عنوان مقاله:

Comparison of antibacterial activity of essential oils of Foeniculum vulgare Mill, Mentha arvensis and Mentha piperita against Streptococcus mutans

محل انتشار:

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خلاصه مقاله:

Background and aims: Tooth decay is one of the most common chronic diseases around the world and this problem is the result of variety of different bacteria. Streptococcus mutants is one of the most important bacteria which is related to this disease. Finding new effective antibacterial agents is an important area in bioscience for fighting and controlling bacterial infections. Essential oils are most important natural sources of antibacterial agents, particularly against drug-resistant bacteria.Methods: The aim of this study was to evaluate and compare the antibacterial activity of three essential oils Mentha arvensis, Mentha piperita and Foeniculum vulgare Mill against Streptococcus mutants. Disk diffusion method was carried out and the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were measured.Results: The results showed that all three essential oils have antibacterial activity against S. mutants. With a constant concentration of ۱۰۰ µg/µl, the efficiency of Mentha piperita and then Foeniculum vulgare Mill was higher than the efficiency of Mentha arvensis at all ۳ given time points (۲۴, ۴۸ and ۷۲ hours). The most effective MIC and MBC were related to Streptococcus mutants using Foeniculum vulgare essential oil which

were equal to ۸.۴ and ۱۴.۹ µg/ml, respectively. MIC and MBC for Mentha piperita essential oil were measured ۱۰.۵ and ۱۶.۳ µg/ml, respectively.Conclusion: The Essential oils used in present study with different components showed antibacterial activity and therefore they can be used as new antibacterial substances.

کلمات کلیدی:
Chronic disease, Infection, essential oil, Disk diffusion