Antibacterial effect of Aqueous extract of bark of *Acacia arabica.*

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Abstract

Acacia arabica is a tree and it is classified under Mimosaceae family. It is commonly known as babool. Bark of *Acasia arabica* is being used in Traditional Medicine for Treatment of various diseases such as gum bleeding, aphthous ulcer and dentoalveolar abscess in form of decoction for gargle. In indigenous Medicine the decoction of bark is used internally for diarrhea and skin diseases and externally for piles to wash the anal region. The aim of the present study was to evaluate the antibacterial effect of bark of *Acacia arabica* on selected human pathogenic bacteria. Dried bark powder of *Acacia arabica* was extracted with sterile water. This extract was assessed for its antibacterial effect by agar well diffusion method on, *Staphylococcus aureus, Escherichia coli, Klebiella sp, Pseudomonas aeurginosa,* and *bacillus subtilis.* Culture plate was prepared by inoculating 10^6/ml cells of bacterial inoculum and mixing with sterile nutrient agar medium and was 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. Each well was filled with 100µl plant extract with the concentration of 10.0 mg / 100µl, 30.0 mg / 100µl and 50.0 mg / 100µl using sterile micro titer pipettes. Streptomycin (50.0 µg / 100 µl) was used as standard. The 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). The data revealed that all the test samples of bark of *Acacia arabica* exhibited a good inhibitory effect on test organisms at various degrees. The diameter of the inhibitory zone was increased with increasing test concentration of extract of bark of *Acasia Arabica.* Further 10.0 mg / 100 µl extract had more inhibitory effect on *Staphylococcus aureus* than standard. 30 mg/100 µl extract possessed almost equal inhibitory effect of standard on *Escherichia coli and Bacillus subtilis. Klebiella sp* was found to be less susceptible for all the test concentration compared to standard. In order to address the effect of the active pure molecule of bark of *Acacia arabica* further isolation and purification of this extract and characterization of pure molecule should be done.

Key words – *Acacia arabica,* Aquous extract, Antibacterial effect.