

# KONZUMIRANJE DIJETETSKIH SUPLEMENATA I BILJNIH PROIZVODA ZA UBLAŽAVANJE STRESA MEĐU STUDENATIMA MEDICINE PRE I POSLE PANDEMIJE COVID-19

## CONSUMPTION OF DIETARY SUPPLEMENTS AND HERBAL PRODUCTS FOR STRESS RELIEF AMONG MEDICAL STUDENTS BEFORE AND AFTER THE COVID-19 PANDEMIC

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## SAŽETAK

Uvod: Tržište dijetetskih suplemenata (DS) i biljnih proizvoda (BP) koje se bavi problemom negativnih efekata stresa na zdravlje populacije kontinuirano raste tokom zadnjih nekoliko godina<sup>1</sup>. Unos ovih proizvoda povećao se naročito tokom pandemije Covid-19 kako bi se stanovništvo zaštitilo od bolesti<sup>2</sup>. Interesantno je da su studenti koji su koristili DS tokom perioda pandemije pokazali bolje rezultate intrinzičke motivacije u post-Covid periodu, od onih koji to nisu<sup>3</sup>. Pored toga, tokom perioda pandemije uočena je i veća učestalost mentalnih problema povezanih sa stresom (anksioznost, depresija) kod studenata medicine u odnosu na opštu populaciju i zdravstvene radnike<sup>4</sup>. S tim u vezi, literature koja se odnosi na upotrebu ovih preparata u post-pandemijskim okolnostima je jako oskudna. Cilj rada: Cilj ovog istraživanja bio je da se ispita i uporedi korišćenje DS i BP za ublažavanje stresa kod studenata medicine pre i nakon pandemije Covid-19.

Metode rada: Studijom preseka obuhvaćeno je 168 studenata medicine Univerziteta u Prištini, upisanih u šk. 2019/2020 i 157 studenata medicine upisanih u šk. 2023/2024 godinu. Ispitanici su anketirani putem anonimnog upitnika tokom decembra 2019. (pre-Covid period) i decembra 2023 (post-Covid period). Upitnik je koncipiran tako da su ispitanici u pisanoj formi odgovarali na postavljena pitanja. Prvi deo upitnika činila su pitanja o osnovnim karakteristikama ispitanika (starost, pol, godina studiranja, mesto življenja, materijalno stanje, kao i njihova ocena sadašnjeg fizičkog i psihičkog zdravlja u odnosu na zdravlje pre studiranja). Drugi deo upitnika obuhvatao je pitanja o samoproceni nivoa stresa vezanog za različite aspekte studiranja (opterećenje nastavom, ocene, ispiti, komunikacija sa nastavnim kadrom, finansije, život daleko od kuće itd.), ocenu o opštem nivou stresa u trenutku ispitivanja i koliko se dobro nose sa stresom. Ispitanici su svoje viđenje stresa procenjivali pomoću Likert-ove i vizuelno-analogne skale. Treći deo upitnika odnosio se na upotrebu DS i BP za ublažavanje stresa, uključujući i preparate koje su najčešće koristili u te svrhe.

Rezultati: Najveći broj studenata medicine ocenio je svoj opšti nivo stresa kao blag (post-Covid vs. pre-Covid, 43,3% vs. 48,2%), pri čemu su studentkinje prijavile statistički značajno veći nivo stresa u poređenju sa studentima ( $p=0,006$ ). DS i BP za ublažavanje stresa je koristilo čak 30,6% ispitanika u post-Covid periodu, u odnosu na 19,0% studenata pre-Covid-a. Navedene preparate su najviše koristili ispitanici sa samoprocenjenim visokim opštim nivoom stresa u trenutku ispitivanja. U post-Covid periodu, studentkinje su češće koristile DS i BP za ublažavanje stresa u odnosu na studente, iako ta razlika nije bila statistički značajna ( $p=0,446$ ). Najčešće korišćeni preparati kod ispitanika u post-Covid periodu su magnezijum (34,7%), ašvaganda (16,3%), valerijana (12,2%), vitamin C+vitamin D (10,2%) i čaj od matičnjaka (8,2%). Nasuprot tome, pre-Covid-a, ispitanici su najčešće koristili multivitamine (25%), magnezijum (21,9%), magnizijum+vitamin C (15,6%), čaj od nane (12,5%) i multimineralne (9,4%).

Zaključak: Postojeći rezultati ukazuju da studentkinje medicine prijavljuju veći opšti nivo stresa u odnosu na studente u post-Covid periodu, kao i češću upotrebu DS i BP za ublažavanje stresa. Preparati magnezijuma su u samom vrhu popularnih proizvoda za ublažavanje stresa među ispitanicima i pre i posle pandemije Covid-19.

Ključne reči: dijetetski suplementi, biljni proizvodi, stres, studenti medicine

## ABSTRACT

Introduction: The market for dietary supplements (DS) and herbal products (HP), which deals with the problem of negative effects of stress on the health of the population, has been continuously growing over the last few years<sup>1</sup>. The intake of these products increased especially during the Covid-19 pandemic in order to protect the population from the disease<sup>2</sup>. It is interesting that students who used DS during the pandemic period showed better results of intrinsic motivation in the post-Covid period than those who did not<sup>3</sup>. In addition, during the pandemic period, a higher frequency of mental problems related to stress (anxiety, depression) was observed in medical students compared to the general population and healthcare professionals<sup>4</sup>. In this regard, the literature related to the use of these preparations in post-pandemic circumstances is very scarce.

Objective: The objective of this research was to examine and compare the use of DS and HP for stress relief in medical students before and after the Covid-19 pandemic.

Methods: The cross-sectional study included 168 medical students of the University of Priština, enrolled in the 2019/2020. and 157 medical students enrolled in the 2023/2024. academic years. Respondents were surveyed via an anonymous questionnaire during december 2019 (pre-Covid period) and december 2023 (post-Covid period). The questionnaire was designed so that respondents answered the questions in paper-based form. The first part of the questionnaire consisted of questions about the general characteristics of the respondents (age, gender, year of study, place of residence, financial situation, as well as their assessment of current physical and mental health in relation to health before studying). The second part of the questionnaire included questions about the self-assessment of the level of stress related to various aspects of studying (teaching load, grades, exams, communication with teaching staff, finances, living away from home, etc.), an assessment of the general level of stress at the time of the examination and how well they cope with stress. Respondents assessed their perception of stress using a Likert and visual-analog scale. The third part of the questionnaire referred to the use of DS and HP for stress relief, including the preparations they most often used for these purposes. Results: The largest number of medical students rated their overall stress level as mild (post-Covid vs. pre-Covid, 43.3% vs. 48.2%), with female students reporting a statistically significantly higher level of stress compared to male ( $p=0.006$ ). 30.6% of respondents used DS and HP for stress relief in the post-Covid period, compared to 19.0% of pre-Covid students. The mentioned products were mostly used by respondents with a self-assessed high general level of stress at the time of the examination. In the post-Covid period, female students used DS and HP more often to relieve stress compared to male students, although this difference was not statistically significant ( $p=0.446$ ). The most frequently used preparations among respondents in the post-Covid period are magnesium (34.7%), ashwagandha (16.3%), valerian (12.2%), vitamin C+vitamin D (10.2%) and lemon balm tea (8.2%). In contrast, pre-Covid, respondents most frequently used multivitamins (25%), magnesium (21.9%), magnesium+vitamin C (15.6%), mint tea (12.5%) and multimineral (9.4%). Conclusion: The obtained results indicate that female medical students report a higher general level of stress compared to male students in the post-Covid period, as well as more frequent use of DS and HP for stress relief. Magnesium preparations are at the top of the list of popular stress relief products among respondents both before and after the Covid-19 pandemic.