

## Abstract

This study was designed to reveal the constituents of the fixed oils (extracted by solvent extraction method) of some Sudanese medicinal plants by using GC-MS (gas chromatography mass spectrometry), and to assess their antibacterial, antifungal activity using Disc diffusion method. The chosen plants for this study were: *Gynandropis gynandra* – *Capparaceae*; *Hibiscus asper* – *Malvaceae*; *Cucumis prophetarum* – *Cucurbitaceae*; *Citrullus lanatus sub sp. Lanatus* *Cucurbitaceae*; and *Merremia (Ipomea) Dissecta*. The GC-MS analysis of *Gynandropis Gynandra* oil revealed the presence of 17 components and the major constituents were: 9,12-octadecadienoic acid (Z,Z)- methyl ester(19.78%); Linoleic acid ethyl ester (12.16%); 9,12-octadecadienoic acid, ethyl ester(11.88%) ; 9-Octadecenoic acid (Z)-methyl ester(11.43%); and Oleic acid(11.35). At a concentration of 100mg/mL the oil was screened for antimicrobial activities using four standard bacterial strains to assess the antimicrobial activity against: *Bacillus subtilis* - Gram +ve bacteria; *Staphylococcus aureus*- Gram +ve ; *Escherichia coli* - Gram +ve bacteria and *Pseudomonas aeruginosa*- Gram -ve bacteria, in addition the oil was screened for anticandidal activity but unfortunately the results indicate that the fixed oil of cleome *Gynandra cleomaceae* has no any activities against these microorganisms. The GC-MS analysis of *Citrullus lanatus (wild) sub sp. Lanatus* seed oil showed 20 components dominated by: 9,12-Octadecadienoic acid (Z,Z) - methyl ester (46.32%); Methyl stearate (18.39%); Hexadecanoic acid, methyl ester(18.10%) and 9-Octadecenoic acid (Z)- methyl ester(13.22%). At a concentration of 100mg/mL the oil was screened for previous antibacterial

and antifungal where the results were shown a moderate antibacterial activity against *Escherichia coli* and active response against *Bacillus subtilis*, but it shown no anticandidal activity. The GCMS analysis of *Hibiscus asper* oil revealed the presence of 16 components, where the major constituents were: 9,12-Octadecadienoic acid (Z,Z)-, methyl ester (41.34%); 9-Octadecenoic acid (Z)-, methyl ester (25.90%); Hexadecanoic acid, methyl ester (20.84%) and methyl stearate (6.67%). The oil showed moderate antibacterial activity against *Escherichia coli* and active against *Staphylococcus aureus* and weak anticandidal activity. The GC-MS analysis of *Merremia (Ipomea) Dissecta* seed oil showed 20 components dominated by: 9,12-Octadecadienoic acid (Z,Z)-, methyl ester (32.78%); Hexadecanoic acid, methyl ester (23.04%); 9-Octadecenoic acid (Z)-, methyl ester (22.04%) and methyl stearate (13.12%).The oil showed moderate antibacterial activity against *Bacillus subtilis*, but showed no anticandidal activity. The GC-MS analysis of *Cucumis prophetarum* revealed the presence of 9 components, and the major constituents were: Linoleic acid ethyl ester (54.25%); 9,12-Octadecadienoic acid (Z,Z)-, methyl ester (16.86%); gamma.-Sitosterol (8.14%); and n-Hexadecanoic acid (6.06%). The fixed oil did not show any activities against the previous microorganisms.