Human health is faced with many challenges caused by microbial infections. The situation has been worsening over time due to several factors which include emergence of new infectious diseases. The Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome and development of drug resistance by microorganisms has also contributed a lot to the problem facing human health. In Kenya, use of medicinal plants to treat various ailments, including infectious diseases, has been going on from time immemorial. Scientific data on the efficacy and safety of these plants are insufficient. Screening of plant extracts for pharmacologically active agents has also lead to the discovery of many clinically useful drugs. These spur the need to continuously carry out research with the aim of finding alternative antimicrobials. The current study was aimed at assaying extracts from selected medicinal plants used to treat infectious diseases by Keiyo community against some selected microorganisms. Methanol extraction of all the plants studied was done and sequential (hexane, dichloromethane, ethyl acetate and methanol) and alkaloid rich portions of *Tabernaemontana stapfiana* was carried out. The extracts of stem bark, leaves and root bark were screened against reference strains and local clinical isolates including bacterial strains *of Salmonella typhi, Pseudomonas aeruginosa, Klebsiella pneumoniae, Enterococcus faecalis, Bacillus subtilis* and *Staphylococcus aureus.* Fungi were also sreened, including yeast strains *of Candida albicans* and *Cryptococcus neoformans* and filamentous fungal strains *of Trichophyton mentagrophytes* and *Microsporum gypseum.* Multiple-drug resistant strains (MDRS) of *Staphylococcus aureaus* and *Klebsiella pneumoniae* were included. Minimum inhibitory concentration (MIC) and minimum bactericidal/fungicidal concentration (MBC/MFC) *of* the active extracts were determined. The methanol extracts showed good antimicrobial activity against both bacterial and fungal strains used including the multiple drug resistant *Staphylococcus aureus* strain with minimum inhibitory concentrations ranging from 15.6 to 8000 µ/ml and minimum bactericidal/fungicidal concentrations ranging from 31.25 to 8000 µg/ml. The sequential extracts *of T. stapfiana* had a better antimicrobial activity with minimum inhibitory concentrations (MICs) ranging between 3.9 and 500 erg/ml and minimum bactericidal/fungicidal concentrations (MBCs/MFCs) between 7.8 and 2000 µg/ml against the tested microorganisms. However, the alkaloid rich fractions exhibited reduced antimicrobial activities as compared to methanol and sequential extracts with MICs and MBCs values ranging between 15.6 and 2000 µg/ml and 31.25 and 2000 µg/ml, respectively. The phytochemical screening showed the presence of various classes *of* compounds. There was presence of alkaloids and saponins in *T. stapfiana* methanol and sequential extracts. The alkaloid rich fraction did not have saponins, and therefore the lowered activity indicates a possible additive or synergistic activities of saponins and alkaloids when they are combined. Extracts from *T. stapfiana* and *Indigofera homblei* have activity against multiple drug resistant *Staphylococcus aureus.* Medicinal plants have a wide range *of* antibacterial and antifungal activities and therefore justify their usage as medicine by the local population.