III-4

ANTIBAKTERIJSKA AKTIVNOST TINKTURE *ALLIUM URSINUM* – NA PATOGENE IZOLOVANE IZ HRANE

Vesna Kalaba[1], Tanja Ilić[2], Dragana Kalaba[3], Dragica Đurđević-Milošević[4], Željka Marjanović Balaban[5]

[1] JU Visoka medicinska škola Prijedor, Nikole Pašića 4a, Prijedor, Republika Srpska, Bosna i Hercegovina

[2] JU Veterinarski institut Republike Srpske, „Dr Vaso Butozan", Branka Radičevića 18, Banja Luka, Republika Srpska, Bosna i Hercegovina

[3]AU "Benu", Sutjeska br. 2, Novi Sad, Republika Srbija

[4]Institut za hemiju, tehnologiju i mikrobiologiju, Prokupačka 41, Beograd, Republika Srbija

[5]Šumarski fakultet, Univerzitet u Banjoj Luci, Bulevar vojvode Petra Bojovića 1A, Republika Srpska, Bosna i Hercegovina

Sažetak. *Allium ursinum*-sremuš je biljka koja osim što se koristi u kulinarstvu ima i ljekovita svojstva. Zahvaljujući hemijskom sastavu može se koristiti kao antimikrobno sredstvo, za detoksikaciju tijela te u prevenciji i liječenju kardiovaskularnih bolesti. Listovi ove biljke sadrže komponente na bazi sumpora, fenole, vitamin C, hlorofile i karotenoide. *Allium ursinum* je bogat izvor željeza i adenozina i posjeduje jako baktericidno, antiparazitsko i antimikrobno djelovanje. Kao prirodni antibiotik koji sadrži velike količine vitamina C poželjan je u terapijama kod ateroskleroze i skorbuta, a zbog velike količine sumpora posjeduje sposobnost zaštite ćelija od infekcije i upala. Poslednjih godina je proučavana antibakterijska aktivnost ekstrakta *Allium ursinum*, ali izvještaji o antibakterijskoj aktivnosti tinkture *Allium ursinum* pripremljene na tradicionalan način u Republici Srpskoj protiv nekih patogena izolovanih iz hrane je još uvijek neispitana. Cilj ovog ispitivanja bio je procijena antibakterijske aktivnosti tinkture *Allium ursinum* pripremljene na tradicionalan način protiv dva izolata *Salmonella enteritis*, jednog izolata *Salmonella* sp. i tri izolata *Staphylococcus aureus*, patogenima koji se prenose hranom. Antibakterijska aktivnost prema odabranim patogenima izolovanim iz hrane je ispitana disk difuzionom metodom. Rezultati ispitivanja su pokazali da tinktura *Allium ursinum* pripremljena na tradicionalan način pokazuje određena antibakterijska svojstva u odnosu na ispitivane patogene.

Ključne riječi: *Allium ursinum*, antimikrobno djelovanje, patogene bakterije

ANTIBACTERIAL ACTIVITY OF *ALLIUM URSINUM* TINCTURE ON PATHOGENS ISOLATED FROM FOOD

Vesna Kalaba[1], Tanja Ilić[2], Dragana Kalaba[3], Dragica Đurđević-Milošević[4], Željka Marjanović Balaban[5]

[1]PI College of Health Sciences Prijedor, Nikole Pašića 4a Prijedor, Republic of Srpska, Bosnia and Herzegovina

[2]PI Veterinary Institute Republic of Srpska „Dr Vaso Butozan“Banja Luka, Branka Radičevića 18, Bosnia and Herzegovina

[3]AU “Benu“, Sutjeska br. 2, Novi Sad, Republic of Serbia

[4]Institute of Chemistry, Technology and Microbiology, Prokupačka 41, Belgrade, Republic of Serbia

[5]Faculty of Forestry, University of Banja Luka, Republic of Srpska, Bosnia and Hercegovina

Abstract. *Allium ursinum* - wild garlic is a plant used not only in culinary applications but also valued for its medicinal properties. Due to its chemical composition, it can be used as an antimicrobial agent, for detoxification, and in the prevention and treatment of cardiovascular diseases. The leaves of this plant contain sulfur-based compounds, phenols, vitamin C, chlorophyll, and carotenoids. *Allium ursinum L* is a rich source of iron and adenosine and exhibits potent bactericidal, antiparasitic, and antimicrobial effects. As a natural antibiotic containing high levels of vitamin C, it is beneficial in therapies for atherosclerosis and scurvy. Additionally, due to its high sulfur content, it possesses the ability to protect cells from infection and inflammation. In recent years, the antibacterial activity of *Allium ursinum* extract has been studied. However, reports on the antibacterial activity of *Allium ursinum* tincture prepared in a traditional manner in the Republic of Srpska against certain food-isolated pathogens are still limited. The aim of this study was to assess the antibacterial activity of traditionally prepared *Allium ursinum* tincture against two isolates of *Salmonella enteritis*, one isolate of *Salmonella spp*., and three isolates of *Staphylococcus aureus*, pathogens commonly transmitted through food. The antibacterial activity against selected food-isolated pathogens was evaluated using the disk diffusion method. The study results showed that the traditionally prepared *Allium ursinum* tincture exhibits certain antibacterial properties against the tested pathogens.

Key words: *Allium ursinum*, antimicrobial activity, pathogenic bacteria