

OC12: Evaluation of antimicrobial activity in products containing Neem oil

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Introduction: Neem oil is obtained from seeds of *Azadirachta indica*, which present 30 to 50% (w/w) of oil per seed. Neem oil has been associated with a great diversity of beneficial properties, namely antimicrobial, anti-inflammatory and insecticide. Information concerning the antibacterial activity of Neem oil is scarce. Although the existing studies have demonstrated activity against both Gram+ and Gram- bacteria, the results are in some cases contradictory and do not include a significant number of organisms, namely organisms associated with skin infections.

Objectives: Evaluation of the antimicrobial activity of products containing Neem oil.

Materials and Methods: Neem oil samples, as well as commercial formulations containing Neem oil and used as skin moisturizer cream, were tested on 14 microorganisms commonly found in the skin and skin pathologies. The antibacterial activity was determined using the agar well diffusion method. Antibiotics were used as positive control. Samples with inhibition zones ≥ 5 mm (well diameter) were considered as having antimicrobial activity.

Results and Discussion: All the samples exhibited activity against all the tested microorganisms. Inhibition diameters between 9.2-20.5 mm were observed for samples whereas for positive controls values between 18.2-41.4 mm were obtained. The activity of the commercial formulations may not be exclusively due to Neem oil, since the inhibition values of formulations tended to be higher than those observed with the oil, and also because higher values were observed for the formulations containing less oil.

Conclusion: The analysed products exhibited satisfactory antimicrobial activity on all the tested bacteria, including organisms frequently associated with skin infections. These results suggest the use of Neem oil formulations may be advantageous, specially if a synergistic effect with other products and/or compounds is potentiated.

References

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