

## ABSTRACT

Infectious diseases remain a global health burden due to development of antibiotic resistance by pathogenic microorganisms. Antibiotic resistance has led to increased number of deaths among children and adults. This study sought to isolate and identify fungal endophytes from selected Kenyan medicinal plants and screen them and their extracts for bioactivity against selected test human pathogens. Fifty-five fungal endophytes were successfully isolated from fresh leaves of twenty-three medicinal plants from Kakamega forest. The DNA of fungal endophytes was extracted and molecular characterization was done through sequencing of the internal transcribed spacer region (ITS). The isolated fungal endophytes belonged to nine genera in the Ascomycota group, namely *Fusarium*, *Colletotrichum*, *Trichothecium*, *Phomopsis*, *Pestalotiopsis*, *Cladosporium*, *Aspergillus*, *Phoma*, and *Chaetomium*. Extracts from *Aspergillus* sp. demonstrated antimicrobial activity at low concentrations of 2.34 µg/ml against *B. subtilis* and 9.38 µg/ml against *Candida tenius*; while extracts from *Colletotrichum* sp. demonstrated antimicrobial activity at moderate concentration (37.5 µg/ml) against *B. subtilis* in the serial dilution assay. These results show that medicinal plants are a reservoir to a diversity of fungal endophytes that could be exploited as sources of natural products of pharmaceutical importance.

**Keywords:** Antibiotic resistance, antimicrobial, bioactive, fungal endophytes.