

Study on the effects of *origanum majorana* essential oil on E.coli and the Chemical constituents of Essential oil

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Abstract:

Origanum majorana (Lamiaceae) is well-known for high Phenolic contents. These compounds prone to have antibacterial activity. UTI with high prevalence and increasing resistance to conventional antibiotics is a matter of concern for health services. E.coli is the most detected pathogen in UTI cases(1). So the aim of present study was to investigate the effects on *O.majorana* essential oil on and E.coli and it's chemical constituents.

Materials and Methods:

Aerial Parts of *O.majorana* were collected from population growing in Golestan province. A voucher specimen was deposited to the plant species in herbarium of Department of Pharmacognosy, School of Pharmacy, Hamadan University of Medical Sciences. The air dried plant material was subjected to hydrodistillation to prepare essential oil. The essential oil kept in refrigerator until use. The essential oil was injected to GC/MS for identification of constituents. The zone of inhibition against E.coli were determined using Agar well diffusion method.

Results:

Forty-four Compounds were identified in the essential oil. The major compounds were Thymol (18.58%), P-cymen (14.34%), 4-terpineol (13.25%), γ -terpineol (10.88%), α -terpineol (5.63%), linalool (4.98%) and E.caryophyllene (3.53%), respectively.

The zone of *O.majorana* essential oil against E.coli was.

Discussion:

The findings of present study shows profound antibacterial effects of *O.majorana* essential oil on E.coli.

the main component of the plant is thymol as detected by GC/MS. Thymol has a phenolic structure. The profound effect of plant on E.coli may be related to Thymol(1).

Conclusion:

O.majorana essential oil may be a candidate for treatment of UTI.

Key words:

Origanum majorana, Lamiaceae, urinary Tract infection, Essential oil, escherichia coli