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## Antibacterial activity of selected medicinal plants of northwest Pakistan traditionally used against Mastitis in livestock

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### Abstract

The present study aimed to investigate the efficacy of traditionally used anti-mastitis plants (*Allium sativum*, *Bunium persicum*, *Oryza sativa* and *Triticum aestivum*) in northwest Pakistan against bacterial pathogens. Selected plants were phytochemically screened for Alkaloids, Flavonoids, and Saponins and checked for *in-vitro* antibacterial activity at concentration of 50 mg/ml against *S. aureus*, *E. coli* and *K. pneumoniae* by agar well diffusion method. Minimum inhibitory concentration and minimum bactericidal concentration was determined against multidrug resistant bacteria using tube dilution method. All extracts were found to significantly inhibit ( $p < 0.01$ ,  $p < 0.05$ ) the activity against bacterial strains examined. Among phytochemicals, alkaloids of all tested antimastitis plants produced significantly higher inhibition zones against bacteria. The Minimum inhibitory concentration and minimum bactericidal concentration of phytochemicals and crude methanolic extracts against tested bacterial strains ranged between 12.5-50 mg/ml and 25-50 mg/ml, respectively. Medicinal plants traditionally used against mastitis are therapeutically active against bacterial pathogens. *A. sativum* and *B. persicum* were found to be potential candidate species for the development of novel veterinary drugs with low cost and fewer side effects.

**KEY WORDS:** Ethnomedicines, Phytochemicals, Dairy animals, Infectious disease, In-vitro activities.

**Abbreviations:** MIC, MBC, MDR, ATCC

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