

HEALTH CARE ASSOCIATED INFECTIONS - ONE OF THE MAJOR PUBLIC HEALTH CHALLENGES IN VOJVODINA PROVINCE, SERBIA

Gorana Dragovac,^{1,2} Smiljana Rajčević,^{1,2} Jelena Đekić Malbaša,^{2,3} Tihomir Dugandžija,^{2,4} Sandra Mićunović,⁵ Tamara Bulatović,⁶ Nikola Japundžić,⁷ Gordana Krtinić,⁸ Tatjana Pecarski,⁹ Jasmina Jandrić-Kočić,¹⁰ Milena Subić Dragić,¹¹ Tatjana Todorović,¹² Danilo Mitrović,¹³, Gordana Cvetić,¹⁴ Dragica Kovačević,¹⁵ Jasmina Cvetković,¹⁶ Anita Jovetić,¹ Marija Živanović Milenković,¹

¹Institute of Public Health of Vojvodina, Novi Sad, Serbia

²University of Novi Sad, Medical Faculty, Department of Epidemiology, Novi Sad, Serbia

³Institute of Pulmonary Diseases of Vojvodina, Sremska Kamenica, Serbia

⁴Institute of Oncology of Vojvodina, Sremska Kamenica, Serbia

⁵University Clinical Center of Vojvodina, Novi Sad, Serbia

⁶Institute of Cardiovascular Diseases of Vojvodina, Sremska Kamenica, Serbia

⁷General Hospital Vrbas, Vrbas, Serbia

⁸General Hospital Subotica, Subotica, Serbia

⁹Institute of Public Health Kikinda, Kikinda, Serbia

¹⁰Institute of Public Health Sremska Mitrovica, Sremska Mitrovica, Serbia

¹¹Institute of Public Health Zrenjanin, Zrenjanin, Serbia

¹²Institut of Public Health Pančevo, Pančevo, Serbia

¹³General Hospital Vršac, Vršac, Serbia

¹⁴Institute of Public Health Sombor, Sombor, Serbia

¹⁵Institute of Public Health Subotica, Subotica, Serbia

¹⁶Institute of Child and Youth Health Care of Vojvodina, Novi Sad, Serbia

DOI: 10.5937/BatutPHCO24130D

Background: Nosocomial or health care associated infections (HAIs) occur in all hospitals in the world. Integrated infection control program, with HAI surveillance as its cornerstone, can reduce the incidence of HAIs as significant public health challenge and contribute to economic benefits. Aim of the paper is to report the prevalence and epidemiological features of HAI in Vojvodina hospitals.

Methods and Objectives: Synchronous point prevalence study (PPS), in all hospitals in Vojvodina province in November 2022, according to the Fifth National PPS and the Second European PPS. The study population included all patients present in the ward on the surveillance day. Data were collected by uniform questionnaires, created by the scientific ECDC board of the study. Data were entered into specifically created Helix database and were analyzed using standard statistical methods.

Results and Conclusion: A total of 2812 patients were included in the study. The prevalence of patients with HAI was 6.9 % (95% CI: 5.9%- 7.9%) and the prevalence of HAI was 7.5% (95% CI: 6.6%- 8.6%). The HAI prevalence was significantly different depending of ward type ranging from 1.9% in pediatric departments to 32.5% in intensive care departments. The most common types of HAI were urinary tract infections (25.9%), pneumonia (20.3%) and surgical site infections (12.7%), followed by gastro-intestinal *Clostridioides difficile* infections (9.4%) and CVC related bloodstream infections (5.2%). The most commonly found microorganisms were: *Klebsiella pneumoniae* (27,7%), *Enterococcus* spp. (11,5%), *Pseudomonas aeruginosa* (10,4%), *Acinetobacter* spp. (9,8%) and *Clostridioides difficile* (8.4%). The most frequently used antibiotics in therapy were the third generation cephalosporins (26,7%), to which most of the isolates showed resistance. Although the consumption of carbapenems in this sample was only 7.6%, registered carbapenem resistance in some bacteria indicates more frequent and longer use of carbapenems in hospitals with the side effect of selective pressure.

Keywords: prevalence, health care associated infections, nosocomial infections