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Antimicrobial Activity of Different Essential Oils in Synergy with Amoxicillin against Clinical Isolates of Methicillin-Resistant Staphylococcus aureus

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Abstract : Antibacterial activity of different traditional plants essential oils against clinical isolates of Methicillin-resistant Staphylococcus aureus (MRSA) through disk diffusion method was evaluated. All the tested essential oils, in different concentrations, inhibited growth of S. aureus to varying degrees. Cinnamon and Thyme essential oils were observed to be the “best” against test pathogen. Even at lowest concentration of these essential oils i.e. 25 µl/ml, clear zone of inhibition was recorded 9+0.085mm and 8+0.051mm respectively, and at higher concentrations there was a total reduction in growth of MRSA. The study also focused on analyzing the synergistic effects of essential oils in combination with amoxicillin. Results showed that oregano and pennyroyal mint essential oils which were not very effective alone turned out to be strong synergistic enhancers. The activity increased with increase in concentration of the essential oils. It may be concluded from present results that cinnamon and thyme essential oils could be used as potential antimicrobial source for the treatment of infections caused by Methicillin-resistant Staphylococcus aureus (MRSA).

Keywords : Staphylococcus aureus, essential oils, antibiotics, combination therapy, minimum inhibitory concentration
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