

The objectives of this thesis were to study the antimicrobial action of the volatile oil from *Hyptis suaveolens* and to formulate the cream compounded of this oil.

When water distilled, preliminary quality controlled by GC, and tested for antibacterial activity by a well diffusion method, the volatile oil from an aerial part of *Hyptis suaveolens* (Labiatae) was found to inhibit the growth of *S. aureus* ATCC 29213 and *E.coli* ATCC 25922 at dilution of 1:80 and 1:10, respectively. The study of minimum inhibitory concentration (MIC) by an agar dilution method showed the values of MIC at 8.82-17.64 mg/ml and 4.41 mg/ml for *S. aureus* and *S. pyogenes*, respectively.

Thirteen suitable cream bases compounded of 30%w/w of oil were prepared and then evaluated for the best formulae in term of the physical properties, stability and antibacterial activity. Only 4 formulae passed screening criteria and then were tested for the antibacterial activity by using Garamycin[®] cream as a positive control. All creams were also tested for a primary irritation on the skin of the albino rabbits. The results indicated that all 4 tested creams and Garamycin[®] cream had similar antibacterial activity level for *S. aureus* ATCC 29213 and caused no irritation.

All data obtained from this research were essential for further studies in the clinical phase.