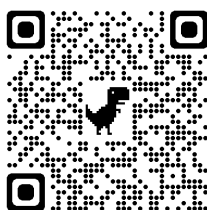


CURRENT RESEARCH TOPICS IN PHARMACY: *Herbal Drug Research*

November 24th, 2022 14.00 PM ISTANBUL

FOR REGISTRATION:



First Session- Moderator: Betül OKUYAN 14.00-15.30 PM

Welcome- Prof. Hatice Kübra ELÇİOĞLU

Safety of herbal drugs- Assist.Prof. Ayfer BECEREN
Marmara University, Istanbul, Turkey

Antibacterial herbal effect applied in cosmetic emulsion preservation- Dr.Rezarta SHKRELI
Aldent University, Tirana, Albania

R&D studies in the development of traditional herbal medicinal products- Prof. İ. İrem TATLI ÇANKAYA
Hacettepe University, Ankara, Turkey

Second Session- Moderator: Betül OKUYAN 16.00-17.30 PM

The role of metabolomics in medicinal plant science-Prof.Emirhan NEMUTLU
Hacettepe University, Ankara, Turkey

Using diterpenoids from *Plectranthus* spp. As starting tool in drug development- Assoc.Prof.Patricia RIJO
Lusofona University, Lisbon, Portugal

Herbal drugs as novel antibacterials- Assoc. Prof. Entela HALOCI
University of Medicine, Tirana, Albania

The potential of certain phytochemicals as essential nutrients- Asst.Prof. Lukasz CIESLA
The University of Alabama, Tuscaloosa, USA

Chair

Prof. Hatice Kübra ELÇİOĞLU

Vice Chair

Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR

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HERBAL DRUG AS NOVEL ANTIBIOTICS

Entela HALOCI^{1*}, Mirela MIRACI¹, Enkelejda GOCI², Rezarta SHKRELI², Simone CARRADORI³, Stefano MANFREDINI⁴, Vilma PAPAJANI¹

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Keywords: herbal drugs, essential oils, medicinal and aromatic plants by Albanian origin

This study is extended in many years, from 2010 in which is investigated the herbal drug biological activity. The evolution of antibiotic-resistant bacteria has been developed very rapidly lately over the world. In this point, there is an urgent need to develop alternative strategies to address this issue. Herbal drugs are a very promising group since they are used since ancient time for their antimicrobial, antifungal and anti-inflammatory properties. The essential oils obtained from medicinal and aromatic plants by Albanian origin, such as *Satureja montana*, *Thymus vulgaris*, *Origanum vulgare*, *Myrtus communis*, *Rosmarinus officinalis*, *Thymus capitatus* and *Salvia officinalis* are studied for antibacterial and antifungal properties in this study.

Essential oils are obtained by hydrodistillation in a Clevenger type apparatus and the chemical composition of isolated essential oils is determined by gas GC/MS and GC/FID methods. Complexes of β -cyclodextrine and essential oils are prepared by cold co-precipitation method with the four ratios oil: β -cyclodextrine as follows 5:95, 10:90, 15:85 and 20:80 (w/w) in order to determine the effect of the ratio on the inclusion efficiency of β -cyclodextrin for encapsulating oil. On the other hand, current topical applications of these volatile compounds turn out to be complicated because of their problems of stability, evaporation and controlled release, which are major problems for their therapeutic uses; Therefore, is studied their microencapsulation in polymers such as β -cyclodextrine which could be the solution to their chemical and physical problems.

The essential oils were tested for antimicrobial and antifungal activity before and after microencapsulation. The antimicrobial test is done by the disc diffusion method using suspension of *P. vulgaris*, *E. coli*, *S. aureus*, *C. albicans* and dermatophytes such as *M. gypseum*, *M. canis*, *A. cajetani*, *T. violaceum*, *T. mentagrophytes*, *E. floccosum*, *T. rubrum*, *T. tonsurans*, *B. cinerea* and *P. oryzae*. Positive controls of antibiotics and antifungals were used for comparison. Essential oils showed high inhibition zones against selected bacterias, and encapsulated ones were found to be more efficient.

In conclusion these essential oils can be applied in many formulations due to their low risk of skin sensitizing and high antibacterial and antifungal activity they demonstrated before and after encapsulation. Further investigation is going on with systemic formulation with complexed essential oils which can be a very useful solution in many patient

REFERENCES

- [1] Adam RP. Identification of essential oil components by Gas Chromatography/Mass Spectroscopy, Allured, Carol Stream, IL, 1995.
- [2] Petrović GM, Stojanović GS, Radulović NS. Encapsulation of cinnamon oil in β -cyclodextrin. J Med Plant Res. 2010; 4(14) : 1382-1390.
- [3] Sivropoulou A, Kokkini S, Lanaras T, and Arsenakis M. Antimicrobial activity of mint essential oils. J Agric Food Chem. 1995; 43: 2384-2388.