

In vitro study of antibacterial profile of *Aegle marmelos* leaf extract on MRSA (Methicillin resistant *STAPHYLOCOCCUS AUREUS*).

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ABSTRACT

An alarming increase in the antibiotic resistant bacterial strains, forces mankind to search for newer compounds. The scope of medicinal plants as potent therapeutic agents in biomedicine for the treatment of infectious diseases is reflected in our research work. An attempt was made to investigate the antibacterial activity of *Aegle marmelos*. Crude ethanolic extract of the leaves was subjected to antibacterial sensitivity test against MRSA (methicillin resistant *staphylococcus aureus*), *E.coli* and *Salmonella typhi* bacterial strains. The ethanolic extract showed significant antibacterial activity against MRSA. Thin layer chromatography (TLC) was employed to isolate active constituents from the crude extract. Characteristic yellow bands were observed indicating the presence of flavonoids. The crude extract was further purified by column chromatography to fractionate active phytochemical principles. The fractions demonstrated good antibacterial activity against MRSA and active phytochemical compounds were identified by GC-MS method. The present study authenticates the antibacterial potential of *Aegle marmelos* against MRSA. Standardisation of bioactive principles and clinical trials of the bioactive extract may prove the plant to be a promising drug for the treatment of infectious diseases in the near future.