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(22nd SPPS Meeting)

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Nepeta nuda tincture Vs. Listerine – who wins the battle against oral pathogens?

PP5-15

Marija Smiljković[1], Maria Inês Dias[2], Dejan Stojković[1], Lillian Barros[2], Danka Bukvički[3], Isabel C.F.R. Ferreira[2], Marina Soković[1]
(marija.smiljkovic.89@gmail.com)

[1] University of Belgrade, Institute for Biological Research "Siniša Stanković", Bulevar despota Stefana 142, 11000 Belgrade, Serbia.

[2] Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal.

[3] University of Belgrade, Faculty of Biology, Institute of Botany and Botanical Garden "Jevremovac", 11000 Belgrade, Serbia.

Antimicrobial activity of *Nepeta nuda* L. (*Lamiaceae*) tincture and Listerine against a selected group of oral pathogenic microorganisms (4 bacterial species and 9 fungal strains) was explored. The activity of *N. nuda* tincture and Listerine to inhibit the formation of biofilm has been compared as well as their potential to demolish biofilm that is already established. Furthermore, based on *in vitro* experiments, the amount of *N. nuda* tincture and swishing time necessary for reaching better or equivalent antimicrobial effect as Listerine were predicted. Chemical constituents in *N. nuda* tincture regarding phenolic compounds were determined by LC-DAD/ESI-MSn. Both Listerine and *N. nuda* tincture possessed good antimicrobial potential, and acted on biofilms on two different developmental stages. When dealing with bacteria that have biofilm forming ability, *N. nuda* tincture would be highly recommended since it showed much better potential to inhibit formation of biofilms. For application via swishing, both mouthwashes should be used for 30 s when dealing with selected microorganisms in general and for 60 s (*N. nuda* tincture, 100 mg mL^{-1}) when dealing with bacterial biofilms. Recommended volume of liquid for swishing is 20 mL. Chemical profiling showed rosmarinic acid and verminoside as the most dominant phenolic compounds present in the *N. nuda* tincture. So, who wins this battle? The authors could conclude that both mouthwashes stand shoulder to shoulder when it comes to exhibiting antimicrobial potential, and since Listerine has been in wide use for long time period, and it would be an attractive challenge to put some competition on the market.

Keywords: mouthwash, oral microorganisms, chemical constituents, biofilms

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