

## Antibacterial Effect of Aqueous Extract of Bark of *Acacia speciosa*.

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**Sirissa** (*Acacia speciosa*) is a medicinal plant used in Traditional medicine for the treatment of various ailment. Bark, flowers, leaf, root bark and seed are used in the treatment of various diseases such as diarrhoea, Oro dental diseases, bleeding piles and gonorrhoea. Bark decoction is being used in Oro dental diseases as mouth gargle in form of decoction. Its leaves are being used in form of decoction to wash the sore eye. Powder of root bark is used for bleeding gums that are spongy and ulcerative. Its flowers are used as externally for inflammatory conditions, scabies and vesicles. *Acacia speciosa* has astringent and cooling properties. The aim of the present study was to evaluate the antibacterial effect of bark of *A. speciosa* on selected human pathogenic bacteria. Dried bark powder of *A. speciosa* was prepared with sterile water. This extract was assessed for its antibacterial effect by agar well diffusion method against, *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella* spp, *Pseudomonas aeruginosa*, and *Bacillus subtilis*. Culture plate was prepared by inoculating  $10^6$ /ml cells of bacterial inoculums and mixing with sterile nutrient agar medium and were allowed to set. Four well were bored about 2.5 cm apart in the culture medium using sterile cork borer of 8.0mm in diameter. Then each well was filled with 100 $\mu$ l solutions of the plant extract with the concentration of 10 mg/100  $\mu$ l, 30mg/100  $\mu$ l and 50mg/100  $\mu$ l using sterile micro titer pipettes. Streptomycin(50mg/100  $\mu$ l) was used as standard in fourth well in each plate. A mixture of acetone and sterile water (3:7) was used as control. The diameter of zone of inhibition was measured and the antibacterial activity after 24 hours incubation at 37 °C was recorded. Experiment was repeated thrice. The results are expressed as mean and standard deviation (SD).

[[All 10mg/100  $\mu$ l, 30mg/100  $\mu$ l, 50mg/100  $\mu$ l concentration of aqueous extract of bark of *Acacia speciosa* 43exhibits the growth of all test organisms and higher inhibitory effect on *B.subtilis* and *S. aureus*, *P. Aeruginosa*, *Klebellla* and *E.coli*. The diameter of the inhibitory zone was increased with when the increasing of concentration of extract of bark of *A. speciosa*. All 10mg/100  $\mu$ l, 30mg/100  $\mu$ l,50mg/100  $\mu$ l concentration of aqueous extract of bark of *A. speciosa* exhibits the growth of all test organisms. An extract 10 mg/100  $\mu$ l of had an inhibitory effect on *S. aureus* being greater than that 50  $\mu$  g/100  $\mu$ l of Streptomycin.

Effect of all concentration of aqueous extract of bark of *A. speciosa* on *Klebsiella* spand *Bacillus* regular less inhibitory compared with that of 50  $\mu$  g/100  $\mu$ l Streptomycin.

Key words – *Acacia speciosa*, Aqueous extract, Antibacterial effect.

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