# Self-reported chronic conditions in student population in Slovenia

## Prisotnost kroničnih bolezni pri slovenskih študentih

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## Izvleček

**Izhodišča:** Z raziskavo smo želeli doseči naslednja cilja: določiti pogostost kroničnih bolezni med študentsko populacijo v Sloveniji in ugotoviti vpliv prisotnosti kroničnih bolezni na uporabo zdravstvenega sistema.

**Metode:** Presečna raziskava v obliki spletne ankete med študenti Univerze v Ljubljani in Univerze v Mariboru je potekala v marcu in aprilu 2008. Vprašalnik je bil sestavljen iz štirih delov. Prvi del je vseboval demografska vprašanja, drugi vprašanja o vrednotah in odnosu do zdravja, tretji o zdravstvenem stanju in četrti o samozdravljenju. Statistična analiza je bila narejena s pomočjo računalniškega programa SPSS 13.0 (SPSS Inc, Chicago, IL, USA). Poleg deskriptivne statistike smo izvedli test hi-kvadrat in t-test za neodvisne vzorce ter logistično regresijo.

**Rezultati:** Pogostost kroničnih bolezni med študentsko populacijo je bila 40,3 %. Najpogostejše kronične bolezni so bile: alergije (brez senenega nahoda) (14,9 %), seneni nahod (11,4 %), kožne bolezni (9,2 %) in tesnoba (5,3 %). Tako bronhialna astma kot tudi visok krvni tlak sta bila pogostejša med študenti kot med študentkami (7,7 % proti 4,2 %, $P = 0{,}023$; 8,7 % proti 2,2 %, $P < 0{,}001$). Študenti s prisotno kronično boleznijo so v primerjavi z ostalimi redkeje menili, da je z lastnim trudom za zdravo življenje mogoče ohraniti zdravje, v preteklem tednu pogosteje doživljali stres, z večjo verjetnostjo obiskali zdravnika ali imeli z njim telefonski pogovor, v več primerih kupili zdravila za samozdravljenje v lekarni in se bolj zavedali, da samozdravljenje lahko prekrije simptome ter znake bolezni do takšne mere, da jih lahko zdravnik spregleda ali pa jih ne prepozna.

**Zaključek:** Pogostost kroničnih bolezni med populacijo slovenskih študentov je visoka. Dobljeni podatki so primerljivi z rezultati raziskav v svetu. Čeprav so bile nekdaj opredeljene kot banalne, pa najpogostejše kronične bolezni (alergije, seneni nahod in kožne bolezni), ki jih imajo slovenski študenti, precej vplivajo na kakovost njihovega življenja.

## Abstract

**Purpose/Objective:** The aims of this study were (1) to determine the prevalence of chronic diseases in a student population in Slovenia, (2) to determine the effects of chronic diseases on the use of health services.

**Methods:** A cross-sectional web-survey among university students in Ljubljana and Maribor, Slovenia took place in March and April 2008. Data were analyzed using SPSS version 13.0 (SPSS Inc, Chicago, IL, USA), and chi-square test, t-test and binary logistic regression analysis were performed.

**Results:** The prevalence of chronic diseases in the student population was 40.3 %. The most common chronic diseases were allergies (excluding hay fever) (14.9 %), hay fever (11.4 %), followed by skin diseases (9.2 %) and anxiety (5.3 %). Both high blood pressure and asthma had a higher prevalence in men than in women ($p < 0.001$ and $p = 0.023$, respectively). Students with chronic conditions less often thought that they can influence their own health by self-treatment, experienced stress in the previous week, more likely visited or contacted his/her personal doctor in

the past year, more likely purchased medications for self-treatment from a pharmacist in the past year, were more aware of the facts that self-treatment may hide the symptoms and signs of illness to such extent that the doctor may not be able to recognize it or overlook it completely.

**Conclusion:** A greater awareness of the prevalence and impact of chronic diseases in students is warranted and the existing interventions should be changed in order to achieve a better life quality of university students.

## Introduction

Chronic diseases have a high prevalence in the general population and young adults are no exception.[1] Life expectancy is increasing, and people live longer with a chronic disease. This also contributes to the increasing prevalence of chronic diseases in the population. Chronic conditions can have great demands of personal and societal investment into health care and increased health care utilisation.[1, 2] Especially for students, chronic diseases can pose a big burden on their lives and studying capacity. For example, fatigue, doctor or hospital visits, and problems with concentration can lead to a delay in their study progress. In a Finnish study from 2008 the prevalence of chronic diseases in university students was as high as 72 %.[3] The most common chronic diseases were refractive defects and other eye disorders making up to 29 % of chronic diseases, followed by dental carries and allergic rhinitis or conjunctivitis making up to 28 % and 17 % of chronic diseases, respectively. In another study from Poland the average prevalence of chronic diseases was 30 % for women and 9 % for men.[4] In the Netherlands the most common chronic diseases were neck and back problems, contact-eczema and arthritis[5]. The prevalence of chronic diseases in the Netherlands in university students aged 18 to 29 years was about 28 %.[6]

Studies on the prevalence of chronic diseases in university students are scarce. A lot of them have focused on a single chronic disease, making it hard to compare the data and results from different studies due to different methods used and due to differences in chronic diseases' definitions.[7-16] As we could not find any reports on the prevalence of chronic diseases in Slovene student population, we performed this study (1) to determine the prevalence of chronic diseases in a student population in Slovenia and (2) to determine the effects of a chronic disease on the use of health services.

## Methods

### Study design

We performed a cross-sectional study in the form of a web-survey that was anonymous and comprised 23 questions. It was placed on the web by *GFK Slovenija tržne raziskave d.o.o.* The questionnaire was active from March 30 until April 21 2008.

### Study population

The study population consisted of university programme students from the Universities of Ljubljana and Maribor, Slovenia. In the year 2007/2008 there were 52,425 university programme students in Slovenia of which 38,475 students were at the University of Ljubljana and 11,602 students were at the University of Maribor.[17] We chose both universities because they are the largest in Slovenia and only a minority of students are studying at the remaining 2 universities in Slovenia (University of Primorska and University of Nova Gorica). For various faculties, different ways of contacting students were used. In the School of Medicine and the School of Pharmacy an internal mailing list was used to send the students a personal invitation to participate. This invitation included a link to the questionnaire. In the School of Civil Engineering and Geodesy, Biotechnical School, School of Maritime Studies and Transport, University College of Health Care and School of Economics, the invitation was placed on the official website of the faculty. In the School of Mechanical Engineering the invitation was placed on the student's forum.

**Table 1:** Prevalence of chronic diseases in student population.*

| Chronic diseases | Prevalence (%) | Prevalence men (%) | Prevalence women (%) | P-value (sex) |
|---|---|---|---|---|
| Allergies (excl. hay fever) | 194 (14.9 %) | 35 (11.7 %) | 159 (15.9 %) | 0.078 |
| Hay fever | 148 (11.4 %) | 38 (12.7 %) | 110 (11.1 %) | 0.467 |
| Skin diseases | 124 (9.2 %) | 24 (8.0 %) | 100 (9.6 %) | 0.427 |
| Anxiety | 68 (5.3 %) | 15 (5.0 %) | 53 (5.4 %) | 0.883 |
| Asthma | 65 (5.0 %) | 23 (7.7 %) | 42 (4.2 %) | 0.023 |
| Depression | 59 (4.5 %) | 12 (4.0 %) | 47 (4.6 %) | 0.750 |
| High blood pressure | 48 (3.7 %) | 26 (8.7 %) | 22 (2.2 %) | <0.001 |
| Kidney diseases | 26 (2.1 %) | 6 (2.0 %) | 20 (2.1 %) | 1.000 |
| Rheumatic diseases | 17 (1.3 %) | 4 (1.3 %) | 13 (1.2 %) | 1.000 |
| Psychoses | 10 (0,8 %) | 2 (0.7 %) | 8 (0.8 %) | 1.000 |
| Liver diseases | 8 (0,6 %) | 4 (1.3 %) | 4 (0.4 %) | 0.095 |
| Epilepsy | 6 (0.5 %) | 1 (0.3 %) | 5 (0.5 %) | 1.000 |
| Diabetes | 2 (0.2 %) | 1 (0.3 %) | 1 (0.1 %) | 0.417 |
| Other | 124 (10.3 %) | 24 (7.7 %) | 110 (11.2 %) | 0.103 |

** N=1,294; 303 men, 901 women. A chi-square test was performed. Ranked by prevalence number for the whole sample.*

In the School of Education a chain mail was used.

## Questionnaire

Researchers ZH and JK developed a questionnaire and the questions were piloted before the release to diminish technical and structural flaws. The results from this pilot survey are not included in the statistical analysis of this study. The questionnaire was divided in four separate parts. The first part asked about the demographic data, such as school, year of study, age and sex. The second part focused on present chronic diseases, health values, attitudes towards health and health-related behaviour. The third part was about health status and the fourth included questions about self-medication.

The type of the questions was multiple-choice. Only participants that answered all 23 questions and were students at the time of the questionnaire launch were included in the analysis.

## Statistical analysis

For the statistical analysis SPSS version 13.0 (SPSS Inc, Chicago, IL, USA) was used. A descriptive analysis, Chi-square test and a non-parametric independent two-sample t-test were performed. For the Chi-square test and the t-test, values of $p < 0.05$ were taken as significant. For all the different chronic diseases the prevalence number was calculated. Binary logistic regression analysis was performed using presence of a chronic disease as the dependent variable. The independent variables were student demographic characteristics such as age (years), attitude towards individual responsibility for own health (categories 1–7), experiencing stress in the past week (1 = yes, 0 = no), frequency of visits to a doctor last year (1 = once or more, 0 = never), purchase of self-treatment medication in the past year from a pharmacist (1 = yes, 0 = no), and agreement with statements about caveats of self-medication (categories 1–7).

**Table 2:** The frequency of illness episodes in the past year.*

| Frequency | Sample (%) | Chronic disease (%) | No chronic disease (%) | P-value (chronic disease) |
|---|---|---|---|---|
| Never | 258 (20.1 %) | 103 (17.4 %) | 155 (21.9 %) | < 0.001 |
| Once | 466 (36.3 %) | 179 (29.2 %) | 287 (41.0 %) | |
| Twice | 262 (20.4 %) | 124 (21.1 %) | 138 (20.0 %) | |
| Three times | 141 (11.0 %) | 75 (12.9 %) | 66 (9.7 %) | |
| Four times | 71 (5.5 %) | 49 (8.6 %) | 22 (3.3 %) | |
| Five to ten times | 45 (3.5 %) | 35 (6.2 %) | 10 (1.7 %) | |
| More than ten times | 15 (1.2 %) | 14 (2.4 %) | 1 (0.3 %) | |
| I do not know | 26 (2.0 %) | 13 (2.2 %) | 12 (1.9 %) | |

** N=1,294; 592 with chronic condition, 691 without chronic condition. A chi-square test was performed.*

# Results

## Characteristics of respondents

A total of 1,294 students (2.6 %) filled in the questionnaire and a final group of 1,155 students (2.3 %) were included in the analysis (Figure 1). Others were excluded because they did not fully completed the questionnaire. In the final group, 877 students were female (75.9 %) and 278 were male (24.1 %). The age of the students ranged from 18 to 52 years and the mean was 22.3 years with a standard deviation of 3.1 years. Most of the students were in the second year of their study (282; 24.4 %), followed by first-year students (252; 21.8 %), third-year students (224; 19.4 %), candidates for graduation (181; 15.7 %), fourth-year students (141; 12.2 %), fifth-year students (45; 3.9 %) and sixth-year students (30; 2.6 %).

## Prevalence of chronic diseases

The prevalence of chronic diseases in the group of our respondents was 40.3 % (table 1). The most common chronic diseases in both sexes were allergies excluding hay fever (14.9 %), hay fever (11.4 %), followed by skin diseases (9.2 %), and anxiety (5.3 %). Allergies and hay fever were the first two most common diseases in both sexes. The three most common chronic diseases in men were high blood pressure (8.7 %), skin disease (8.0 %), and asthma (7.7 %). In women, these were skin disease (9.6 %), anxiety (5.4 %), and depression (4.6 %). Statistically significant differences were found in the prevalence of high blood pressure and asthma regarding sex; in both diseases the number in men was higher than in women. Of the students with a chronic disease 149 participants (32 %) were required to take medicines on a regular basis.

Majority of the students were sick (defined as being unable to perform daily activities due to illness) only once in the past year (36.3 %). 20.1 % of the students did not recall any illnesses in the past year (Table 2). The students with a chronic disease reported more frequent episodes of illnesses in the past year as compared to the students without a chronic condition ($p < 0.001$). Most students from the group with chronic diseases and from the group without chronic diseases never visited or called the doctor in the past year, followed by a single visit or call to the doctor in the past year.

## Self-care

In students' opinion, the main source of trustfull health-related information was their doctor. There were no statistically significant differences between students with chronic disease and students without it regarding the trust in different sources of health-related information (Table 3). One exception was the trust in nurses' health-related information; students without chronic disease trust them more.

**Table 3:** Trust in sources of health-related information.*

| Source | Sample (mean ± SD) | Chronic disease (mean ± SD) | No chronic disease (mean ± SD) | P-value (chronic disease) |
|---|---|---|---|---|
| Doctor | 6.19 ± 0.97 | 6.17 ± 0.99 | 6.21 ± 0.95 | 0.405 |
| Pharmacist | 5.48 ± 1.29 | 5.46 ± 1.30 | 5.49 ± 1.28 | 0.766 |
| Books | 5.29 ± 1.23 | 5.26 ± 1.23 | 5.31 ± 1.23 | 0.471 |
| Nurse | 5.10 ± 1.28 | 5.00 ± 1.27 | 5.16 ± 1.28 | 0.013 |
| Parents and relatives | 4.03 ± 1.45 | 4.03 ± 1.52 | 4.03 ± 1.39 | 0.864 |
| Internet | 3.88 ± 1.30 | 3.89 ± 1.32 | 3.87 ± 1.28 | 0.852 |
| Friends | 3.49 ± 1.19 | 3.48 ± 1.22 | 3.49 ± 1.18 | 0.827 |
| Television | 3.39 ± 1.24 | 3.35 ± 1.20 | 3.41 ± 1.27 | 0.394 |
| Healer | 3.26 ± 1.61 | 3.18 ± 1.58 | 3.32 ± 1.64 | 0.183 |
| Magazines | 3.21 ± 1.28 | 3.18 ± 1.24 | 3.23 ± 1.30 | 0.656 |
| Radio | 3.19 ± 1.23 | 3.16 ± 1.20 | 3.22 ± 1.25 | 0.518 |
| Homeopath | 3.18 ± 1.59 | 3.12 ± 1.59 | 3.21 ± 1.59 | 0.361 |

* N=1,294; 592 with chronic condition, 691 without chronic condition. An independent t-test was performed.

The most important reason for self-treatment was minor health problems, which are not a sufficient reason to visit a doctor. However, this reason was less important for the students with a chronic disease then for those without it. Students with chronic diseases also wanted to play a more active role regarding their treatment, thought more often that the suggested treatment from their doctors was not efficient, and stated that they trusted doctors less than the students without chronic disease (Table 4).

### Factors associated with the presence of a chronic disease in students

The binary logistic regression model revealed the following statistically significant factors associated with the presence of a chronic disease in students: students related factors on which health depends, i.e. higher age, attitude, that a person is responsible for his/her own health, experiencing stress in the previous week; health care related seeking behaviour, i.e. having at least one visit or call to the doctor in the past year and purchasing at least one item of self-treatment medication from a pharmacist; agreement with the statement that self-treatment may hide the symptoms and signs of illness to such extent that the doctor may not be able to recognize it or overlook it completely (Table 5).

## Discussion

### Discussion of the findings

The prevalence of self-reported chronic diseases in the student population in Slovenia is high. Since there is no other data available from Slovenia, our findings cannot be compared to them. But the studies from other countries suggest that the prevalence found in our study for diabetes mellitus, asthma, skin diseases, depression, and epilepsy are comparable to the prevalence rates found in other European studies in the same age group.[2,18,19] For high blood pressure the prevalence found in this study is much higher than the one found in other studies in the same age group.[18] In our study the prevalence was almost four times higher in men than in women and this is in concordance with the findings from the literature.[20] For rheumatic diseases the prevalence found in this study is higher than the available data from the Netherlands.[21] This might be beca-

**Table 4:** Reasons for self-treatment.*

| Reason | Sample (mean ± SD) | Chronic disease (mean ± SD) | No chronic disease (mean ± SD) | P-value (chronic disease) |
|---|---|---|---|---|
| 1. I have minor problems and it seems unnecessary to visit and bother a doctor. | 5.75 ± 1.79 | 5.58 ± 1.89 | 5.86 ± 1.70 | 0.015 |
| 2. The doctor or the pharmacist told me I can cope with such problems alone. | 4.17 ± 2.31 | 4.25 ± 2.27 | 4.12 ± 2.35 | 0.368 |
| 3. I want to play a more active role in my treatment. | 3.66 ± 2.11 | 3.90 ± 2.09 | 3.49 ± 2.10 | 0.001 |
| 4. Based on the information obtained from the people I know, the media and the relatives, I decided I could cope with such problems alone. | 3.12 ± 1.89 | 3.17 ± 1.89 | 3.09 ± 1.89 | 0.426 |
| 5. I do not want to see a doctor because I have to wait so long. | 2.85 ± 2.09 | 2.94 ± 2.13 | 2.78 ± 2.06 | 0.249 |
| 6. Treatment based on the doctor's instructions was not efficient. | 2.16 ± 1.79 | 2.37 ± 1.92 | 2.01 ± 1.68 | <0.001 |
| 7. I do not trust doctors. | 1.77 ± 1.46 | 1.94 ± 1.62 | 1.66 ± 1.33 | 0.008 |

** N=1,294; 592 with chronic condition, 691 without chronic condition. An independent t-test was performed*

use the data from the Netherlands were obtained from the reports of students' visits to general practitioners and in our study from a population based survey. For asthma the prevalence is comparable with the prevalence found in other studies, but in this study the prevalence found in men was about 1.8 times higher than in women. According to the literature, twice as many males as females have had asthma during childhood, but in adulthood the ratio is equalized.[22] The prevalence of anxiety is higher in other European studies and also the prevalence in women was much higher than in men in these studies, while in our study the differences between men and women have not reached statistical significance.[23] For hay fever the prevalence was 11.4 %, which is comparable to the rates found in Brazil (12.2 %) and Scotland (12.7 %), but lower than the rate found in Finland (17 %) and Turkey (14.0 %).[12-14,24]

Allergies, hay fever, and skin diseases were the three most common chronic diseases in our study. For a long time, these diseases were considered trivial. But recent studies have shown that they are not and that they have a rather high impact on the lives of patients and they also bear a high economical burden for both patients and governments.[25-29] For hay fever, problems contributing to the high burden are daytime fatigue, learning impairment, decreased overall cognitive functioning and decreased long-term productivity.[25] Sleep-disordered breathing during adolescence is associated with increased psychiatric disorders, depression, anxiety, and alcohol abuse.[26] Skin diseases also exert a high impact on the quality of life, for example skin conditions can interfere with the activities of daily living and they often have a huge impact on psychological well-being.[27] This is why it is important to address these issues in university students and to take into account that the students with chronic diseases can have a hampered quality of life, which is interfering with their ability to study. Universities should for example abolish preventable triggers of hay fever and contact eczema. Family doctors also have to focus more on treating the symptoms of both hay fever and skin diseases, since a

**Table 5:** Students' demographic factors, health care seeking related factors and students' opinion regarding self-treatment, which were significantly associated with the presence of chronic disease in students.

| Variable | Observed category | Reference category | OR (95% CI) | P-value |
|---|---|---|---|---|
| Students related factors on which health depends | | | | |
| Age (years) | | | 1.06 (1.00–1.11) | 0.038 |
| Attitude that a person is responsible for his/her own health (1-7) | | | 0.47 (0.33–0.65) | < 0.001 |
| Stress in the previous week | Yes | No | 1.19 (1.13–1.26) | < 0.001 |
| Health care seeking behaviour | | | | |
| Age (years) | | | 1.07 (1.02–1.12) | 0.011 |
| Visits or calls to the doctor in the past year | Yes | No | 2.07 (1.61–2.67) | < 0.001 |
| Purchase of self-treatment medication from a pharmacist | Yes | No | 2.29 (1.45–3.61) | < 0.001 |
| Agreement with the statement | | | | |
| Self-treatment may hide the symptoms and signs of illness to such extent that the doctor may not be able to recognize it or overlook it completely (1-7) | | | 1.14 (1.06-1.23) | < 0.001 |

lot of patients still have symptoms affecting their daily life despite of treatment.[28,29]

Having a chronic disease can have a huge impact on daily life and can thus cause a lot of stress. Chronically ill students have visited or called the doctor 1.5 times more often than students without a chronic disease. This is logical, because students with a chronic disease already have an illness, for which they sometimes have to visit or call the doctor. They also treat themselves on their own 2.5 times more often. This difference in prevalence for self-treatment between students with and without a chronic disease is in concordance with the data from the literature.[30, 31]

In the times of constantly increasing workload of family doctors much attention has been devoted to the team management of patients, especially of those with chronic conditions. The involvement of nurses in some aspects of patients' care in family practice proved to be as efficient as the role of the doctor himself.[32] Since the students with chronic diseases have more experiences with the health system, it raises concern that they trust nurses' health information less than the students without chronic diseases. Even more concerning is the finding that the students with chronic diseases practice self-treatment more often than the students without chronic diseases because they trust their doctors less and they even think that doctors provide treatments that are not efficient. This finding is important because some studies[33] have shown that students and young adults practice unsafe and less responsible self-treatment. This can be dangerous in students with chronic disease because some drugs for self-treatment and even some self-treatment methods can have adverse side effects and dangerous interactions with the conventional treatment.[34-36] It is though important that students, especially those with chronic diseases, learn about proper self-management of acute and chronic illnesses and the importance of team involvement in professional health care. This should have a great impact on the self-care patterns in adulthood.

Logistic regression showed that the students with chronic conditions to a lesser extent thought that they were responsible for their own health, experienced stress in the previous week, more likely contacted their personal doctor in the past year, more likely purchased medications for self-treatment from a pharmacist in the past year, were

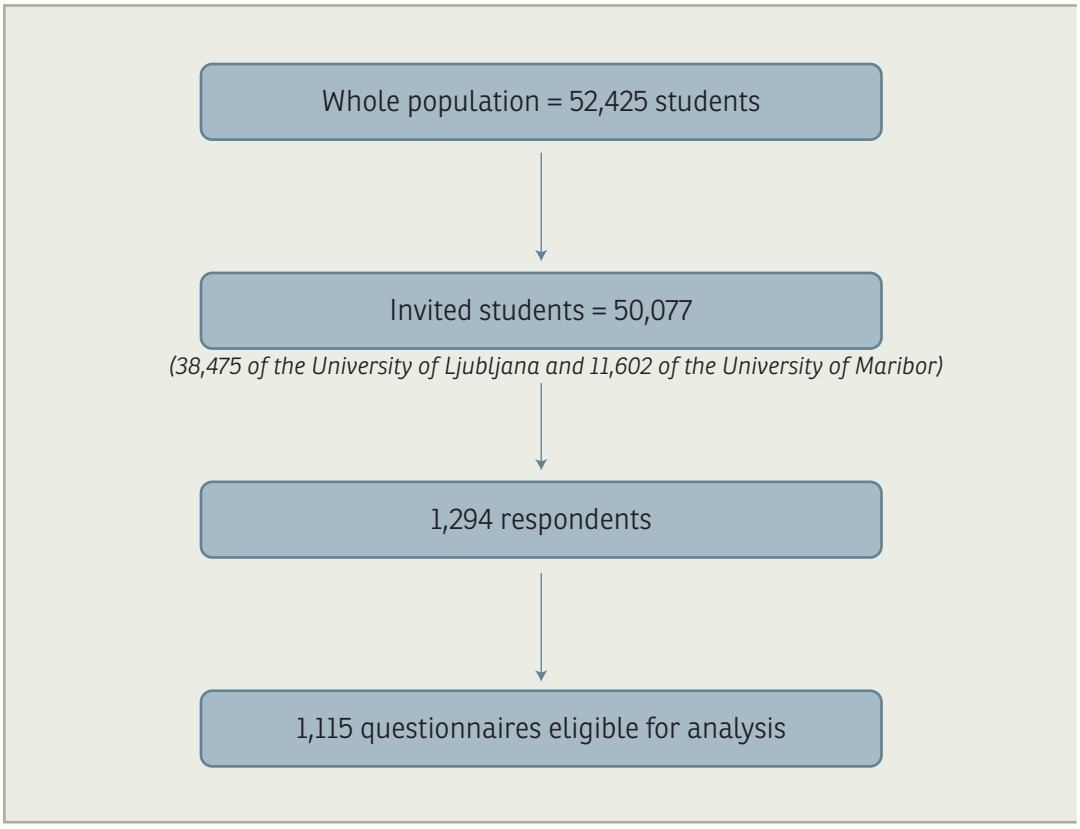


**Figure 1:** The flowchart of the respondents.

more aware of the fact that self-treatment may hide the symptoms and signs of illness to such an extent that the doctor may not be able to recognize it or overlook it completely, and were older than students without a chronic disease. These findings show safer practices in chronic patients as compared to their "healthy" mates in managing their own health issues by practicing a cautious self-treatment, buying OTC drugs in the pharmacies, and also implicate several possible interventions for creating a better awareness of chronically ill students about their own responsibility to manage their chronic conditions.

## Limitations of the study

This study has some limitations regarding generalisability of the results. The most important one is a very low response rate, which could be a source of selection bias, especially because the respondents could have had more health problems and therefore had been more motivated to participate in this study than the non-respondents. It could also produce an overestimation or an underestimation of the epidemiological measures. But, according to the available data[16], the characteristics of the respondents regarding sex do not differ substantially from the characteristics of the whole population. Thus, the impact of low response rate and consequent bias might not have been so high. Another limitation is also different ways of contacting students, which could have resulted in a failure to contact all students equally. Another limitation is also a web-based methodology of the study. But a lot of studies, using a web-questionnaire, have been done, thus showing that internet-based surveys are suitable for research in university students.[37-40] However, wide access of student population to the Internet, large number of respondents and concordance with the findings of other studies, gives us the possibility to assume that our results reflect real health situation of Slovenian students.

## Future research

Future studies should be aimed at more representative samples. Other relevant factors, associated with students' health, and a better model for association should be sought out. Effective measures for improving

**Appendix 1:** Overview of the questionnaire.

## Questionnaire

1. Tick the boxes in the presence of the following chronic diseases: allergies (excl. hay fever), hay fever, skin disease, anxiety, asthma, depression, high blood pressure, kidney disease, rheumatic diseas, psychosis, liver disease, epilepsy, diabetes and other.
2. The frequency of illnesses' episodes in the past year.
3. Trust in sources of health-related information: doctor, pharmacist, books, nurse, parents and relatives, Internet, friends, television, healer, magazines, radio, homeopath.
4. Reasons for self-treatment.
   a. I have minor problems and it seems unnecessary to visit and bother a doctor.
   b. The doctor or the pharmacist told me I can cope with such problems alone.
   c. I want to play a more active role in my treatment.
   d. Based on the information obtained from the people I know, the media and the relatives I decided I can cope with such problems alone.
   e. I do not want to see a doctor because I have to wait so long.
   f. Treatment based on the doctor's instructions was not efficient.
   g. I do not trust doctors.
5. Questions regarding selfmedication.
   a. Did you use the self-medication in the past year (including OTC, herbal and homeopathic drugs, vitamins and minerals)? Options: yes, no, I don't know.
   b. Where, in the past year, did you obtain the drugs and remedies for self-medication? Options: pharmacy, street market, homeopath, healer, relatives and friends, neighbours.
6. Please, mark on the scale from 1 to 7, how important are the following reasons for self-medication to you: 1 means that the reason is not important and 7 means that the reason is very important (see Table 2 for detailed questions).
7. How long in the past year did you use self-medication if the symptoms had not improved? Options: one week or less, more than one week, I don't know.
8. In the past year, how did you use the following remedies for self medication: drugs from home pharmacy, OTC drugs, herbal teas, herbs, homeopathic drugs, vitamins and minerals, slimming diet, remedies for muscle mass gain. Options: I use it according to the advice that doctor gave me in the past when I had such symptoms, I use it by myself or by advice of my relatives, friends, and media, and I don't know.
9. In the past year, how did you use the following drugs: antibiotics, antiviral drugs, topical antimycotics, benzodiazepines, antidepressants, antacids, acetylsalicylic acid, paracetamol, non-steroid antirheumatic drugs, topical corticosteroids, nasal decongestives and antihistamine drugs. Options: I use it according to the advice that doctor gave me in the past when I had such symptoms, I use it by myself or by advice of my relatives, friends, and media, and I don't know.
10. In the past year, how did you act in case of the following health problems: unplanned weight loss, urethral discharge, back pain, toothache, mild injuries, headache, rectal bleeding, muscle or joint pain, diarrhoea, heartburn, cold or flu, anxiety, warts, vomiting, sore throat, sinusitis, fever, allergic rhinitis, nose bleeding, cough, obesity, earache, allergies, depression, general poor feeling, and nasal discharge. Options: I acted according to the advice that doctor gave me in the past when I had such symptoms, I acted on my own or by advice from relatives, healers, and media, and I don't know.
11. In the past year, what were the reasons for seeking professional help? Options for each statement: yes, no, I don't know (see Table 4 for detailed statements).
12. Please, mark on the scale from 1 to 7, how important are the following statements about the safety of self-medication to you? 1 means that the reason is not important and 7 means that the reason is very important (see Table 5 for detailed questions).

health status and health-related behaviour of students should be developed.

## Conclusion

The prevalence of chronic diseases in the student populations is high and affects different aspects of students' life. A greater awareness of the prevalence and impact of chronic diseases in students is warranted and the existing interventions should be modified to address the needs of this population. Chronic diseases in student population differ from the rest of the adult population, demanding targeted education of health care providers and deploying resources to improve health of this particular age group.

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# Zyllt®

klopidogrel
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## Zyllt – Krkin klopidogrel, vreden vašega zaupanja

**Sestava** Ena filmsko obložena tableta vsebuje 75 mg klopidogrela v obliki klopidogrelijevega hidrogen sulfata. **Indikacije** *Preprečevanje aterotrombotičnih dogodkov pri bolnikih z miokardnim infarktom* (od nekaj dni do manj kot 35 dni), *ishemično kapjo* (od 7 dni do manj kot 6 mesecev) ali *dokazano periferno arterijsko boleznijo* in *pri bolnikih z akutnim koronarnim sindromom* (akutni koronarni sindrom brez elevacije ST-spojnice /nestabilna angina ali miokardni infarkt brez Q-zobca/, vključno z bolniki, ki jim je bila po perkutani koronarni intervenciji vstavljena žilna opornica, v kombinaciji z acetilsalicilno kislino /ASK/; akutni miokardni infarkt z elevacijo ST-spojnice v kombinaciji z ASK pri bolnikih, ki se zdravijo z zdravili in so primerni za trombolitično zdravljenje). **Odmerjanje in način uporabe** Klopidogrel dajemo kot enkratni dnevni odmerek po 75 mg, s hrano ali brez nje. *Bolniki z akutnim koronarnim sindromom* Akutni koronarni sindrom brez elevacije ST-spojnice: Zdravljenje začnemo z enkratnim udarnim 300-mg odmerkom klopidogrela in nadaljujemo s 75-mg odmerkom enkrat na dan (v kombinaciji s 75 mg do 325 mg ASK na dan). Ker so veliki odmerki ASK povezani s povečanim tveganjem za krvavitve, se priporoča, da pri sočasnem zdravljenju s klopidogrelom odmerek ASK ni večji od 100 mg. Optimalno trajanje zdravljenja še ni bilo formalno potrjeno. Podatki iz kliničnih preizkušanj kažejo, da je primerna uporaba do 12 mesecev, največjo korist pa so opazili po 3 mesecih. Akutni miokardni infarkt z elevacijo ST-spojnice: Zdravljenje začnemo z udarnim 300-mg odmerkom klopidogrela v kombinaciji z ASK in s trombolitiki ali brez njih, nadaljujemo pa s 75-mg odmerkom enkrat na dan. Pri starejših od 75 let začnemo zdravljenje s klopidogrelom brez udarnega odmerka. S kombiniranim zdravljenjem začnemo čim prej po nastopu simptomov, traja pa naj vsaj štiri tedne. Koristnosti zdravljenja s kombinacijo klopidrogela in ASK, če bi trajalo dalj kot štiri tedne, v tem okviru niso proučevali. Varnost in učinkovitost klopidogrela pri otrocih in mladostnikih še nista ugotovljeni. **Kontraindikacije** Preobčutljivost za zdravilno učinkovino ali katerokoli pomožno snov, huda jetrna okvara, aktivna patološka krvavitev, npr. peptična razjeda ali intrakranialna krvavitev. **Posebna opozorila in previdnostni ukrepi** Če se med zdravljenjem pojavijo klinični simptomi, ki opozarjajo na možnost krvavitve, moramo zaradi tveganja, da se bodo pojavile krvavitve in hematološki neželeni učinki, pretehtati potrebo po določanju števila krvnih celic in/ali po drugih ustreznih preiskavah. Tako kot druge antitrombotike tudi klopidogrel previdno uporabljamo pri bolnikih, pri katerih zaradi poškodbe, kirurškega posega ali drugih patoloških stanj obstaja tveganje za povečano krvavitev, in pri bolnikih, ki so na zdravljenju z ASK, s heparinom, z zaviralci glikoproteina IIb/IIIa ali z nesteroidnimi protivnetnimi zdravili, vključno z zaviralci ciklooksigenaze 2. Bolnike zaradi znakov krvavitve, vključno s prikrito krvavitvijo, skrbno spremljamo, zlasti prve tedne zdravljenja in/ali po invazivnih kardioloških postopkih ali kirurških posegih. Sočasno dajanje klopidogrela in peroralnih antikoagulantov se ne priporoča, ker se lahko okrepi krvavitev. Če je pri bolniku predviden kirurški poseg in antitrombotični učinek zato ni zaželen, klopidogrel ukinemo sedem dni pred kirurškim posegom. Klopidogrel podaljša čas krvavitve, zato ga previdno dajemo bolnikom z lezijami, ki so nagnjene h krvavitvam (zlasti gastrointestinalnim in intraokularnim). Bolnike, ki jemljejo klopidogrel (samega ali v kombinaciji z ASK), je treba opozoriti, da je lahko čas, ki je potreben za zaustavitev krvavitve, daljši kot ponavadi, in da morajo svojemu zdravniku poročati o kakršnikoli neobičajni krvavitvi (o mestu ali trajanju). O trombotični trombocitopenični purpuri pri bolnikih, ki so jemali klopidogrel, so poročali zelo redko, včasih po kratkotrajnem jemanju. Zaradi pomanjkanja podatkov se klopidogrel ne priporoča prvih sedem dni po akutni ishemični kapi. Zaradi pomanjkanja izkušenj pri zdravljenju bolnikov z ledvično okvaro in pri bolnikih z zmerno jetrno boleznijo, ki imajo lahko hemoragično diatezo, dajemo klopidogrel tem bolnikom previdno. Bolniki z redko dedno intoleranco za galaktozo, Lappovo obliko zmanjšane aktivnosti laktaze ali malabsorpcije glukoze/galaktoze ne smejo jemati tega zdravila. Zdravilo vsebuje hidrogenirano ricinusovo olje, ki lahko razdraži želodec in povzroči drisko. **Medsebojno delovanje z drugimi zdravili in druge oblike interakcij** Sočasno jemanje klopidogrela in peroralnih antikoagulantov ni priporočljivo, ker lahko poveča intenzivnost krvavitve. Previdnost je potrebna pri sočasnem jemanju zaviralcev glikoproteina IIb/IIIa, ASK, heparina, trombolitikov in nesteroidnih protivnetnih zdravil. **Uporaba med nosečnostjo in dojenjem** Kliničnih podatkov o zdravljenju nosečnic s klopidogrelom ni, zato se priporoča, da ga nosečnice ne jemljejo. Ni znano, ali se klopidogrel pri človeku izloča v materinem mleku, zato naj matere, ki se zdravijo z zdravilom, ne dojijo. **Neželeni učinki** Pogosti: hematom, epistaksa, krvavitev v prebavila, driska, bolečine v trebuhu, dispepsija, modrice. Občasni: trombocitopenija, levkopenija, eozinofilija, intrakranialna krvavitev, glavobol, parestezije, omotica, krvavitve v očesu, želodčna razjeda in razjeda na dvanajstniku, gastritis, bruhanje, navzeja, zaprtje, flatulenca, izpuščaj, srbenje, kožne krvavitve, hematurija, podaljšan čas krvavitve, zmanjšano število nevtrofilcev, zmanjšano število trombocitov. Ostali se pojavijo redko ali zelo redko. **Imetnik dovoljenja za promet** KRKA, d. d., Novo mesto, Šmarješka cesta 6, 8501 Novo mesto, Slovenija. **Način izdajanja zdravila** Na zdravniški recept. **Oprema** 28 filmsko obloženih tablet po 75 mg klopidogrela. **Datum priprave besedila** Februar 2010.

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