

Phytochemical Analysis of Chlorobenzene Leaves Extract of *Grewia Tenax* for its Bioactive Components Through Gas Chromatographic Mass Spectrometry (GCMS) and its Antibacterial Activity by Using Agar Well Diffusion Method

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ABSTRACT:

The plant *G. tenax* is reputed to cure upset of stomachs, some skin and intestinal infections, cough, fever, diarrhoea, dysentery, jaundice, rheumatism and have mild antibiotic properties. The present study has been carried out on the phytochemical analysis and antibacterial activity of Phytoconstituents in Chlorobenzene Extract of *Grewia tenax* leaves (CBEGTL) by using Continuous soxhlet percolation extraction method. The phytochemical analysis was done by using gas chromatography-mass spectroscopy (GC-MS) whereas the mass fragment spectra of the compounds were compared with the NIST and WILLY library. The antibacterial activity of CBEGTL was performed against four different type of gram positive (*S. aureus* & *B. megaterium*) and gram negative (*P. aeruginosa* & *E. coli*) human pathogen bacteria by agar well diffusion method at $\mu\text{g/ml}$ concentration. The phytochemical analysis result of GC-MS exhibited that there are very significant phytochemicals found in CBEGTL like Fatty acid, Sesquiterpene, Hydrocarbons, Carbohydrate and Phytosterol compounds. According to antibacterial activity result the CBEGTL exhibited inhibitory activity against *S. aureus* (11mm), *B. megaterium* (11mm) and *P. aeruginosa* (14mm) while no inhibition observed against *E. coli*. Furthermore isolation and characterization of hydrocarbons will be done in next step by using chromatographic techniques and also will be performed antibacterial activity by that hydrocarbon extract.

Keywords: *Grewia tenax*, GC/MS, Phytochemicals, Chlorobenzene extract, Soxhlet extraction, antibacterial activity