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Evaluation of pharmacological effects and phytochemical screening of *Rumex hastatus extracts*

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Rumex hastatus is being used in the remedy of various diseases. The current study was aimed to investigate the in vitro pharmacological effects of *R. hastatus*. For this purpose, antibacterial activity, antioxidant potential, phytochemical screening and the total contents of phenolic and flavonoids were evaluated. The antibacterial activity was performed against seven clinical bacterial pathogens viz., *Escherichea coli, Serratia marcesscens, Klebsiella pneumoniae, Staphylococcus epidermidis, Streptococcus pyogenes, Pseudomonas aeruginosa, and Staphylococcus aureus* through agar well diffusion method. Antioxidant activity was measured using ABTS and DPPH assays. It was observed that *S. aureus, S. pyogenes and S. epidermidis* were the most susceptible clinical pathogens to methanolic, ethanolic and acetonic extracts of *R. hastatus* with 9.0± 0.0 mm, 5.66± 0.57 mm and 6.66± 0.57 mm zone of inhibition. Similarly, acetone and methanol (70% and 60%) also showed the significant antioxidant potential by ABTS assay whereas DPPH assay showed 98% scavenging potential for methanolic and ethanolic fractions and 93% in case of acetone. Qualitative phytochemical screening gave the positive indication for the presence of flovonoids, phenols, terpenoid, tannins, protein, carbohydrate, amino acids, phytosteriods, quinones and saponins. Thin layer chromatography (TLC) and TLC-developed plates also indicated the presence of flavonoids, bioactive compounds and antioxidant constituents. The spot screening and TLC-bioautography against all tested pathogens showed the significant use of *R. hastatus* as antibacterial agent. Therefore current studies demonstrated that *R. hastatus* can be used as a good source of antibacterial and antioxidant agents due to the presence of phytochemical nutritional elements.

Biography

Rozina Ghulam Mustafa has completed her M.phil degree at the age of 25 years from the University of Azad Jammu and Kashmir Pakistan and continuing her Ph.D form the same university. She is giving her services as visiting lecturer in the department of zoology of the same university. She has two publications in reputed journals; four to five submitted papers and participated as delegate and organizer in national as well as international congresses as well. She is also working as research associate in a project entitles as "Biodiversity, molecular characterization, genetic analysis and pharmaceutical impact of earthworms".

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