SELF-MEDICATION IN PRIMARY HEALTHCARE IN THE TERRITORY OF THE CITY OF NIŠ

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Self-medication represents the use of medicines and herbal remedies with the purpose of treating or preventing a disease the symptoms of which are recognized by the patients themselves. Drugs that are intended for self-medication and do not require a prescription are called "over-the-counter medicines" (OTC) products.

The aim of the paper was to evaluate self-medication in the adult population in the Niš region and determine the potential factors affecting the level and the quality of self-medication.

A total of 300 respondents, divided into three age categories, were interviewed: aged 18 to 30, 31 to 65 and over 65.

Self-medication is the most common in the respondents aged 18 to 30 (98%). The analysis of the data revealed a statistically significant difference among groups at the level of trust in doctors and their own expertise/awareness of the disease as the main reasons for self-medication. There was a statistically significant difference among the groups regarding media influence on the selection of drug (p<0.05). Awareness of the possible side effects of the chosen therapy was registered in 60% of the respondents. Idea that self-medication can "cover up" symptoms of some more serious diseases was most widespread among the respondents aged 18 to 30 (84%).

The role of pharmacists in patients' education on the proper application of self-medication is vital, as it allows a patient to actively participate in the process of self-care and it also represents the least of all the risks to their health. *Acta Medica Medianae 2014;53(3):19-24.*

Key words: *self-medication, OTC products, reasons for self-medication*

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Introduction

Self-medication represents the selection and use of medicine (including herbal medicine) without consulting a doctor, with the purposes of treating or preventing a disease, the symptoms of which are recognised by the patient. By applying self-medication the patient assumes the responsibility for personal well-being, recognition and treatment of certain symptoms and medical conditions. The patient alone or with the help of a pharmacist selects a type of therapy, medications, dietary supplements and adequate hygiene and dietary lifestyle to improve their health (1).

According to the World Health Organization (WHO), self-medication is the primary resource for public health in the health care system. It implies health activities and decisions of an individual, but it also includes self-care, social support during the illness and help with a daily life (2).

Products indented for self-medication represent medicines manufactured, distributed and intended primarily for users who will administer them on their own initiative and responsibility and for which a doctor's prescription is not issued. The term "over-the-counter (OTC) medicines" is widely used to describe this type of products (2).

The presence of self-medication varies in different populations and it is largely seen in adults. With self-medication, especially in elderly patients, there is a risk of side effects of the therapy due to unsuitable and unsupervised administration (3,4). There are various reasons and factors why patients opt for self-medication (5).

In Serbia, especially in the territory of the city of Niš, there is a lack of data on the presence of self-medication which represents the reason for our research.

Aims

The aim of the study was to evaluate self-medication in the adult population in the territory of the city of Niš and to determine potential factors which can influence the frequency and rate of self-medication as well as the proper use of OTC medicines.

Respondents and methods

The study was conducted in the territory of the city of Niš from May 20, 2013 to July 7, 2013. A cross-sectional study was performed using an anonymous questionnaire which contained 17 open-ended and closed-ended questions. A total of 300 respondents were interviewed, and they were divided into three age categories: from 18 to 30, 31 to 65 and over 65. The questions in the survey were related to the demographic data, health problems treatment and self-medication.

The statistical analysis of the data was performed by using SPSS 20 software.

A statistically significant difference was the value of $p<0.05$, using Pearson's χ^2 test.

Results

The demographic data of the subjects are shown in Table 1.

Table 1. Demographic data of the interviewed patients

Age		18 to 30	31 to 65	over 65
Gender	Male	49%	48%	30%
	Female	51%	52%	70%
Education level	Primary school	0%	16%	29%
	Secondary school	40%	43%	44%
	College	10%	16%	20%
	University	50%	25%	7%

Self-medication is in the highest degree present in the population of the respondents aged 18 to 30 (98%).

Figure 1 graphically represents a pharmacological group of drugs and additional medical items which are used in self-medication in the interviewed patients.

Self-medication in all three age groups in the highest degree represents the use of analgesics, vitamins and minerals and herbal medicines. The lower level of usage was seen in the self-administration of antimycotics, antisec-

retory drugs, laxatives, antidiarrheals, oral contraceptives.

Figure 2 shows drugs commonly used in self-medication.
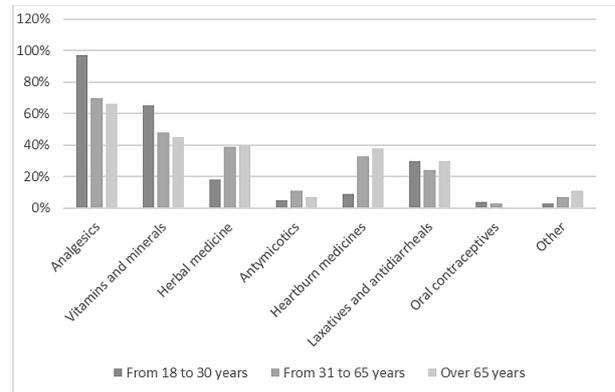
Figure 1. Medicine and additional medical items used in self-medication
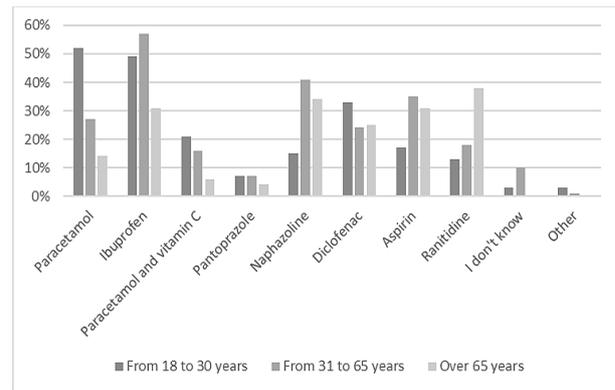
Figure 2. Drugs and their self-medication frequency

The highest percentage of the drugs used belongs to paracetamol, ibuprofen, naphazoline. Diclofenac, aspirin, ranitidine were also increasingly used, whereas pantoprazole and the combination of paracetamol and vitamin C were used significantly less.

Health problems which made the respondents resort to self-medication are shown in Figure 3.
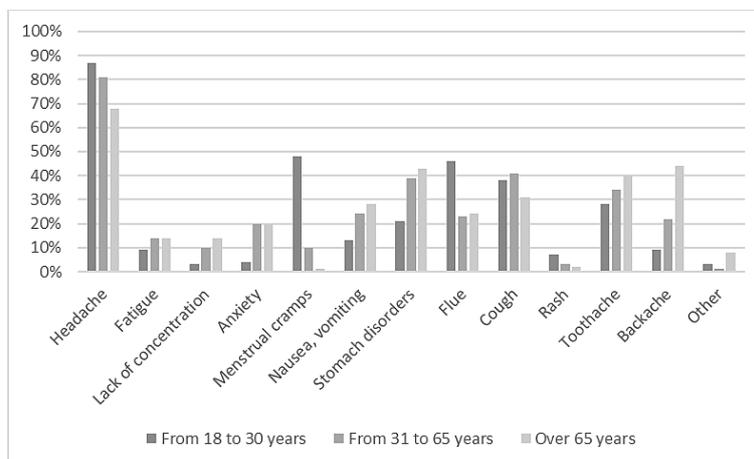
Figure 3. Health problems as a reason for self-medication
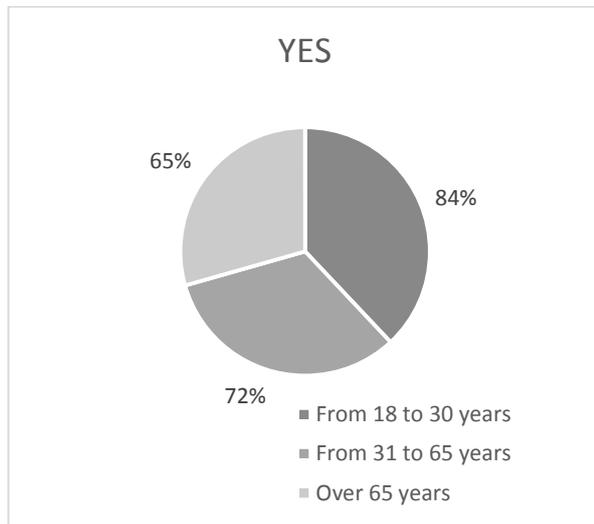
Figure 4. Perception of the respondents about the possible side effects of the selected drugs, herbal medicines and dietary supplements
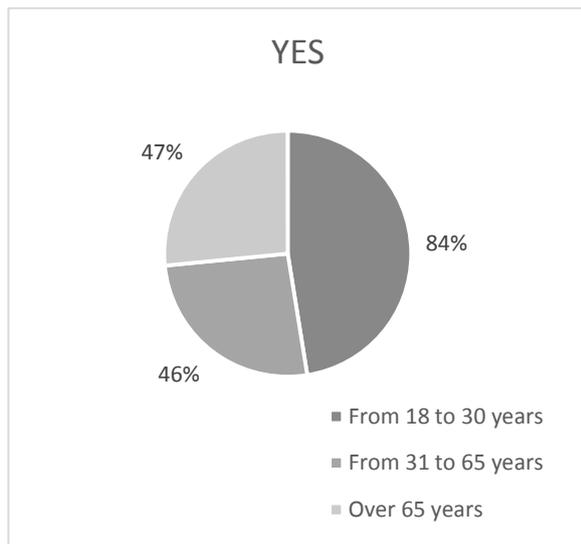
Figure 5. Knowing the risks of self-medication

Table 1. Demographic data of the interviewed patients

Age		18 to 30	31 to 65	Over 65
Gender	Male	49%	48%	30%
	Female	51%	52%	70%
Education level	Primary school	0%	16%	29%
	Secondary school	40%	43%	44%
	College	10%	16%	20%
	University	50%	25%	7%

The most common medical problems as the reason for self-medication were different kinds of pain (headache, backache, menstrual cramps, toothache), stomach disorders, flu and cough.

The reasons why the respondents opted for self-medication are determined by different factors shown in Table 2.

The analysis of the data revealed a statistically significant difference between the age

Table 2. The reasons why the interviewed patients opted for self-medication

Age	18 to 30	31 to 65	over 65	p-value
Waiting time for an examination	64%	57%	56%	0.7247
Distrust of health care workers	5%	12%	19%	0.0168
Medicine is to be paid	15%	23%	24%	0.3080
Awareness of self-expertise/ obtained information	34%	14%	99%	0.0001

Table 3. Factors that influenced the choice of OTC product in self-medication

Age	18 to 30	31 to 65	over 65	p-value
Previous experience	64%	35%	44%	0.0098
Symptom recognition	28%	20%	2%	0.0001
Dentist's advice	2%	13%	3%	0.0021
Pharmacist's advice	32%	19%	21%	0.1298
Friend's/ Neighbor's advice	1%	15%	27%	0.0001

Table 4. The influence of the media on self-medication in the respondents of different age group

Age	18 to 30	31 to 65	over 65	p-value
No media impact	70%	61%	44%	0.0504
Television	11%	25%	47%	0.0001
Magazines	0%	6%	10%	0.0087
The Internet	25%	11%	8%	0.0036

groups when it comes to the level of trust in doctors and their own expertise / the information they obtained which represented the reasons for their self-medication.

Table 3 shows the main factors that influenced the choice of the product in self-medication.

The table shows that there is no statistically significant difference in relation to patients age, when there is a need for pharmacist assistance in self-medication (p>0.05).

The results of the media impact on the respondent's choice regarding self-medication and the purchase of a drug are shown in Table 4.

After the analysis of the results shown in Table 4, the existence of statistically significant differences among the age groups was observed, when it comes to the influence of different media on self-medication and the choice of medicine (p<0.05)

Figure 4 shows the percentage of respondents who are informed that the use of medicine, including herbal medicines and additional medical items, can cause side effects.

It was recorded that 60% of the interviewed patients in all age groups were informed about the side effects of the chosen therapy.

The awareness of the possible covering of the main symptoms of a disease through self-medication is also shown in Figure 5.

The results of the survey showed that less than 50% of the respondents aged 31 and more know that inappropriate self-medication can cover up some of the main symptoms of a serious disease. Also, 84% of the respondents aged 18 to 30 are aware of the potential risk of self-medication.

Discussion

The self-medication plays an important role in the health care system. The improvement of the general level of knowledge, education and socio-economic status represent a solid base for successful self-medication. The benefits of an adequate self-medication treatment are: direct and quick access to the treatment, the patient's active role in their own treatment, reduced financial costs due to the absence of medical consultations (2).

A lack of health education of the population increases the risk of an inadequate use and misuse of the medicine which are available as OTC products. Self-medication may lead to an incorrect diagnosis, deciding on an inadequate treatment, possibility of side effects, possible interactions with other drugs or food, medicine abuse (2,6).

The results of the research conducted in the city of Niš show certain similarities to the study conducted by Kaufman et al. who indicated a high level of analgesics use in the treatments of pain of different etiologies, as well as vitamins, minerals and herbal medicines (7). The research conducted by Abahussain et al. also shows a high presence of analgesics, vitamins and minerals in self-medication (7,8).

These results are in contrast with the results of the study by Svilar, whose study shows that the antihypertensive and cardiotonic group of medicines have the greatest presence (6).

The research conducted in adult patients in the rural areas of Nigeria indicates a high degree of analgesics use in the treatment of pain of different etiologies as well as osteoarthritis. The role of a pharmacist in these areas contributes significantly to the choice of a medicine and the improvement of health care (9).

The research results by Wawruch et al. indicate the most frequent use of ibuprofen, paracetamol and acetylsalicylic acid in the respondents over the age of 65 (10).

Numerous factors influence the degree of self-medication and choice of drugs, such as: patient's level of education, socioeconomic status, age, gender (5).

The results of our research show that the most common reason for the decision on self-medication is the long time patients spend waiting for their examination, also awareness of their own expertise and information they have, play an important role. The respondents mainly choose a certain product based on their previous experience and their recognition of the symptoms of the disease.

These results show similarities with the results of the study conducted in Jordan, where patients may use self-medication approach, either independently or with the help of a pharmacist (11).

The data obtained in the survey of the adult population in Hong Kong show that the level of self-medication increases with the level of education and experience of a respondent and that the drugs for cold and flu symptoms, analgesics, herbal medicines, vitamins and minerals are widely used (12).

The study conducted in the adult respondents in Australia also shows a significant presence of analgesics, especially aspirin, in the treatment of pain of various etiologies, vitamins and mineral as well as herbal products. The level of self-medication, according to this survey, is in direct proportion to the level of education and socioeconomic status (13).

The results of the research by Ryan et al. show that the patients in the territory of Great Britain mainly opt for self-medication based on the level of awareness of their own expertise and the information they possess, which corresponds to the results obtained from the survey conducted in the city of Nis (14).

The study by MacKichan et al. shows the presence of self-medication in 90% of the respondents aged 18 to 65 in South West England. This group of respondents use the approach of self-medication mostly based on the doctor's and pharmacist's advice. Their choice is less influenced by friend's advice and the least by media information (15).

The results of the study by Bogoslović et al. show the highest presence of self-medication in the respondents over the age of 65. Self-medication represents the use of analgesics and herbal products to the highest percentage of patients. The most common reason for self-medication is the availability of medicines and supplementary medicinal products without a doctor's prescription (16).

The study conducted in Slovakia shows that the pharmacists have the greatest influence on the drug selection and the decision to self – medication in patients over the age of 65. A high percentage of the respondents of this age group consider that the use of OTC products do not lead to any possible side effects, which is contrary to the study conducted in the territory of the city of Niš (10).

The influence of the media on the level of self-medication and the decision on the use of a certain product with our patients is statistically significant in all three age categories, which is

consistent with the results of the research by Tokuda et al. (17).

A great importance for the complete well-being has an attitude and awareness of the patient about side effects of the selected medicines and the possible covering up of the symptoms of a serious health problem. The results of this study indicate that the patients younger the 65 years have more developed awareness of the possible covering up of the important symptoms of a some serious disease.

The role of a pharmacist in increasing patients' awareness of the possible consequences of inadequate self-administration is important and can significantly decrease the number of side effects manifested. The results of the previous studies suggest that there is a need for a bigger involvement of pharmacists in informing and raising awareness of possible consequences of an inappropriate use of drugs and herbal products, especially in vulnerable categories of patients (18,19,20).

Previous studies confirm that undue self-medication and concomitant use of medications can lead to covering up the symptoms of certain diseases and clinically important interactions, suggesting that pharmacist advice may be of the crucial importance (21-23).

Conclusion

Based on the results obtained, a high level of self-medication has been confirmed in all age groups of the adult population in the territory of the city of Niš. Self-medication and the selection of OTC products are influenced by many different factors.

The level of medical knowledge and the patient's awareness of the information are important factors for appropriate self-medication, which requires patients' education about its benefits and potential risks. In the proper implementation of self-medication, a key role is played by a pharmacist, especially in patient's decision on drug choice without consulting a doctor. Moreover, if the patient is adequately informed and directed, many side effects can be prevented. Appropriate self-medication may reduce the cover up of the symptoms of some serious diseases. Patients can actively participate in the process of self-care and self-medication, which is important in order to achieve desired goals and outcomes.

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SAMOMEDIKACIJA U PRIMARNOJ ZDRAVSTVENOJ ZAŠTITI U NIŠKOM REGIONU

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Samomedikacija predstavlja izbor i upotrebu lekova i biljnih preparata u svrhu prevencije ili lečenja bolesti čije simptome prepoznaju sami bolesnici. Samomedikaciji bolesnik najčešće pristupa samostalno ili uz pomoć farmaceuta, bez konsultacije sa lekarom. Lekovi namenjeni samomedikaciji, koji se u apoteci mogu izdavati bez lekarskog recepta, nazivaju se "over-the-counter medicines" (OTC) preparati.

Cilj rada bio je evaluacija samomedikacije u populaciji odraslih u niškom regionu i određivanje potencijalnih faktora koji mogu uticati na stepen i kvalitet samomedikacije.

Na teritoriji grada Niša sprovedena je studija preseka korišćenjem anonimne ankete. Ukupno je anketirano 300 ispitanika, podeljenih u tri starosne kategorije: od 18 do 30 godina, od 31 do 65 godina i preko 65 godina.

Samomedikacija je najzastupljenija kod ispitanika starosti od 18 do 30 godina (98%). Analizom podataka utvrđeno je postojanje statistički značajne razlike između starosnih grupa u stepenu poverenja u lekare i sopstvenu stručnost/informisanost kao razlozima za samomedikaciju. Pokazana je statistički značajna razlika između ispitivanih grupa o uticaju medija na zastupljenost samomedikacije i izbor leka (p<0,05). Informisanost o mogućim neželjenim efektima izabrane terapije registrovana je kod 60% ispitivanka. Svest o tome da neadekvatnom primenom OTC preparata može doći do maskiranja simptoma ozbiljnijih oboljenja najprisutnija je kod ispitanika starosti od 18 do 30 godina (84%).

U svim starosnim kategorijama odrasle populacije na teritoriji Niša utvrđen je visok nivo samomedikacije. Uloga farmaceuta u edukaciji bolesnika o pravilnoj samomedikaciji je ključna, jer omogućava aktivno učešće bolesnika u procesu samonege i samolečenja uz najmanji rizik po njihovo zdravlje. *Acta Medica Medianae 2014;53(3):19-24.*

Ključne reči: *samomedikacija, OTC preparati, razlozi samomedikacije*