

Antibacterial Effects of Extract of *Alloe Vera* and *Stachys Inflata* on Gram Positive and Negative Bacteria in *In Vitro*

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Abstract

Background and objective: Antimicrobial and antiviral effects of *Alloe Vera* and *Stachys inflata* have been proved. We aimed to investigate the effects of extract of *Alloe Vera* and *Stachys inflata* on the growth of some bacteria to take the place of chemical drugs.

Material and Methods: the extracts of both plants were prepared by maceration method; different concentrations were prepared using Mueller Hinton agar medium and tested by Disc diffusion. Furthermore, minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined by the Microdilution method.

Results: The effect of *Alloe Vera* extract was significant on *Staphylococcus aureus*. MIC and MBC of *Aloe Vera* extract on *Bacillus subtilis* were obtained in 230 and 410 mg/ml, respectively, which were 500 and 714 mg/ml for *Haemophilus influenza*. The extract of gel of *Alloe Vera* had no effect on *Bacillus subtilis*. The extract of leaf and gel of *Alloe Vera* had an inhibitory effect on *Haemophilus influenza* and *Pseudomonads aeruginosa*. The extract of *Stachys inflata* had an inhibitory effect on *Haemophilus influenza*, but it did not have any on *Pseudomonads aeruginosa*. The Extract of *Stachys inflata* had no effect on *Bacillus subtilis*, while showing significant effect on *Staphylococcus*. Among antibiotics, *Ofloxacin* had an effect on *Haemophilus influenza*. The extract of both plants did not show any effect on *Klebsiella pneumonia*.

Conclusion: Given the effect of *Alloe Vera* and *Stachys inflata* in laboratory conditions, we hope that these extracts will be used instead of chemical substances for making nutritional supplements to control human diseases.

Key words: *Alloe Vera*, Antibacterial, *Stachys Inflata*, Extract