

IN VITRO STUDY OF ANTIMICROBIAL ACTIVITY OF SOME SALVIA OFFICINALIS EXTRACTS

Verkhovodova Y. V.

National University of Pharmacy, Kharkiv, Ukraine

yverkhovodova@mail.ru

Introduction: Infectious diseases are the second on mortality worldwide according to World Health Organisation data. The improvement of the treatment of infectious diseases is an urgent medical and pharmaceutical problem. From year to year, the number of antibiotic-resistant strains of the main agents of these diseases is growing. Representatives of the genus *Salvia* are known to have good antiseptic and anti-inflammatory qualities.

Aim: The aim of the present work was to investigate antimicrobial activity of water dry *Salvia* extract, 50% and 96% ethanol *Salvia* extracts.

Materials and methods: The study of the antibacterial activity was performed by the method of diffusion into the agar. According to the WHO recommendations for assessing the activity of drugs, the reference strains of *Staphylococcus aureus* ATCC 25923, 6538 *Staphylococcus aureus* ATCC, *Escherichia coli* ATCC 25922, *Proteus vulgaris* NSTS 4636, *Pseudomonas aeruginosa* ATCC 27853, *Pseudomonas aeruginosa* 9027 ATCC, *Bacillus subtilis* ATCC 6633, *Streptococcus pyogenes* 2432, and *Candida albicans* 885/653 ATCC were used, 1% water solutions of extracts were used.

Results and discussions: All the extracts from leaves of *Salvia officinalis* showed activity in relation to the museum strains of *Staphylococcus aureus* and *Escherichia coli*. The lowest activity was in the water dry extract (zone of delay in growth of organism at a level of 14-16 mm), and the highest - in the dry extract, which produced using 96% ethanol (25-26 mm, respectively). Extracts that have been produced using 50% and 96% ethanol also showed activity against *Bacillus subtilis* and *Streptococcus pyogenes*, while the extract obtained using 96% ethanol was more active (15-16 mm, respectively). The water extract did not restrain the growth of microorganisms. Thus the greatest antimicrobial activity showed an extract obtained using 96% ethanol, it is the most promising substance for making antimicrobial drugs.

Conclusions: In search of effective anti-infection means three kinds of *Salvia* extracts' antimicrobial activity has been studied. The results of studies have shown *Salvia officinalis* extract obtained using 96% ethanol is the most promising substance for making antimicrobial drugs in comparison to the 50% ethanol extract and the extract obtained using water.