

ANTIBACTERIAL AND PHYTOCHEMICAL SCREENING OF VARIOUS FRUITS EXTRACTS OF *ABELMOSCHUS MANIHOT* TRADITIONALLY USED FOR THE TREATMENT OF CHRONIC BRONCHITIS

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ABSTRACT

Abelmoschus manihot (*A. manihot*) is a flowering plant belong to the Malvaceae family that has been used traditionally in Oman to cure bronchitis, wound and toothache. Therefore, the goal of this present study is to prepare the various crude extracts from the fruits of the plant to identify the phytochemical constituents by using Gas Chromatography-Mass Spectrometry (GC-MS) and antibacterial activity by disc diffusion method. The powder of the fruits was extracted with methanol by using maceration method for 24 to 48 hours and then the extract was filtered by using Buchner apparatus. The methanol was removed under reduced pressure and the methanol crude residue was dissolved in a mixture of alcohol-water solution and successively fractionated with hexane, chloroform, ethyl acetate, and butanol to give the corresponding fractions. All solvents were removed from under reduced pressure and the crude various extracts was used to determined their antibacterial activity against *Escherichia coli* (*E. coli*), *Klebsiella pneumoniae* (*K. pneumoniae*), *Proteus vulgaris* (*P. vulgaris*), *Streptococcus pneumoniae* (*S. pneumoniae*), and *Staphylococcus aureus* (*S. aureus*) using the disc diffusion method. In addition, the phytochemicals of each extract were identified by using GC-MS. The results showed that among the extracts hexane and water extracts had the highest antibacterial activity with the range of inhibition zone 0-10.6 mm against the applied bacterial strains. The primary phytochemicals found in the extracts were unsaturated fatty acids, terpenoids derivatives, normal and aromatic hydrocarbons, alkaloid, and flavonoids derivatives. In conclusion, the best antibacterial activity extract of the selected plant could be used for the development of antibacterial agents.