*The Asian Journal of Animal Science* (December, 2010), Vol. 5 Issue 2 : 142-143 | *RESEARCH ARTICLE*

# Antibacterial screening of some selected medicinal herbs

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## ABSTRACT

Four herbs were screened for potential antibacterial activity. In evaluating antibacterial activity both aqueous and organic solvents were used. The herbs screened were *Acacia arabica, Piper betle,Datura metel,Tamarindus indicus.* Antibacterial activity was tested against seven strains *B. subtilis, A. viridae, S. aureus, P. putida, C. diptheria, E. coli*, *B. megaterium.* Out of the seven organisms tested *B. megaterium* was found to be susceptible to all the herbs extracts to varying extent. The chloroform extract of *Tamarindus indicus* leaf showed the highest zone of inhibition 19mm against *B. megaterium* where as water extract was effective against *S. aureus* 11mm. Out of the four herbs screened *Acacia arabica* was found to be most effective showing inhibitory activity against *P. putida, B. megaterium* and *E. coli* where as *Datura metel* and *Piper betle* showed activity against *B. megaterium,* respectively. Hence, selected herbs showed antibacterial activity against certain pathogenic micro- organisms the leaf extract prepared in various solvents showed variying inhibitory activity and thus have therapeutic value.

**Key words** : Antibacterial activity, Screening, Medicinal herbs

India has rich diversity of medicinl herbs.However there medicinal value is still explorded today,often with remarkable results. Since time immemorial herbs are used to treat varioue diseases.The medicinal properties of neem, tulsi, garlic,amla and turmeric are well known since primitive age. A systematic study of the indigenous herbs drugs was begun nearly a century ago and admirable attempts were made by earlier Indian and Europian workers, but the progress has been slow, since micro-organism are developing resistance against existing drugs and of new diseases are also emerging like AIDS, Hepatitis etc. which are threatening to human being, constant efforts are needed to screen,identify and isolate new bioactive components of broad spectrum.The screening of herbs extract is the primary step in the discovery of new drugs.There are several studied have been done on antimicrobial screening of selected medicinal herbs (Muniruzzaman and Chowdhury, 2004; Direkbusarakom and Aekpanithanpong, 1992; Harkal *et al.,* 2008; Rajendra, 1990; Rath, 1990).

## MATERIALS AND METHODS

Different medicinal herbs like *Acacia arabica*, *Piper betle, Datura metel, Tamarindus indicus* were collected from botanical garden of Yeshwant Mahavidyalaya, Nanded in Jan., 2010. The herb leaves were separated and dried at room temperature for 8 days. Then dried leaves were powerdered in mortel and pistel and then they were sealed in air tight polythene bags. Then different extracts were prepared such as water extract, methanol extract, choloroform extract, ether extract, in which 1gm of leaf powder in 25 ml is prepared for antimicrobial assay and was sealed with paraffin wax paper until been used.

The cup-plate agar diffusion method was adopted according to Kavanagh (1972) to assess the antibacterial activity of the prepared extracts. Nutrient agar plates were prepared with base agar, a loopfull of bacterial culture was inoculated in 15 ml of soft agar this was immedietly poured uniformly on base agar for prepared seed agar. A wells in the center of nutrient agar was filled with these herbs extracts against respective bacterial seed agar.control was used without leaf powder. The plates were incubated for 24 to 48 hours at $37^0$C and results were noted in the form of zone of inhibition.

## RESULTS AND DISCUSSION

Out of the seven organisms tested *B. megaterium* was found to be susceptible to all the herbs varying extent. The chloroform extract of *Tamarindus indicus* leaf showed the highest zone of inhibition 19 mm aginst the *B.megterium* where as water extract was effective against *S.Aureus* 11 mm. The essential iol of holly basil (*O. sanctum*) had been shown to have antibcterial

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