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Antibacterial activity of some asian lamiaceae's essential oils in compared with antibiotics against
five gram_positive bacteria

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Abstract

The purpose of the present research was to investigate the antibacterial activity of different volumes of some five natural Lamiaceae plants'essential oils on five gram-positive bacteria compared to three antibiotics. the essential oils were thyme (*Zataria multiflora* Boiss), rosemary (*Rosmarinus officinalis* L), savory (*Satureja hortensis* L), pennyroyal (*Mentha pulegium* L) and spearmint (*Mentha viridis* L) was examined against *Bacillus cereus*, *Staphylococcus aureus*, *Enterococcus faecium*, *Listeria monocytogenes* and *Enterococcus faecalis* compared to penicillin, tetracycline and chloramphenicol using disk diffusion method by measuring Inhibition zone diameter at ۱۰, ۱۵ and ۲۰ microliter in triplicate. The chemical compositions of the essential oils were determined through gas chromatography analysis provided by manufacturers experiments. The results showed thyme, savory and rosemary had more antibacterial effect compared to antibiotics, and thyme was rich in essential oils. *Enterococcus faecalis* showed the more resistance on thyme at all and savory at ۱۰ microliters compared with other bacteria. It was therefore exhibited essential oils were completely efficacious in promising bacteria growth and could be used as a natural anti-bacterial factors in food industries, as inhibiting biopreservatives.

Keywords: Essential oil, Gram-positive bacteria, Antibiotics, Antibacterial, Inhibition zone diameter