

## 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