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Antibacterial Activity of Ethanolic and Methanolic Extracts of *Trigonella foenum-graecum* (Fenugreek) and *Mentha piperita* (Peppermint) against *Escherichia coli* and *Staphylococcus aureus*

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The significant increase in antimicrobial resistance exhibited by microorganisms has caused the urgency for novel broad-spectrum antibiotic alternatives. This has led to extensive research on the therapeutic potential of medicinal plants, its beneficial effects typically resulting from the presence of plant secondary products. The current study was sought to detect and determine the effect of the antibacterial activity of the ethanolic and methanolic extracts of the seeds of fenugreek (Trigonella foenum-graecum) and the leaves of peppermint (Mentha piperita) against bacterial strains of Escherichia coli and Staphylococcus aureus. The antimicrobial susceptibility test, including minimum inhibitory concentration and minimum bactericidal concentration were determined using the well-diffusion and broth-dilution methods, respectively. The tested bacterial strains showed a concentration-dependent growth inhibition towards the plant extracts. The highest mean growth inhibition zones, being 12.5 ± 1.8 mm and 20.6 ± 2.1 mm, were obtained with the 100 mg/mL methanolic extracts of both fenugreek and peppermint, respectively, against S. aureus, with a minimum inhibitory and minimum bactericidal concentration of 25 mg/mL and 50 mg/mL, respectively, for the peppermint extract.

Keywords: *antibacterial activity, crude extracts, Mentha piperita, Trigonella foenum-graecum, growth inhibitory effect, S. aureus, E. coli*