

Investigation of antimicrobial activities of newly synthesized sulfonamide based-menthol

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The need of new antimicrobial agents is justified because more microorganisms are being resistance to the currently available antibacterial drugs and this is bringing alarming threat to public health and causing growing concern among people across the globe. At the same time as the old antibiotics are losing their effectiveness, the supply of new drugs is drying up. Sulfonamides are an important class of synthetic bacteriostatic antibiotics still used today for the treatment of bacterial infections and those caused by other microorganisms[1]. In this article, newly synthesized sulfonamide based-menthol antibacterial activity was studied against Gram-positive bacteria *Staphylococcus aureus* and *Pseudomonas aeruginosa* and Gram-negative bacteria *Escherichia coli* and *Bacillus cereus*.

Antibacterial properties of sulfonamide drug against bacteria were assessed using dilution method. Bacteriological tests were performed using the initial concentration of $(1 - 1.5 \times 10^{-5})$ CFU / ml of each type of bacteria. The minimum inhibitory concentration (MIC) of growth and minimum bactericidal concentration (MBC) was determined for each bacteria in the agar medium[2].

The results showed that MIC for bacteria of *E. coli*, *Bacillus cereus*, *Staphylococcus aureus* and *Pseudomonas aeruginosa* were at a concentration of 7000, 4000, 2000, and 3000 milligram per milliliter of sulfonamide, respectively.

Based on the results of this study, bacteria *E.coli* showed the lowest sensitivity and *Staphylococcus aureus* the greatest sensitivity to newly synthesized sulfonamid based-menthol.

Keywords: Antibacterial activity, Gram-positive, Gram-negative, Sulfonamide.

References

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