 mg/ml) indicated that *S. flexneri* was the more susceptible pathogen for test extract.

Biography:

Kaleab Alemayehu Zewdie is a pharmacist by profession and he is also working in Mekelle University as a lecturer of Pharmacology. He holds a BPharm degree in pharmacy and MSc in Pharmacology from Mekelle University. He has 1 year of public practice in rural part of Ethiopia and 3 years teaching experience in Mekelle University. Kaleab grew up in



Addis Ababa, Ethiopia and he is eager to solve communicable and infectious diseases after his public experience in rural part of Ethiopia.

Recent Publications:

1. Kaleab Alemayehu Zewdie, et al; Global, regional, and national burden of chronic kidney disease, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017, 2020
2. Kaleab Alemayehu Zewdie, et al; The global, regional, and national burden of cirrhosis by cause in 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017, 2020
3. Kaleab Alemayehu Zewdie, et al; Potential effect of hydroxychloroquine in diabetes mellitus: a systematic review on preclinical and clinical trial studies, 2020
4. Kaleab Alemayehu Zewdie, et al; Netrin as a novel biomarker and its therapeutic implications in diabetes mellitus and diabetes-associated complications, 2018
5. Kaleab Alemayehu Zewdie, et al; Thioredoxin-interacting protein as a novel potential therapeutic target in diabetes mellitus and its underlying complications, 2020

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