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Epidemiology of dietary supplement use in Serbia: Report from Novi Sad

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ABSTRACT

Objectives: The primary objectives were to assess the prevalence of dietary supplement (DS) use and to identify specific demographic and lifestyle characteristics of DS users from Novi Sad, Serbia as well as the most commonly used DS and reasons for their use.
Design: Observational, cross-sectional study.
Setting and interventions: Data on demographics, lifestyle and dietary supplement use of 435 adults from Novi Sad, Serbia were collected using an online questionnaire.
Results: In total, 435 subjects completed the questionnaire (62.3% women). Prevalence of dietary supplement use in the sample was 42.8%. More women used DS than men ($p = 0.002$). Higher use of DS was reported among individuals 65+, while the young used DS less ($p = 0.001$), but the highest proportions of DS users was from the 45–54 age group. DS were used more among those with lower education levels ($p < 0.001$) and no income ($p = 0.009$). The highest percentages of DS users reported daily intakes of fruits and moderate physical activity, were non-smokers and social drinkers. Main reason for DS use was maintaining general health. The most commonly used DS were minerals and/or vitamins (68.8%).
Conclusions: We report a high prevalence of dietary supplement use in Novi Sad. DS use was associated with being a female, being older and having minimal/average income, the latter being opposite of the usual findings. Our results warrant a more detailed examination of the association between income, DS use and healthcare availability in developing countries such as Serbia.

1. Introduction

Dietary supplements (DS) are concentrated sources of different dietary ingredients intended to supplement the diet and are available in various dosage forms for oral use (tablets, capsules, powders, drops, syrups etc.).[1] Contrary to drugs, DS can not be used to prevent, diagnose, treat, cure or control diseases.[1] mmmExtensive clinical trials determining the efficacy and safety as for new drugs are not required before marketing of DS to consumers. Therefore, our knowledge on health benefits of DS is limited and stems from the use of DS in real life circumstances.[2] Although the effectiveness of many DS is questionable, the popularity of DS is on constant rise worldwide. Prevalence of dietary supplement use varies significantly.[3–12] Reported prevalence of DS use ranges from 20% in Switzerland,[3] to around 50% in the United States,[4] up to almost 80% among Poles.[10] It has been shown that women, older persons, those with higher education, higher income, normal body mass index and non-smokers are more likely to be DS users.[3–6,11–15] DS are used across all population groups, but research mostly focuses on young adults (e.g. college students),[16–22] athletes [7,8,13,23–26] and seniors.[27–29]

Reasons for DS use range from improving or maintaining overall health and filling in nutrient gaps to specific reasons such as improving cardiovascular health, lowering of blood lipids (e.g. cholesterol), improving bone or joint health, boosting immune health, loosing weight, as well as reducing the risk of certain diseases.[5,7,9,14,30,31] The most commonly used DS are vitamins, minerals and their combinations, DS containing omega-3 fatty acids and botanical DS.[5,7,9,12,14,30,31]

Use of DS is not without setbacks – possible side effects and/or interactions with prescribed and over-the-counter drugs or other DS, as well as possible contamination of DS hinder their safety.[2,7,11,13,32–35] Equally important safety concerns are the tendency to self-"medicate" using DS, concurrent use of multiple DS, inappropriate use of DS (e.g. due to miscommunication with health professionals), failure to disclose the use of DS to health professionals, refusal to seek professional help and/or refusal to use prescribed medicines while using DS.[33,36–43]

Local DS markets are dictated by consumers demands.[44] According

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to Euromonitor International, in 2017 and 2018, there was a growing demand for probiotics in Bosnia and Herzegovina and Bulgaria. Croatian market was dominated by sales of DS formulated to make up for the perceived lack of nutrients in the diet, North Macedonians were into wellness DS, while mineral DS were the bestsellers in the Serbian market.[44] The value of DS market in Serbia was estimated to be 19 million euros and is predicted to rise to 21.1 million euros in 2020.[45]

Other than the aforementioned, little is known about the use of dietary supplements in Serbia. Data are limited to specific population groups such as athletes[16] and college students[46,47] or specific groups of dietary supplements such as herbal supplements,[48] but the overall prevalence of DS use is still unknown. DS national database is available, but is not updated on a regular basis. There is no centralized national system for reporting possible adverse reactions of DS or potential interactions of DS with medications. Therefore, the aims of this study were to assess the prevalence of use of DS in general public in the city of Novi Sad[a] and to identify specific demographic and lifestyle characteristics of dietary supplement users. In addition, we aimed to identify the most commonly used DS and reasons for their use.

2. Methods

The research was carried out as an observational, cross-sectional study in a convenient sample of 435 participants from January to April 2019.

2.1. Research instrument

A 26-item questionnaire was developed to assess the prevalence of DS use and DS users' characteristics. Face and content validity of the questionnaire was assessed by a group of 3 pharmacists and 1 medical doctor working in academia with expert knowledge on the subject. Each survey item was checked for clarity and importance. Wording of two questions was revised in accordance with reviewers' suggestions, but the total number of questions remained unchanged. The questionnaire was pre-tested in a pilot study.[49] The questionnaire was administered online to 128 pilot-subjects. At the end of a survey in the pilot, there was an open-ended question on the respondents' comments and suggestions on the survey. Short introduction was rephrased in accordance with the obtained comments to include a definition of DS in plain language. Questions were not changed. Retest reliability was determined by repeating the survey after 4 weeks in subset of 23 pilot-subjects and test-retest correlations were determined to range from 0.86 to 0.95.

Questionnaire consisted of a short introduction explaining its purpose, anonymity and defining dietary supplements appropriately for laypersons (in plain language, distinguishing DS from other dietary products and drugs). Potential participants were asked if they were willing to participate in the research and if they were 18 + . In case of refusal or being underage, participants were shown a "thank you" screen. The eligible participants went on to Section 1 consisting of 14 questions on demographics and lifestyle choices ending with a question on whether they had used DS in the previous 3 months. Those who answered "no" were shown a "thank you" screen, while others were redirected to Section 2 of the questionnaire. Section 2 consisted of questions on DS use, reasons for DS use, concomitant use of medicines and the interaction with pharmacists in the process of obtaining the said DS. A "thank you" screen was shown to all participants upon the completion of all questions. Questionnaire was available through internet browsers on PCs and smart phones.

Body mass index (BMI) was calculated using self-reported data on body height and weight. Respondents were asked to self-report their individual income. Cut-offs for minimal and average income were adopted from the national Statistical Office.[50] Physical activity levels were defined in accordance with FAO/WHO/UNU Report.[51]

2.2. Subjects/Sample

According to the last census from 2011, population size of Novi Sad administrative area is 341 625. The appropriate sample size for this research was determined by power analysis to be 380 for confidence level 95% ($\alpha = 0.05$), confidence interval 5 and response distribution of 55% (according to pilot study results[49]).

Potential respondents were selected from a subset of subscribers of a web-based platform delivering service information to Novi Sad citizens who were open to offers, promotions and special events. They were sent an invitation e-mail with a short description of the study and a link to online survey. Reminder e-mail was sent after two weeks. Of the initial 460 persons approached to take part in this study, 11 refused and 4 were underaged (15 ineligible in total), so the final sample consisted of 435 participants who completed an online questionnaire.

2.3. Ethics

This research (use of questionnaire and study protocol) was approved by the Ethical Committee of the Faculty of Medicine, University of Novi Sad (5/11/2018) and carried out in accordance with the ethical standards set in the Helsinki Declaration.

2.4. Statistics

Statistical analysis was performed using SPSS Statistics for Windows, ver. 20 (IBM Corporation).

χ^2 test was used to assess the differences in categorical characteristics of variables followed by post hoc testing using the Kruskal-Wallis test (K–W)[52] where applicable. Numeric variables were compared using Student's t-test. Some numerical variables (age, BMI) were transformed into categorical for the purpose of interpretation.

Multiple logistic regression model was used to explore the contribution of demographic and lifestyle characteristics of the participants to the probability od dietary supplement use. Demographic and lifestyle characteristics were included in the model if: 1) their p value of univariate statistic was 0.25 or less and/or 2) regardless of their statistical performance in our case, if they have been shown to have significant effect on the outcome by other authors. The model was checked for expected interactions. Adjusted odds ratio (OR) and corresponding confidence intervals (CI, 95%) were calculated for each predictor.

3. Results

Out of the 460 potential participants, 435 were eligible to participate in the research (response rate 94.6%; 62.3% women). Mean age of the participants was 41.8 ± 14.5 y (range 18–86). Mean age of male participants (42.4 ± 15.3 y) and female participants (41.5 ± 14.1 y) did not differ significantly ($t = 0.632$, $p = 0.068$). Sample characteristics are shown in Table 1.

Most participants were 25–34 years old, finished high school or higher education, had up to average or average income and were married or in a relationship (cohabited). Majority of participants perceived their own health as good, had normal body weight, reported daily intakes of fruits and vegetables and moderate physical activity. Tobacco was used by 26% of the participants, while all participants reported the use of alcohol. As there were no alcohol non-users, the non-user category was not shown in data analysis.

The prevalence of DS use in the sample was 42.8% (186 DS users vs. 249 non-users).

Differences in socio-demographic, dietary and lifestyle characteristics between DS users and non-users are shown in Table 2. Overall,

[a] Novi Sad is the second largest city in Serbia, the capital of the Autonomous Province of Vojvodina, the northernmost part of Serbia.

Table 1
Socio-demographic, dietary and lifestyle characteristics of the study sample (N = 435).

		N	%
Gender	male	164	37.7
	female	271	62.3
Age	18–24	60	13.8
	25–34	105	24.1
	35–44	81	18.6
	45–54	94	21.6
	55–64	66	15.2
	65+	29	6.7
Education level	incomplete/complete elementary school	33	7.6
	high school	197	45.3
	university degree	205	47.1
Marital status	single	62	14.3
	married/in a relationship	338	77.7
	divorced/widowed	35	8.0
Income	no income	81	18.6
	close to or minimal income	94	21.6
	close to or average income	205	47.1
	above average income	55	12.6
Self-perceived health	excellent or very good	170	39.1
	good	251	57.7
	fair or poor	14	3.2
BMI	underweight	8	1.8
	normal weight	235	54.3
	overweight	156	36.0
	obese	34	7.9
Vegetables intake	daily	290	66.7
	sometimes	134	30.8
	rarely or never	11	2.5
Fruit intake	daily	222	51.0
	sometimes	182	41.8
	rarely or never	31	7.1
Physical activity	sedentary or light	100	23.0
	active or moderately active	299	68.7
	vigorous or vigorously active	36	8.3
Tobacco use	smoker	113	26.0
	non-smoker	322	74.0
Alcohol use	everyday user	49	11.3
	occasional user	63	14.5
	social drinker	323	74.2

*Percentages may not add up to 100.0 due to rounding.

more women used DS than men (p = 0.002) (70.4% women vs. 29.6% men users). Higher use of DS was reported among individuals 65+ y, while the young (25–34 y) used DS less (K–W = 20.717, p = 0.001), but the highest proportions of DS users was from the 45–54 age group (21.5%). DS were used more among those with lower education levels, than among those with a university degree (p < 0.001) (K–W = 18.546, p = 0.003), but most DS users had finished high school (47.8%). The highest percentage of DS users were from the "up to or average income" group (41.9%). Those with no income used DS more often than not (p = 0.009) (K–W = 6.328 p = 0.047). People who perceived their health as fair or poor were using DS more often than not (5.4% vs. 1.6%), but those who rated their health as good were dominant DS users (59.7%). In regard to dietary habits and lifestyle choices, the highest percentages of DS users were from groups that reported daily intakes of fruits and vegetables (74.2% and 52.2%, respectively) and moderate physical activity (68.8%), non-smokers (75.8%) and social drinkers (78.5%). Those who consumed vegetables daily used DS more often (p = 0.005) (K–W = 9.874, p = 0.003).

No statistically significant differences were observed in DS use in terms of settlement type, BMI, fruit intake, physical activity level, tobacco and alcohol use.

A logistic regression was used to assess the effects of demographic characteristics and lifestyle choices on the likelihood of being a DS user (Table 3). The logistic regression model was statistically significant (χ^2 = 71.506, p < 0.001). No interactions were found to be statistically significant and were therefore not included in the final model.

Table 2
Socio-demographic, dietary and lifestyle characteristics of DS users and DS non-users (N = 435).

		DS users		DS non-users		
		N	%	N	%	p
Total		**186**	**42.8**	**249**	**57.2**	
Gender	male	55	29.6	109	43.8	0.002
	female	131	70.4	140	56.2	
Age	18–24	26	14.0	34	13.7	0.001
	25–34	34	18.3	71	28.5	
	35–44	30	16.1	51	20.5	
	45–54	40	21.5	54	21.7	
	55–64	34	18.3	32	12.9	
	65+	22	11.8	7	2.8	
Settlement type	urban	76	40.9	112	45.0	0.391
	rural	110	59.1	137	55.0	
Education	incomplete/ complete elementary school	24	12.9	9	3.6	< 0.001
	high school	89	47.8	108	43.4	
	university degree	73	39.2	132	53.0	
Marital status	single	24	12.9	38	15.3	0.637
	married/in a relationship	145	78.0	193	77.5	
	divorced/ widowed	17	9.1	18	7.2	
Income	no income	48	25.8	33	13.3	0.009
	close to or minimal income	36	19.4	58	23.3	
	close to or average income	78	41.9	127	51.0	
	above average income	24	12.9	31	12.4	
Self-perceived health	excellent or very good	65	34.9	105	42.2	0.042
	good	111	59.7	140	56.2	
	fair or poor	10	5.4	4	1.6	
BMI	underweight	0	0.0	8	2.9	0.064
	normal weight	94	51.1	141	56.6	
	overweight	77	41.8	79	31.7	
	obese	12	6.5	22	8.8	
Vegetable intake	daily	138	74.2	152	61.0	0.005
	sometimes	42	22.6	92	36.9	
	rarely or never	6	3.2	5	2.0	
Fruit intake	daily	97	52.2	125	50.2	0.860
	sometimes	77	41.4	105	42.2	
	rarely or never	12	6.5	19	7.6	
Physical activity	sedentary or light	45	24.2	55	22.1	0.652
	active or moderately active	128	68.8	171	68.7	
	vigorous or vigorously active	13	7.0	23	9.2	
Tobacco use	smoker	45	24.2	68	27.3	0.463
	non-smoker	141	75.8	181	72.7	
Alcohol use	everyday user	15	8.1	34	13.7	0.136
	occasional user	25	13.4	38	15.3	
	social drinker	146	78.5	177	71.1	

*Percentages may not add up to 100.0 due to rounding.

Women were 1.8 times more likely to use DS (p = 0.035). The likelihood of being a supplement user decreased with age, but only the finding that seniors (65+) were less likely to be DS users compared to the youngest participants was statistically significant (p = 0.002). Respondents with minimal and average incomes were more likely to use DS than those with no income (OR 2.773 and 2.082, respectively) (p = 0.009 and p = 0.002, respectively). Overweight participants were less likely to use DS than those with normal BMI, but the significance of this finding was statistically marginal (p = 0.052).

Maintaining general health was the main reason for DS use among participants, followed by expected disease prevention and treatment/ control. There was no statistical difference in the main reasons for DS

Table 3
Adjusted odds ratios (OR) and 95% confidence intervals (CI) for the association of selected demographic and lifestyle characteristics and dietary supplement (DS) use.

		OR	CI 95 %	p
Gender	female	1.784	1.041 – 3.055	0.035
	male	1.00		
Age	65 +	0.193	0.066 – 0.559	0.002
	55–64	0.474	0.214 – 1.407	
	45–54	0.829	0.398 – 1.724	
	35–44	0.997	0.466 – 2.130	
	25–34	1.129	0.544 – 2.342	
	18–24	1.00		
Settlement type	rural	1.028	0.651 – 1.624	
	urban	1.00		
Education	university degree	0.734	0.466 – 1.154	0.001
	high school	0.220	0.088 – 0.552	
	incomplete/complete elementary school	1.00		
Income	above average income	1.425	0.659 – 3.080	0.002
	close to or average income	2.157	1.129 – 4.122	0.009
	close to or minimal income	2.717	1.289 – 5.727	
	no income	1.00		
Self-perceived health	excellent or very good	1.952	0.457 – 8.329	
	good	2.104	0.460 – 9.621	
	fair or poor	1.00		
BMI	obese	1.446	0.628 – 3.328	
	overweight	0.636	0.404 – 1.001*	
	normal weight	1.00		
Vegetable intake	daily	2.331	0.551 – 9.861	
	sometimes	1.116	0.258 – 4.820	
	rarely or never	1.00		
Fruit intake	daily	1.182	0.455 – 3.068	
	sometimes	1.595	0.591 – 4.303	
	rarely or never	1.00		
Physical activity	sedentary or light	1.198	0.478 – 3.001	
	active or moderately active	1.073	0.630 – 1.829	
	vigorous or vigorously active	1.00		
Tobacco use	non-smoker	1.076	0.654 – 1.658	
	smoker	1.00		
Alcohol use	everyday user	1.739	0.798 – 3.788	
	occasional user	0.955	0.491 – 1.855	
	social drinker	1.00		

* marginal p value (p = 0.052).

Table 4
The main reasons for dietary supplement use among participant (n = 186).

	N	% of DS users
Maintaining general health	127	69.4
Disease prevention	21	11.4
Disease treatment/control	25	13.4
Body weight reduction	11	7.1
Miscellaneous	3	1.9

use between males and females (Table 4).

Participants were mostly trying to “prevent” cardiovascular and cerebrovascular diseases, anemia, rheumatism and influenza by using DS. DS were used to “treat/control” cardiovascular and cerebrovascular diseases, diabetes and intestinal candidiasis.

The most commonly used DS were minerals, vitamins or their combinations (68.8% of DS users), followed by omega-3 fatty acids/fish oil DS (19.3%). Propolis was used by 12.4% of participants, calcium 8.6%, iron 8.1% and amino acids/proteins and gingko DS by 6.5% and 5.9% respectively. Several DS were used in less than 5% of cases – different weight loss DS, collagen, green tea, probiotics, coenzyme Q_{10}, vitamin D, noni juice, and cranberry.

The majority of the respondents used only 1 DS (43.0%), while 5.3% of participants reported the use of 5 or more DS at the same time. Five respondents used 7 different DS concomitantly. One case of concurrent use of 8 DS was detected.

The majority of DS users (88.2%) considered DS to be safe. Healthcare professionals were pinpointed as primary sources of information on DS in 59.1% of cases (34.9% physicians, 24.2% pharmacists), followed by media (25.3%) and friends and family (15.6%).

Physicians were the most important sources of DS information among the least educated ($p < 0.001$) and the old (65 +), while the youngest relied on the media more (18–24 y) ($p = 0.043$).

4. Discussion

Prevalence of DS use in our study was 42.8%. Other researchers reported prevalence of DS use to be highly variable from 20% to 80%.[3–13,15,20,24,25,30,34,53–55]

4.1. Demographics of DS users

Research has shown that DS users are usually women, older people, people with higher education levels and higher incomes and those committed to healthier lifestyles: exercising regularly and maintaining normal BMI, avoiding tobacco and alcohol.[3–7,11,13–15] Our findings affirm that females are more likely to use DS. In regard to other demographic characteristics, our data is not in line with findings of other researchers, as individuals with minimal and average incomes were more likely to be DS users compared to those with incomes above average. According to Popovic et al.,[56] 15% of Serbian citizens reported unmet healthcare needs. Among others, those with higher education and those in the richest quintile were less likely experiencing unmet healthcare needs,[56] implying that those with lower education levels and lower incomes were more often faced with their healthcare needs not being met. At the same time, lack of financial resources prevents those

individuals from using healthcare services offered by the private sector. This might partly explain why this vulnerable group is turning to complementary medicine and "self"-medication using DS, regardless of their low income. In addition, being financially deprived or having a lower socio-economic status and lower levels of education are shown to be indicators of lower than average health literacy,[57] and therefore possibly being more susceptible to aggressive advertisement of DS in the media. It is important to note here that most of the research on demographics of DS users has been done in developed countries, while data from developing countries are scarce. Thus, it is possible that the demographics of DS users from developing countries, such as Serbia, are somewhat different to those from developed countries, but this finding needs to be further addressed by more in-depth research.

4.2. Most commonly used DS

Vitamin/mineral DS top almost every list of commonly used DS and are followed by omega 3 fatty acid DS or fish oil DS. Prevalence of MVMs use ranges from 17.5% to 71%[4,6,7,12,14,15,18] and fish oil or omega 3 DS are used by 9% to 39% of DS users.[6,7,12,14] O'Brien et al.[12] noted that fish oil/omega 3 DS users were usually from 50 to 69 age group as opposed to MVMs users who were more frequently from 30 to 49 years age group. Other commonly used DS are specific vitamins and minerals (like vitamin C, vitamin D, calcium etc.),[6,14,18] botanicals, amino acids, proteins,[4] dietary fibers,[23] probiotics[7] etc. Our findings affirm the top positions of MVMs and fish oil/omega 3 DS (used by 68.8% and 19.3% of the respondents, respectively). Propolis was ranked third on our list of the most used DS and was used 12.4% of cases, followed by specific minerals (Fe, Ca), proteins and amino acids and certain botanicals. High ranking of propolis was an interesting find as there were no mention of propolis-based DS among the most commonly used DS in other available articles. Research have shown the potential health benefits of propolis in skin, oral, gastrointestinal, gynecological and oncological care,[58] but although these beneficial effects need to be studied further, propolis is considered to be one of the most frequently used remedies in the Balkans.[59]

Although many individuals use one DS at a time, it is not unusual to detect the use of multiple DS concomitantly. Bailey et al.[55] reported that 10% of DS users used 5 or more DS. According to Dickinson and Mackey,[60] 17% used 4 or more DS, while Robson et al.[9] found that just over a quarter of DS users used 5 or more DS at the same time. One study of military personnel found an even higher prevalence of concurrent DS use (31% of DS users used 5 or more DS)[13] noting that higher educated individuals were more likely to use more DS at the same time. The highest number of concomitantly used DS reported in the literature available to us was 11.[12] In our study, 57.0% of participants reported using more than one DS and 5.3% used 5 or more DS at the same time. We have detected one case of concurrent use of 8 DS.

4.3. Reasons for DS use

Similar to findings of other researchers,[14,38,61] majority of DS users in our study used DS as means of maintaining health (69.4%). Our respondents wanted to "prevent" cardiovascular and cerebrovascular diseases, anemia, rheumatism and influenza, while they "treated or "controlled" cardiovascular, cerebrovascular diseases and diabetes using DS. Despite the fact that DS are not intended to prevent, treat or control any disease, these reasons for DS use are cited in many scientific papers[38,61] and are possibly a consequence of inadequate health literacy of the respondents. Quite often, heart, bone and immune health are cited as reasons for DS use,[14] similar to the reasons listed under "miscellaneous" in our study.

4.4. Safety and possible adverse effects

DS are considered to be safe by 40% to 65% of general public.[38,41] In reality, this is not the case as there are multiple mechanisms (e.g. physiological, psychological) that can lead to DS-related adverse effects (AE).[2,7,38–43,11,13,32–37] We did not assess the frequency of adverse effects related to DS in our sample, but 57% of our respondents used 2 or more DS and 50.5% of them used conventional medicines at the same time, putting them at their risk for DS-related AE.[11,35]

4.5. Sources of information on DS

In our study, healthcare professionals were pinpointed as primary sources of information on DS in 59.1% of cases (34.9% physicians and 24.2% pharmacists). According to Samojlik et al[48], pharmacists and physicians were primary sources of information on herbal remedies in close to 50% of cases. Rozga et al.[5] reported that physicians were primary sources of information on DS in the US, followed by media and family or friends, while younger generations seek DS-related information mostly using internet sources and consulting with friends and family.[8,17,20]

4.6. Strengths and limitations

To the authors' knowledge, no other research group has estimated the prevalence of use of DS in the general population in Novi Sad (or any other town in Serbia), nor looked at the effect of demographic data on the said prevalence. There are no available data on the reasoning behind the use of DS or the prevalence of use of specific dietary supplements. Major strength of our study is the detection of different effect of demographic characteristics on DS use in comparison to other research, but, as it was already pointed out – this finding needs further assessment. Limitations of our study include the use of a non-standardized questionnaire and self-reporting of body mass and body height, income and physical activity level. Also, due to demographic differences between the northern and southern parts of Serbia, the results of our study should be extrapolated cautiously. In addition, all the pros and cons of online surveying apply to our research.

5. Conclusions

We report a high prevalence of dietary supplement use in Novi Sad, especially multivitamin and multimineral dietary supplements. Dietary supplement use was associated with being a female, older individual and having minimal to average income, the latter being opposite of the usual findings. Our results warrant a more detailed examination of the association between income, DS use and healthcare availability in developing countries such as Serbia. Healthcare professionals should be aware of the high prevalence of dietary supplement use in general population and strive to be the the most trusted sources of information on supplementation.

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Declaration of Competing Interest

None.

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