The Effect of Demographic Characteristics on Self-Medication Patterns: A Cross-Sectional Nationwide Study from Slovenia

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ABSTRACT

Self-medication is defined as the use of medicines without medical supervision to treat one's own ailment. It is a part of a help-seeking behaviour that depends on socio-cultural and personal factors, which is why people react to the illness differently and also take different measures to cope with it. The aim of this study was to explore the Slovenian citizens’ attitudes towards self-medication. The study included a random sample of 1,000 Slovenian inhabitants, stratified to all Slovenian regions. This was a postal survey. Participants were mailed a self-administered questionnaire about attitudes towards self-treatment. In the statistical analysis we used independent t-test and χ²-test. We received 410 responses (41.0% response rate). In the past year, 389 (94.9%) respondents practiced self-medication. Most respondents (209, 52.1%) supported and used it in everyday life. The majority of the respondents (274, 77.2%) practiced self-medication when symptoms emerged. When symptoms lasted for one week or less, 210 (56.5%) of the respondents practicing self-medication visited their doctor. The respondents agreed mostly with the statement that their doctor had a positive relationship towards self-medication. Younger people were more confident about the absolute safety of self-medication whereas older people were more certain that they could practice it no matter what disease they might have. As self-medication is very common among Slovenian population and various demographic factors affect the opinions about it and the reasons for its use and also a doctor-patients communication about it, it is important that doctors, especially those in primary health care settings always ask about its use. This is of a particular importance when dealing with older and retired patients, which are more likely to suffer from more chronic diseases and use alternative medicine, which is a common part of self-medication. Also, it is important to educate young people about possible unsafe practice of self-medication.

Key words: self-medication, attitude, public health, population, cross-sectional study

Introduction

Self-medication is defined as the use of medicines without medical supervision to treat one’s own ailment. It is a part of a help-seeking behaviour that is defined as attempts to maximize wellness or to ameliorate, mitigate, or eliminate distress. Help-seeking behaviour depends on socio-cultural and personal factors, which is why people react to the illness differently and also take different measures to cope with it.

Studies showed that most people chose self-medication as their first reaction to the symptoms of illness. Various reasons for this behaviour have been identified and could be divided into three groups. The first one are perceived advantages of herbal medicines, which includes their natural source, easy access, low cost, better efficacy than conventional medicines, and traditional and cultural beliefs that herbal medicines cure many illnesses. The second group are beliefs about disadvantages of conventional medicines, which include their low efficacy, side effects, bad past experiences, and lower trust. The third group are beliefs about disadvantages of doctors and health care system, such as negative experiences, little faith, time problems, and inefficiency in
treatment of some health problems. The first group of reasons for self-medication reflects the general public view that the drugs and remedies for self-medication are completely safe and can be used without any precautions. This can result in an inappropriate use, and a dangerous interaction with conventional medicines. The second and third groups reflect the importance of a doctor-patient relationship, which does not serve its purpose of holistic patients' management without a proper communication, trustfulness, and equity.

In Slovenia, the drug market is regulated by state legislation and most drugs are available only by prescription. The drugs and remedies, available freely in pharmacies and specialized stores, are herbal drugs, vitamins and minerals, topical anti-rheumatics, lower strength per oral non-steroidal anti-inflammatory drugs, lower strength per oral antihistamines and some non-opioid analgesics (i.e. paracetamol).

Several studies from Slovenia reported a very common use of self-medication in different subpopulations. On the other hand, very little is known about citizens' attitudes towards self-medication, so the aim of this study was to explore the attitudes of Slovenian people towards self-medication. We wanted to gain insight into the reasons for self-medication, the opinions about the safety of self-medication. We wanted to gain insight into the reasons for self-medication, the opinions about the safety of self-medication and the people's perceptions about the doctors' attitudes towards self-medication.

### Subjects and Methods

We performed a cross-sectional postal survey in 1,000 Slovenian adults, aged 18 years old or older. We selected a random sample with a computer program based on Slovenian Telecom company phone book. The sample was stratified according to all Slovenian regions. This study was a part of a larger Slovenian population study about self-medication.

The questionnaire was developed by the authors according to similar questionnaires from other studies. It consisted of a sheet with patient demographic data: (1) age, (2) sex, (3) education (primary/vocational/secondary/university/postgraduate), (4) employment status (employed/unemployed/retired/student), (5) living area (urban/suburbs/rural), and of a sheet with questions about self-medication. Only the questions about self-medication attitudes and opinions are reported here and consisted of the (6) question about the use of self-medication in the past year (yes/no), (7) about the attitudes towards self-medication (I don't approve it/I am not interested in it/I approve it, but don't practice it/I approve it and practice it/I have no opinion), (8) about the reasons for self-medication (Table 1), (9) about when to see the doctor (when symptoms last for 1 week or less of self-care/when symptoms last for more than 1 week of self-care), (10) about the safety of self-medication (Tables 2 and 3) and (11) about the doctor-patient relationship.

### Table 1

<table>
<thead>
<tr>
<th>Statement</th>
<th>N (%) of the respondents</th>
<th>Sex</th>
<th>Age</th>
<th>Living area</th>
<th>Employment status</th>
</tr>
</thead>
<tbody>
<tr>
<td>I practice self-medication when symptoms emerge.</td>
<td>274 (77.2)</td>
<td></td>
<td>73.2% vs. 81.7%</td>
<td>0.074</td>
<td>79.2% vs. 71.1%</td>
</tr>
<tr>
<td>I do not want to burden my doctor because the symptoms are not severe.</td>
<td>246 (60.0)</td>
<td></td>
<td>62.8% vs. 76.5%</td>
<td>0.006</td>
<td>69.2% vs. 70.4%</td>
</tr>
<tr>
<td>I am familiar with the course of the disease and its treatment.</td>
<td>244 (59.5)</td>
<td></td>
<td>69.0% vs. 76.9%</td>
<td>0.111</td>
<td>63.0% vs. 69.3%</td>
</tr>
<tr>
<td>I practice self-medication for preventive reasons.</td>
<td>244 (59.5)</td>
<td></td>
<td>67.4% vs. 78.0%</td>
<td>0.037</td>
<td>71.7% vs. 75.3%</td>
</tr>
<tr>
<td>I practice self-medication when doctor’s treatment is ineffective.</td>
<td>69 (16.8)</td>
<td></td>
<td>22.4% vs. 22.4%</td>
<td>1.000</td>
<td>21.6% vs. 23.9%</td>
</tr>
<tr>
<td>Self-medication is common habit in my environment.</td>
<td>50 (12.2)</td>
<td></td>
<td>17.7% vs. 16.0%</td>
<td>0.757</td>
<td>17.5% vs. 12.3%</td>
</tr>
<tr>
<td>My doctor does not want to talk about self-medication.</td>
<td>30 (7.3)</td>
<td></td>
<td>6.8% vs. 15.6%</td>
<td>0.032</td>
<td>8.9% vs. 19.6%</td>
</tr>
<tr>
<td>I do not trust my doctor.</td>
<td>18 (4.4)</td>
<td></td>
<td>5.4% vs. 7.2%</td>
<td>0.630</td>
<td>6.0% vs. 6.5%</td>
</tr>
</tbody>
</table>

*p* - *x*-test was performed
disagreement and 5 indicating strong agreement. The questions 8–10 could have been answered with yes or no. In the last (11th) question, the answers were given on a 5-points Likert scale, 1 indicating strong disagreement and 5 indicating strong agreement.

Results

We received 410 responses (41.0% response rate). There were 216 (53.1%) of men and 194 (46.9%) of women in the sample. Mean age±SD of the respondents was 51.5±18.4 years, ranged from 18 to 89 years. There were 50 (12.4%) respondents with primary, 66 (16.3%) with vocational, 146 (36.1%) with secondary, 123 (30.4%) with university and 19 (4.7%) with postgraduate education in the sample. Most of the respondents (196, 41.5%) were employed, others were retired (171, 42.0%), unemployed (24, 5.9%) or students (43, 10.6%). Urban living area was reported by 142 (34.8%), suburb area by 119 (29.2%), and rural area by 147 (36.0%) respondents.

In the past year, 389 (94.9%) of the respondents reported the use of self-medication. Most respondents (209, 49.5%) supported and used it in everyday life. Additional 84 (20.9%) of the respondents supported it but did not use it in everyday life. Only 43 (10.7%) of them did not use it in everyday life. Only 43 (10.7%) of them did not

(Table 4). The questions 8–10 could have been answered with yes or no. In the last (11th) question, the answers were given on a 5-points Likert scale, 1 indicating strong disagreement and 5 indicating strong agreement.

We have got an approval of the National Ethics Committee.
supported it. The demographic characteristics of the sample did not affect the incidence of the use of self-medication.

Reasons for self-medication
The majority of the respondents (274, 77.2%) practiced self-medication when symptoms emerged (Table 1). Some differences in reasons for self-medication were found regarding demographic characteristics of the sample (Table 1). The education status did not have any significant effect on reasons for self-medication.

Safety of self-medication
When symptoms lasted for one week or less, 210 (56.5%) of the respondents practising self-care visited their doctor. Demographic characteristics did not affect this decision. Most of the respondents thought that self-medication was safe only with appropriate information (Table 2). Some differences about the opinion of the safety of self-medication were found regarding demographic characteristics of the sample (Tables 2 and 3). The education status did not have any significant effect on people’s opinions about the safety of self-medication.

Doctor-patient relationship about self-medication
The respondents agreed mostly with the statement that their doctor had a positive relationship towards self-medication (Table 4). Some differences were found regarding demographic characteristics of the sample (Table 4). The education status did not have any significant effect.

Discussion
Self-medication in Slovenia is widely used and broadly accepted, as only 11% of the Slovenian population does not support it. More than half of them use it in everyday life. These findings are in concordance with the findings of previous Slovenian studies\(^\text{9-12}\) and also with the foreign studies\(^\text{13-16}\) but these data are difficult to compare to our results because of the different populations studied. That is probably the reason that our study reports a very high prevalence of self-medication practices. Demographic characteristics of the respondents seemingly do not play any significant role in the decisions weather to practice self-medication or not, which is not in agreement with other studies\(^\text{14,17}\), that were not conducted in general populations. Few demographic factors affect the self-medication behaviour (Tables 1–3), with the exception of education status which, surprisingly, does not affect it.

The most common reasons for self-medication reported in our study are in concordance with other studies\(^\text{3,18}\). The findings that older and retired people use self-medication because their doctors do not want to talk about it or because the proposed treatment from their doctors was inefficient are worrying. Namely, older people usually have more chronic diseases and such behaviour puts them in greater risk for health status deterioration. Preventive reasons are also a common reason for self-medication and it is not surprising that this holds true especially for women for they have been known to play the most important part in health management of the family\(^\text{19}\). Also, people living in non-metropolitan areas are using more dietary supplements for preventive reasons than people from metropolitan areas, which are in concordance with our data about common preventive use of self-medication among people from rural/suburb areas\(^\text{20}\).
Data about safe self-medication practices of Slovenian citizens are somehow conflicting. Only a little more than half of them visit the doctor if symptoms last for more than a week of self-care, which could present a possible threat to their health. Nearly 70% of the respondents think that self-medication is safe only with appropriate information. On the other hand, a moderately strong agreement with the statement that self-medication is completely safe puts some doubt into safe self-medication practices and is in conflict with a moderately strong agreement with the statement that self-medication could have side effects and interact with prescription drugs. Similar findings were reported in a study about OTC drugs’ use, where a moderately strong agreement of the OTC drugs’ users was found with the statements about a total safeness of those drugs and about their possible side effects. These conflicted results could be the consequence of the demographic factors’ effect. It seems that younger and employed people and those living in rural/suburb areas consider self-medication to be very safe, even when combining it with prescribed therapy. Similar opinions were also found among OTC drugs’ users, whereas female and younger users were more likely to have followed the direction on drugs’ package and favoured further deregulation of prescription only medicines to OTC status. Also, older people and those living in rural/suburbs areas think that they can use self-medication regardless of what disease they might have. This puts them at risk when combining self-medication techniques and drugs for self-medication with prescribed treatment and drugs. Self-medication is of a particular danger when used by chronic patients with their usual prescribed medicines. Also, many patients keep prescribed drugs in their home chests use them again without doctors’ advice in the form of self-medication. All these present a considerable danger to their health due to possible dangerous interactions with prescribed drugs.

The respondents’ perceptions about the doctors’ attitudes towards self-medication and towards patients that practice it are very encouraging. It seems that doctors have a positive opinion about it and that they incorporate the questions about its practice into actual patients’ history. The results of foreign studies showed that doctors underestimated the use of self-medication in their patients, rarely asked about its use and that around 70% of the patients did not tell their doctors about its use. Similarly, also patients seem to be aware of the importance of disclosing this information to their doctors.

The main strength of this study is its random sampling that was stratified to all Slovenian regions. The study has also several limitations. In comparison to the demographic characteristics of the Slovenian population, there were more men in our sample and the average age of the respondents was higher. But, we should take into account that we included only people 18 years old or older. Also, the education status of our sample was slightly higher than of the whole population. Response rate could have been higher, but on the other hand it is common and expected for postal surveys. Anyway, this could have contributed to a selection bias because we could not analyse non-respondents, who might have had different demographic characteristics than those who were answering the questionnaire. Also, the cross-sectional design of this study could be the source of a recall bias. Another limitation is also the use of a telephone directory, as we were unable to access individuals without a telephone and also those that were not the telephone account holders in the household. This could also be a source of selection bias. Since the questionnaire was self-administered, it is possible that participants misunderstood some of the questions, which should be taken into account when interpreting the results.

**Conclusions**

Self-medication is very common among Slovenian population, it is important that doctors, especially those in primary health care settings always ask about its use, thoroughly inform them about safe and rational self-medication and explain a proper action about diseases’ management. This is of a particular importance when dealing with older and retired patients, which are more likely to suffer from more chronic diseases and use alternative medicine, which is a common part of self-medication. Also, it is important to educate young people about possible unsafe practice of self-medication. Further studies should address the using of different self-medication modalities and explore in details attitudes about them.

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**References**

TRANSVERZALNO ISTRAŽIVANJE O SPOLNIM RAZLIKAMA U KORIŠTENJU SAMOSTALNOG LIJEČENJA MEĐU SVEUCILIŠNIM STUDENTIMA U SLOVENIJI

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SAŽETAK

Samostalno liječenje definira se kao korištenje lijekova bez liječničkog nadzora za tretiranje vlastitog oboljenja. Dio je potrage za pomoći koja ovisi o socio-kulturalnim i osobnim faktorima, zbog čega ljudi različito reagiraju na bolesti te koriste različite mjere kako bi se nosili s boleću. Cilj ove studije bio je istražiti stavove slovenskih građana o samostalnom liječenju. Uzorak se sastojao od 1000 slučajno odabranih građana Slovenije, raspoređenih u svim regijama. Anketa se slala poštom. Učesnicima je poslan upitnik, koji sami ispunjavaju, o stavovima o samostalnom liječenju. U statističkoj analizi koristili smo nezavisni t-test i χ²-test. Dobili smo 410 odgovora (41,0%). U prošloj godini, 389 (94,9%) ispitanika prakticiralo je samostalno liječenje. Polovica ispitanika (209, 52,1%) podržava i koristi samostalno liječenje svaki dan. Većina ispitanika (274, 77,2%) prakticirali su samostalno liječenje uslijed pojave simptoma. Ukoliko su simptomi trajali oko jedan tjedan, 210 (56,5%) ispitanika koji su prakticirali samostalno liječenje, posjetili su svog doktora. Ispitanici su se uglavnom složili s tvrdnjom da njihov doktor podržava samostalno liječenje. Mladi ispitanici su bili najviše uvjereni u apsolutnu sigurnost samostalnog liječenja, a stariji su bili sigurni da da mogu koristiti samostalno liječenje bez obzira koju bolest imali. Budući da je samostalno liječenje učestalo u slovenskoj populaciji i razlikit demografski faktori utječu na mišljenja i razloge korištenja te na komunikaciju između doktora i pacijenta, važno je da se radi o starijim pacijentima i umirovljenicima, koji su više ugroženi od kroničnih bolesti i korištenja alternativne medicine, koja je čest dio samostalnog liječenja. Također, važno je educirati mlade ljude o mogućem opasnom korištenju samostalnog liječenja.