

**PHARMACOEPIDEMIOLOGICAL ANALYSIS OF ANTIBIOTIC CONSUMPTION IN
2019 AND 2020 – THE IMPACT OF THE COVID-19 PANDEMIC ON
CONSUMPTION?**

**Ljubica Bojanić^{1,2*}, Mirjana Đermanović^{1,2}, Vanda Marković Peković²,
Ana Golić Jelić²**

¹Public Health Institute of the Republic of Srpska, Banja Luka, Bosnia and
Herzegovina

²University of Banja Luka – Faculty of Medicine, Department of Pharmacy, Banja
Luka, Republic of Srpska, Bosnia and Herzegovina

*ljubica.bojanic@gmail.com

Antimicrobial resistance (AMR) is one of the most common cause of infections and sepsis that occurs during healthcare and affects hundreds of millions of patients each year, causing almost 20% of all deaths globally, making it one of the biggest public health concerns of today. Most often it occurs due to the irrational antibiotic use. Also, one of the biggest challenges of today is the COVID-19 infection, which due to the complications it causes, many unknown facts and the large number of deaths has led to various therapeutic approaches in treating patients, including the use of antibiotics. The aim of this study is to perform an observational analysis of outpatient antibiotic consumption in 2019 and 2020, before and after the pandemic. Data are obtained from Public Health Institute of the Republic of Srpska and are expressed in defined daily doses/1000 inhabitants/day (DIDs) (1). The data show an increase in total antibiotic consumption by as much as 54% during the observed period (20.2 DIDs in 2019 and 31.1 DIDs in 2020). Given the marked increase in outpatient antibiotic consumption, and that in accordance with the Guidelines for the treatment of patients with COVID-19 infection, antibiotic therapy is not recommended for outpatients, but only for hospitalized patients with moderate clinical picture (2), a detailed pharmacoepidemiological analysis of outpatient antibiotic consumption is required due to potential irrational use of antibiotics in the treatment of viral COVID-19 infection, and also to take further measures to rationalize consumption and thus reduce antimicrobial resistance.

References

1. Public Health Institute of the Republic of Srpska. Report on the drug consumption and trade in the Republic of Srpska during the 2019 and 2020.
2. Ministry of Health and social Welfare of the Republic of Srpska. Guidelines for the treatment of patients with COVID-19 infection.

FARMAKOEPIDEMIOLOŠKA ANALIZA ANTIBIOTIKA U 2019. I 2020. GODINI – UTICAJ COVID-19 PANDEMIJE NA POTROŠNJU?

**Ljubica Bojanić^{1,2*}, Mirjana Đermanović^{1,2}, Vanda Marković Peković²,
Ana Golić Jelić²**

¹JZU Institut za javno zdravstvo Republike Srpske, Banja Luka, Bosna i Hercegovina

²Univerzitet u Banjoj Luci – Medicinski fakultet, Odsjek za farmaciju, Banja Luka,
Republika Srpska, Bosna i Hercegovina

*ljubica.bojanic@gmail.com

Antimikrobna rezistencija (AMR) je najčešći uzrok infekcija i sepse koji se javljaju tokom pružanja zdravstvene njege i pogađaju stotine miliona pacijenata svake godine, izazivajući skoro 20% svih smrtnih slučajeva globalno, zbog čega predstavlja jedan od najvećih javnozdravstvenih problema današnjice. Najčešće se javlja zbog neracionalne upotrebe antibiotika. Takođe, kao jedan od najvećih izazova današnjice nametnula se i infekcija COVID-19 virusom, koja je kako zbog nepoznanice, komplikacija koje izaziva, tako i velikog broja smrtnih ishoda dovela do različitih terapijskih pristupa u liječenju pacijenata, uključujući i upotrebu antibiotika. Cilj ove studije je da se uradi opservaciona analiza vanbolničke potrošnje antibiotika u 2019. i 2020. godini, prije i nakon pojave pandemije. Podaci su dobijeni iz Instituta za javno zdravstvo Republike Srpske i izraženi su u definisanim dnevnim dozama/1000 stanovnika/dnevno (DDD) (1). Podaci pokazuju porast ukupne potrošnje antibiotika za čak 54 % u navedenom periodu (20,2 DDD u 2019. i 31,1 DDD u 2020. godini), od čega su najviše upotrebljavani penicilini, cefalosporini, makrolidi i hinoloni. S obzirom na izražen porast vanbolničke potrošnje antibiotika, te da se u skladu sa Smjernicama za liječenje pacijenata sa COVID-19 infekcijom antibiotska terapija ne preporučuje vanbolničkim pacijentima, već samo hospitalizovanim pacijentima sa umjereno teškom kliničkom slikom (2), potrebno je izvršiti detaljnu farmakoepidemiološku analizu vanbolničke potrošnje antibiotika zbog potencijalne neracionalne upotrebe antibiotika u liječenju virusne COVID-19 infekcije, te preduzeti dalje mjere za racionalizaciju potrošnje, a time i smanjenje antimikrobne rezistencije.

Literatura

1. JZU Institut za javno zdravstvo Republike Srpske. Izvještaj o potrošnji i prometu lijekova u Republici Srpskoj u 2019. i 2020. godini
2. Ministarstvo zdravlja i socijalne zaštite Republike Srpske. Smjernice za liječenje pacijenata sa COVID-19 infekcijom.