

## **Study on antibacterial effect of some plants growing in the central part of the republic of Tajikistan**

**Saidbeg Satorov**

Medical-Social Institute of Tajikistan, Tajikistan

**Objective:** To evaluate the spectrum of antibacterial activity of plants growing in the central part of the Republic of Tajikistan.

**Methods:** The antibacterial properties of 18 plant species from the 14 families were studied. The extract samples on dry filter discs were prepared according to the method developed at Rutgers University. Screens-to-Nature (STN) and Disc Diffusion (DD) methods were used to assess antimicrobial properties of the extracts. The antimicrobial activity of plant extracts was determined against four types of pathogenic standard museum strains of *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Klebsiella pneumoniae*, as well as by using the same types of microorganisms isolated from inpatients (the hospital strains).

**Results:** Ethanol extract from leaves of *Artemisia absinthium* demonstrated a broad-spectrum high degree of antimicrobial activity against both reference and hospital strains of *S. aureus*, *P. aeruginosa* and *E. coli*. The *Morus nigra* extract also showed broad-spectrum activity, however overall antibacterial activity was lower than in *A. absinthium*. In general, tested extracts were less effective against *E. coli*. None of the 18 tested extracts showed activity against *K. pneumoniae*.

**Conclusions:** *Artemisia absinthium* and *Morus nigra* have a broad-spectrum antimicrobial effect and differ only in the degree of activity. The extracts of *Amaranthus tricolor* and *Arctium tomentosum*, *Indigofera tinctoria*, *Punica granatum* were characterized by a somewhat narrower spectrum of action. *Mentha arvensis* and *Allium suworowii* had approximately the same degree of inhibitory ability.

### **Biography**

Saidbeg Satorov is from Department of Microbiology, Immunology and Virology, Medical-Social Institute of Tajikistan, Dushanbe, Tajikistan.

**Received:** December 08, 2022; **Accepted:** December 10, 2022; **Published:** February 22, 2023