

Addiction-2019: Chemical composition, antioxidant and anti-bacterial activity of *Thymus vulgaris* essential oil from Chlef and Sidi Bel Abbes regions on pathogenics strains responsible for urinary tract infections - Rahmani Soraya- Chlef University, Algeria

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The basic oil from thyme (*Thymus vulgaris* L.) can be utilized as a likely natural additive in ecofriendly control of biodeterioration of food products during capacity. The thyme basic oil might be suggested for enormous scope application as a plant-based additive for put away food things in light of its solid antifungal just as antiaflatoxicogenic viability. This oil indicated most elevated antifungal viability. The thyme oil completely hindered the mycelial development of *Aspergillus flavus* and displayed an expansive fungitoxic range against eight distinctive food-debasing parasites. The oil additionally demonstrated noteworthy antiaflatoxicogenic viability as it totally captured the aflatoxin B1 creation. Thyme oil as fungitoxicant was additionally seen as better over the majority of the pervasive engineered fungicides. The thyme basic oil might be detailed as a protected and prudent plant-based additive against postharvest parasitic pervasion and aflatoxin tainting of food commodities. Both oregano and thyme fundamental oils are normally remembered for vaginal suppositories for the treatment of vaginal diseases, including HPV contamination. One investigation writes about the adequacy of thyme as an antibacterial, and in another examination oregano and clove oils were weakened and analyzed for their action against encompassed and nonenveloped RNA and DNA infections. Olive oil was likewise included as a control. Infections were brooded with oil weakenings and counted by plaque examine. Antiviral movement of oregano and clove oils was shown on two encompassed infections of both the DNA and RNA types and the deterioration of infection envelope was envisioned by negative recoloring utilizing transmission electron microscopy. Abstract:

Background: The present work investigates the chemical composition; the antioxidant and the antimicrobial activities of the essential oil of one species of the *Lamiaceae* family growing in Algeria (Chlef and Sidi Bel Abbes regions); *Thymus vulgaris* on pathogenics strains responsible for urinary tract infections.

Methods: Essential oils obtained by hydrodistillation of the areal parts of the studied plants was analyzed by GC and GC/MS. The antioxidant activity capacity of the essential oils was measured using two different assays: free radical scavenging activity of DDPH (2,2-diphenyl-1-picrylhydrazyl) and the reduction of FRAP iron, while the antibacterial activity was determined by the agar well diffusion method against twelve (12) pathogenics strains responsible for urinary tract infections.

Results: For DDPH and FRAP assays, *Thymus vulgaris* from the two regions of Algeria presented a very interested activity. On the other hand, it was found that the essential oils of the studied plants exhibited an important resistance against most of the pathogenics bacteria. The study of the relation between the chemical composition of the essential oils, the antimicrobial and the antioxidant activities reveal the presence of different strong correlation with some major identified compounds. Natural science is a sub-field of science that includes examining the atoms of life. It is essentially worried about taking a gander at the structure and conduct of these particles, which are made out of just a couple of various sorts of iotas: carbon, hydrogen, oxygen, nitrogen, and a couple of different others. These are the particles used to build the atoms that all plants and creatures require for their endurance. Conventional natural scientists are worried about blending new particles and with growing new

responses that may make these combinations progressively effective. The sorts of particles natural scientists integrate incorporate valuable things like medications, flavorings, additives, aromas, plastics (polymers), and rural synthetic substances (manures and pesticides), and in some cases incorporate bizarre atoms found in nature or ones that may essentially give a test to make. Additionally, understanding something about natural science is fundamental for finding out about organic chemistry and sub-atomic science on the grounds that bio-particles, for example, proteins, sugars, fats, and nucleic acids (DNA and RNA) are generally natural particles, but extremely huge ones.

Conclusion: As a conclusion, the essentials oils tested in this study show an interesting and strong antioxidant and antimicrobial activities. All the samples had inhibited the growth of the tested microbial strains. These effective activities are due to the presence of several compounds, like Thymol, Thymol methyl-Ether and γ -Terpinene in their chemical composition.

Key words: *Thymus vulgaris*, essentials oils, urinary tract infections, the antibacterial activity, antioxidant activity

Chemical composition; antioxidant and antibacterial activity of the essential oil of the flowers of *lavandula officinalis*

Several research work has been focused on essential oils extracted from aromatic plants. The various published results indicate that they have several biological properties. In this context, we tried to evaluate in vitro the antibacterial and antioxidant activity of the essential oil extracted from the dried flowers of *lavandula officinalis*. The oil likewise demonstrated huge antiaflatoxic viability as it totally captured the aflatoxin B1 creation. Thyme oil as fungitoxicant was additionally seen as better over a large portion of the common engineered fungicides. The thyme basic oil might be figured as a protected

and efficient plant-based additive against postharvest contagious pervasion and aflatoxin sully of food products. The extraction was carried out by hydro distillation of the flower leaders of the plant, the yield was close to 1.45 %. The study of the composition of essential oil by GC / MS has identified 28 Terpene composed of the acetate (17.85 % 89.980 min); 1.8-Cineole (9.97 % 53.512 min); γ -Terpineol (10.23 % 52.425 min) and camphor (12.98 % 24.410min). According to the results obtained following the well and disc method, it can be concluded that the essential oil of the flowers of *lavandula officinalis* has a strong antibacterial activity. The study of the antioxidant power of these oils was carried out by the method of DPH and FRAP. The got results showed the existence of an antioxidant activity of the essential oil of the dry flowers of *Lavandula officinalis*.

Key Words: Essential Oil; *Lavandula officinalis*; Antibacterial activity; Antioxidant activity