

Z D R A V S T V E N O

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## prof. dr. Dražigost Pokorn (1941-2009) In memoriam

V poznem poletju letošnjega leta je svojo življenjsko pot sklenil velik in ugleden slovenski strokovnjak za prehrano, znani zdravnik, profesor doktor Dražigost Pokorn.

Rojen je bil 18. julija 1941 v Ljubljani. Leta 1960 je končal gimnazijo in domala sočasno na Gostinski šoli postal tudi kuhar. Leto kasneje je diplomiral na Višji gospodinjski šoli in nato leta 1969 še na Medicinski fakulteti v Ljubljani. Pet let kasneje je opravil specialistični izpit iz higijene in prejel kuharsko priznanje – diplomu Sekcije kuharjev Jugoslavije. Po končanem magisteriju in doktoratu znanosti s področja fiziologije prehrane je bil leta 1980 habilitiran za visokošolskega učitelja na Medicinski fakulteti v Ljubljani za področje higijene, socialne medicine in higijene prehrane. Med letoma 1970 in 1974 je po opravljenem strokovnem izpitu opravljal delo zdravnika v ambulantah splošne medicine v Ljubljani. Svoje bogato strokovno znanje je na Akademiji za tradicionalno kitajsko medicino v Pekingu na Kitajskem in Kolombu v Združenih državah Amerike nadgradil tudi z znanji tradicionalne kitajske medicine in kitajske dietne prehrane. Kot rednega profesorja za higieno in higieno prehrane ter predstojnika Inštituta za higieno pri Medicinski fakulteti v Ljubljani ga je posebej zanimalo področje javnega zdravja oziroma prehrana zdravih in bolnih ljudi.

Z bogatim znanstvenoraziskovalnim in pedagoškim delom je svoje dolgoletne izkušnje o povezanosti zdravja s prehrano in življenjskim slogom nasploh prenašal na generacije slovenskih strokovnjakov in tako predstavljal ustaljene mejnike v odnosu do zdravja in tradicionalne prehrane Slovencev. S številnimi, vsakomur razumljivimi članki, ki jih je objavljaval v mnogih slovenskih medijih, pa je dolga leta izobraževal tudi širšo slovensko javnost.

Bil je tudi nacionalni koordinator programa Svetovne zdravstvene organizacije za zdravo prehrano pri Ministrstvu za zdravje. Na njegovo pobudo je bila leta 1995 ustanovljena Zbornica nutricionistov – dietetikov. Profesor Pokorn je bil tudi predsednik komisije za podeljevanje znaka varovalnega živila pri Društvu za zdravje srca in ožilja.

Leta 1988 je dobil priznanje Pedagoške akademije za uspešno sodelovanje, leta 1991 priznanje KS Milana Majcna za strokovno delo v krajevni skupnosti in leta 1992 priznanje Gospodarske zbornice z zlato plaketo za delo v gastronomiji.

Njegova bogata bibliografija šteje več kot 600 znanstvenih, strokovnih, in poljudno-znanstvenih člankov, učbenikov, knjig o zdravi in dietni prehrani ter kuharskih knjig. Med znanstvenimi članki, ki jih je skupaj s sodelavci objavljaval v domačih in mednarodnih revijah, so največjo mednarodno odmevnost dosegli članki:

- Hoyer S, Pokorn D. The influence of various factors on breast-feeding in Slovenia. *J. adv. nurs.* 1998;27:1250-1256,
- Koch V, Pokorn D. Comparison of nutritional habits among various adult age groups in Slovenia. *Nutr. res. (N.Y. N.Y.)*. 1999;19:1153-1164, in
- Koch V, Pokorn D. Some differences in nutritional habits between males and females in the Republic of Slovenia. *Food technol. biotechnol.* 1999;37:181-186.

Med pomembnimi zadnjimi znanstvenoraziskovalnimi deli pa so še naslednji članki:

- Hlastan-Ribič C, Pokorn D, Cerar A, Mehikič D, Zebič A. The influence of fat diet, wine and ethanol on changes in skeletal muscles in wistar rats. *Acta aliment.* 2004;33:111-118,
- Hlastan-Ribič C, Cerar A, Pokorn D, Perše M, Zebič A. Effects of kefir containing various levels of fat on chemically induced colorectal epithelial tumors in Wistar rats. *Nutr. res. (N.Y. N.Y.)*. 2005;25:55-63, in
- Pokorn D, Hlastan-Ribič C, Cerar A. Gastric content of the liquid test meals in rats with gastrointestinal neoplasias induced by N-methyl-N-nitrosoguanidine and 1,2-dimethylhydrazine. *Int J Cancer.* 2006;2:19-30.

Prav tako je sodeloval pri pripravi dveh pomembnih elaboratov:

- Pokorn D, Eržen N, Godeša R, Gregorič Gorenc B, Accetto B, Poklar Vatovec T, Uršič-Gaberšček M, Golobič I, Čelhar S, Kokalj-Ločniškar L, Logar V, Zakotnik J, Perme C, Škrjanc N. Zdravstveno in prehrabeno stanje

starejših prebivalcev na območju mesta Ljubljane v domovih za starejše občane. Ljubljana: Medicinska fakulteta, Inštitut za higieno, 1991. in

- Stibilj V, Milačič R, Smrkolj P, Trkov Z, Pokorn D, Hlastan-Ribič C. Ustreznost vojaške prehrane in skladnosti s fiziološkimi normativi. Ljubljana: Institut "Jožef Stefan", 2002.

Bil je avtor več knjižnih uspešnic: Prehrana bolnika (1994), Slovenska miza prihodnosti (1996), Skrivnost dolgoživosti (1996), Gastronomija (1997), Zdrava prehrana in dietni jedilniki (1997), Piročnik za praktično predpisovanje diet (1997), Gorivo za zmagovalce, prehrana športnika in rekreativca (1998), Dietetika (1999), Skrivnosti skritih let, prehrana v tretjem življenjskem obdobju (1999), Jejmo preudarno (2000), Zdrava slovenska kuhinja (2001), Oris zdrave prehrane (2001), Prehrana v različnih življenjskih obdobjih (2003), Dietna prehrana bolnika (2004), Klasična kuhinja v zdravi prehrani (2005), Kuhinja z omejitvami (2005), Krepka kuhinja (2006) in Evropska klasična kuhinja (2009), in avtor oziroma soavtor mnogih drugih strokovnih monografij in učnega gradiva, ki jih je preveč, da bi jih vse našteali na tem mestu.

Izjemno plodovit je bil tudi pri mentorskem delu. Bil je mentor ali somentor pri številnih diplomskih, magistrskih in specialističnih delih ter naslednjih doktorskih disertacijah:

- Koch V. Prehrambene navade odraslih prebivalcev Slovenije z vidika varovanja zdravja. Ljubljana: Univerza v Ljubljani; 1997,
- Černe K. Vsebnost trans- in cis-izomer maščobnih kislin v prehrani starostnikov v Sloveniji. Ljubljana: Univerza v Ljubljani; 1998,
- Kolšek M. Pogostnost pitja alkohola in pивske navade osnovnošolcev v Sloveniji. Ljubljana: Univerza v Ljubljani; 2000, in
- Eržen I. Stopnja izpostavljenosti prebivalcev Slovenije vnosu svinca, kadmija in živega srebra s hrano. Ljubljana: Univerza v Ljubljani; 2004.

Študentje, ki jim je bil mentor, so ga zelo cenili, čeprav jih je ponavadi spodbujal z izjemno veliko mero kritičnosti.

Širina njegovega znanja pa ni bila omejena zgolj na področje zdravja in prehrane, temveč se je odlikovala tudi v obsežnem poznavanju gastronomije in kulinarike, kar je njegovemu dolgoletnemu delu dajalo še večjo prepoznavnost in veličino. Njegove prehranske teorije so bile velik strokovni napredek in so nemalokrat zamajale uhojene poti ter postavile osnovo za mnoge sistemske spremembe, ki smo jih uporabili v vsakdanjem življenju. Številna predavanja, na katera se je profesor Pokorn vselej odzval z veseljem, so vedno burila pričakovanja in zanimanje javnosti po novostih. Pri svojem delu je kazal odprtost do napredka sodobnega sveta in tako spodbujal, da smo v zadnjih letih v državi oblikovali sodobna prehranska priporočila, prilagojena potrebam in vsakodnevnim časovnim stiskam modernega človeka. Njegov prispevek je zato še posebno viden v sistemih organizirane javne prehrane, kjer je želel vplivati na boljše, zlasti pa uravnoteženo prehranjevanje ljudi v najrazličnejših okoljih.

Kot dolgoletni profesor na Medicinski fakulteti, Biotehniški fakulteti in Visoki šoli za zdravstvo, današnji Zdravstveni fakulteti Univerze v Ljubljani ter Medicinski fakulteti in Fakulteti za zdravstvene vede Univerze v Mariboru bo ostal v spominu kot sodelavec, prijatelj in kolega, ki je bil vselej pripravljen priskočiti na pomoč in nas spodbujati pri našem delu.

Marjan Bilban, Cirila Hlastan-Ribič, Ivan Eržen, Lijana Zaletel-Kragelj  
Katedra za javno zdravje, Medicinska fakulteta, Univerza v Ljubljani, Zaloška 4, Ljubljana

# TRENDS IN PATIENTS' SATISFACTION WITH FAMILY PRACTICE IN SLOVENIA

## TRENDI V ZADOVOLJSTVU BOLNIKOV Z ZDRAVNIKOM DRUŽINSKE MEDICINE V SLOVENIJI

Vlasta Vodopivec-Jamšek<sup>1</sup>, Janko Kersnik<sup>1</sup>, Igor Švab<sup>1</sup>

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### Abstract

**Objective:** To compare patient's views on family practice in Slovenia in 1998 and 2004.

**Methods:** The EUROPEP instrument, consisting of 23 questions was used in both cross-sectional surveys. The first study was performed in 1998 including a sample of 36 family practices and 2160 patients. The second study was conducted in 2004 on a sample of 31 practices and 930 patients.

**Results:** The response rates were 83,8% and 99,6%. Overall, patients' satisfaction has increased from 86,6 to 87,7 points on a 100-point scale ( $p = 0,034$ ). Improvement is seen in all but four items. Making it easy to tell about their problems was evaluated with same mean score. Involving patients in decisions about their medical care and being able to speak to general practitioner on the telephone were evaluated lower, but non-significant. The only item that shows statistically significant decrease in the mean scores is getting through to the practice on the phone. By far the lowest satisfaction was reported with waiting in the waiting room in both surveys. The highest scores got in both surveys the confidentiality of medical records, and listening capacity of family doctors.

**Conclusion:** The results of our study provide a clear insight in the trends of satisfaction of family practice visitors in Slovenia. These trends are positive but the results also identified possible areas for quality improvement, such as in the telephone accessibility, management of waiting time in the waiting room and doctor-patient communication skills

**Key words:** family medicine, patient satisfaction, quality of care, Slovenia

Izvirni znanstveni članek  
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### Izvleček

**Namen:** Primerjava ravni zadovoljstva bolnikov z zdravniki družinske medicine v Sloveniji v letih 1998 in 2004.

**Metode:** V dveh presečnih raziskavah je bil uporabljen EUROPEP vprašalnik s 23 vprašanji. V prvo raziskavo, izvedeno leta 1998, je bilo vključenih 36 ambulant družinske medicine iz različnih zdravstvenih ustanov in 2160 bolnikov. Druga raziskava, ki je potekala leta 2004, pa je v vzorec zajela 31 ambulant družinske medicine in 930 bolnikov.

**Rezultati:** Na vprašalnike je odgovorilo 83,8 % bolnikov iz prve in 99,6 % iz druge raziskave. Povprečna skupna ocena zadovoljstva bolnikov se je dvignila s 86,6 na 87,7 točk na lestvici s 100 točkami ( $p = 0,034$ ). Izboljšanje je opazno pri vseh, razen pri štirih vprašanjih. Vprašanje: »Ali vam je zdravnik pomagal, da ste mu povedali o svojih težavah?« je dobilo enako dobro oceno. Vključevanje bolnika v odločanje o zdravljenju in možnost telefonskega pogovora z zdravnikom sta bili ocenjeni slabše, a statistično neznčilno. Možnost dobiti telefonsko zvezo z ambulanto je bilo edino vprašanje s statistično značilno slabšo oceno. V obeh raziskavah je najnižjo oceno dobilo čakanje v čakalnici. Najbolj so bolniki cenili zaupnost ravnanja s podatki in zdravnikovo pripravljenost, da jih posluša.

**Zaključek:** Rezultati naše raziskave jasno kažejo na pozitivne trende zadovoljstva z zdravniki družinske medicine

*pri obiskovalcih ambulant družinske medicine. Izsledki obeh študij pa so pokazali tudi na možna področja za izboljševanje kakovosti: izboljšanje telefonske dostopnosti ambulante, zmanjšanje čakanja v čakalnici in večji poudarek veščinam sporazumevanja.*

**Ključne besede:** družinska medicina, zadovoljstvo bolnika, Slovenija

## 1 Introduction

Family medicine is a key discipline of primary care and there are growing trends to address quality issues in it (1, 2). As improving the sensitivity of primary health care to patient's preferences is an important challenge in health care today, the role of patient in assessing quality of care has further evolved (3). Patients can offer valuable contributions to assessment of communication skills of the doctor and important views on the organisational aspects of care (4-7). Patients' compliance and satisfaction with care are positively influenced by effective communication (8). On the other hand, good management of primary health care is considered as a prerequisite for patients to receive the clinical care they need (9, 10).

In the last decade, a validated instrument for measuring patient satisfaction was developed and used in many European countries, including Slovenia (11). In our country, disparities in patient satisfaction in ethnic minorities were found (12), but the results of the national study on patient satisfaction showed overall high patient satisfaction, which could be compared to other European countries (5, 6).

Slovenia has a population of two million people and joined the EU in May 2004. It has transformed its health care system from the state run to a decentralised model in the last decade (13). The country had reformed its health care system adopting the following features of primary health care: family physicians keep patients lists, they have gate-keeping role and they are paid by mixed capitation – fee for service scheme. Due to EU regulations and recommendations vocational training in family medicine became mandatory in 2000. Under the umbrella of EU recommendations several initiatives are currently being undertaken to strengthen health promotion and prevention activities within primary health care. As a result a new national preventive program for adults that is directed mainly to cardiovascular prevention was introduced in 2001. We have been also witnessing a rapid academic growth of family medicine in the country and there is general

belief that the quality of the health service provision is high (14). Despite many new challenges family medicine regained its importance in that period.

On the other hand, the number of consultations per working day and the number of referrals is increasing, leading to shortening of the consultation time (15). The physicians are overwhelmed also by increasing bureaucracy and are more and more dissatisfied with the amount of time they can spend with patients (16). In some parts of Slovenia there is a shortage of the doctors and those have to see even more patients per working day and fill in more forms to maintain their incomes and satisfy health policy makers, who demand high availability of the services for the citizens. There is a growing belief that these changes have also affected patient satisfaction, regardless active efforts of the profession to improve quality of GP's work.

Patients' evaluation of the family practice in our country was shown to be relatively high in the 1998 survey (17). We were thus interested to get insight if changes in last years have affected patients' views on care received in general practice. The aim of our study was therefore to compare practice attendees' views on family practice in 1998 and 2004 studies in Slovenia and to identify aspects for health care improvement. However, until now, there were no studies done that would evaluate trends in patient satisfaction with family practice in Slovenia.

## 2 Methods

### 2.1 Design and research population

We made a comparison of two cross-sectional studies on the two samples of Slovene family practices attendees using the questionnaire for measuring patient satisfaction. The first study was undertaken as a part of EUROPEP (the European Task Force on Patients' Evaluation of General Practice) research and the second study as a part of EPA (European Practice Assessment) project. In both studies practice visitors

were asked to evaluate family practice care, taking into account at least 12 months of their experiences with the practice under the study. The adult patients aged 18 or more without reading problems, able to understand the national language were approached and informed about the purpose, anonymity and possibility to refuse the participation in the studies. Patients' characteristics, like age, gender, number of contacts and history of chronic disease are presented in Table 1.

stratified sample of urban and rural practices, single-handed, dual and group practices. After the visit, 930 self-administrated questionnaires were handed out by the family physicians or by the practice nurse. The questionnaires were distributed to 930 consecutive patients visiting family physicians from a convenience sample of 31 Slovenian family practices after a chosen starting day. Patients filled in the questionnaires in the waiting room and left them in the special box at the entrance.

Table 1. *Characteristics of responders in 1998 and 2004 studies.*  
Tabela 1. *Značilnosti sodelujočih v raziskavah v 1998 in 2004.*

	1998 (n = 1809)	2004 (n = 926)
Gender:		
male	36%	44,7%
female	64%	55,3%
Age groups:		
≤ 40 years	27,8%	39,5%
41 – 65 years	51,6%	50,3%
>65 years	20,6%	10,2%
Age average	50,9	45,8
No. of contacts with GP over the last 12 months	6,7	6,1
History of chronic disease	49,2%	46,3%

The first study was performed in spring 1998 on a stratified sample of Slovene family practices. We used the common EUROPEP study protocol: 60 consecutive patients of 36 family practitioners in different practices in the country (18). The self-administered questionnaires were handed out by the doctors to 2160 consecutive patients after a visit to a family physician after a chosen starting day. A convenience sample of 36 family practices was selected according to the size of the population as urban or rural and according to the type of practice as group or single-handed. Patients in this study were asked to fill in the questionnaire at home and post it back in a prepaid and addressed envelope to the research institute. After 14 days they received a reminder.

In the second study that was conducted in spring 2004 we used the common EPA study protocol: convenience sample of at least 30 practices per country and at least 30 consecutive patients per practice (19). We made a

The study design in both investigations ensured participation of patients from public and private practices. The selection of practices and family physicians was made using national data on the location of practices, and the age and sex of the family physicians, so that physicians under both studies fairly good represent national situation. (20, 21)

The ethical approvals for both studies were obtained from National Ethical Committee of Slovenia.

## 2.2 Instrument

An internationally standardised and validated self-administrated instrument EUROPEP for patients' evaluations of family practice care was used in both surveys. The data set collected with questionnaire in both studies included patient demographic statistics, health characteristics, as well attitude and experiences with health care services. The instrument consists

of 23 questions and covers two dimensions of care: clinical behaviour (communication, technical aspects and information giving) and organisation of care. The development and validation process of the instrument are described in details elsewhere (4). Patients were asked to evaluate scale following items on a five point Likert scale related to their practice with the extremes labelled "poor" and "excellent". The validity of the instrument was assured through explicit translation procedures using three forward and two backward translations of the original English version of the instrument.

### 2.3 Analysis

Data were analysed using the Epi-info and SPSS (version 11) statistical package. We used a two-sample z-test in large samples to test the differences between the item means (22).

## 3 Results

The response rate in the first study was 83,8% and in the second 99,6%. The respondents in the 2004 sample were with the average age of 45,8 years (sd = 14,5 years) younger than in the 1998 sample with the average of 50,9 years (sd = 15,4 years,  $p < 0,001$ ) and there were more male patients in the 2004 sample (44,7% vs. 36%,  $p < 0,001$ ). The patients in the 2004 study had less contacts (6,1 vs. 6,7 contact) with the GPs ( $p = 0,02$ ) over the last 12 months and were less likely to have a history of chronic disease (46,3% vs. 49,2%,  $p = 0,01$ ). Age, gender, number of contacts and presence of chronic condition did not predict any difference in patient satisfaction rate in 1998 sample and predicted 6% of variation in patient satisfaction rate in 2004.

Mean patient satisfaction in 2004 sample with 87,7 (sd = 12,9; CI 86,6 – 88,7) was significantly higher ( $p = 0,034$ ) than in 1998 sample 86,6 points (sd = 12,6; CI 85,9 – 87,4).

The comparison of items' means of patients' satisfaction from both studies is shown in Table 2. There is a significant improvement in all but nine aspects. Making patients it easy to tell about their problems was evaluated with the same mean score. Slight improvement but not any statistical difference is seen in: interesting in patients' personal situation; helping to feel well so that they can perform normal daily activities; helping patients deal with emotional problems related to their health status; helping them understand the importance of following doctor's

advice; preparing patients for what to expect from specialist or hospital care. The only item that shows statistically significant decrease in the mean scores is getting through to the practice on the phone. Aspects where slight but non-significant decrease was found were: involving patients in decisions about their medical care and being able to speak to GP on the phone.

Waiting in the waiting room got lowest scores in both surveys. On the other hand the patients still valued most confidentiality of medical records, and listening capacity of doctors.

When comparing the scores, one can also see that the biggest gains in scores were recorded for: helpfulness of the staff (other than the general practitioner), getting an appointment to suit patient and waiting time in the waiting room.

## 4 Discussion

The study provides information on what patients expect and value in family medicine in Slovenia. The main strength of the study is that it is based on two large samples of practice attendees from family practices stratified to cover the country specifics and thus can be generalised to the whole population of family practice attendees. The study design from both studies ensured participation of the patients from different settings all over Slovenia, including: urban, rural practices, group and solo practices as well private and public practices. Use of the EUROPEP instrument, an internationally developed and validated instrument for patients' evaluations of family practice, in both studies, ensures accurate insight in the development of an important element of quality in family medicine in the country.

Several factors should be taken into account when considering the generalisability of our results. Firstly, since we compare results from cross-sectional studies our findings should be regarded with circumspection. Secondly, family practitioners participated voluntarily in both surveys and may thus have been more interested and motivated than family practitioners in general which may, in turn, have resulted in more positive evaluations. Thirdly, as the study samples of patients weren't been selected randomly were therefore potentially not representative. Next, the questionnaires in both studies were handed out by the doctor or practice nurse, which may have given the staff the possibility of excluding some patients (e.g. those with the most negative attitudes) from the



Table 2. Comparison of items' means of patients' satisfaction in 1998 and 2004.

Tabela 2. Primerjava srednjih ocen postavk v raziskavah o zadovoljstvu bolnikov, opravljenih v 1998 in 2004.

	Item mean 1998	SD	Item mean 2004	SD	z	p
1. Making you feel you had time during consultation?	4,43	0,70	4,49	0,670	2,18	0,03
2. Interest in your personal situation?	4,16	1,02	4,17	0,993	0,25	0,8
3. Making it easy for you to tell him or her about your problems?	4,35	0,85	4,35	0,849	0,00	1
4. Involving you in decisions about your medical care?	4,40	0,83	4,39	0,812	-0,30	0,7
5. Listening to you?	4,63	0,63	4,71	0,580	3,31	0,001
6. Keeping your records and data confidential?	4,74	0,52	4,81	0,454	3,63	0,001
7. Quick relief of your symptoms?	4,56	0,67	4,62	0,643	2,28	0,02
8. Helping to feel well so that you can perform normal daily activities?	4,54	0,67	4,56	0,656	0,75	0,4
9. Thoroughness?	4,48	0,73	4,57	0,668	3,23	0,001
10. Physical examination of you?	4,44	0,73	4,53	0,680	3,19	0,001
11. Offering you services for preventing diseases?	4,30	0,98	4,39	0,900	2,40	0,02
12. Explaining the purpose of tests and treatments?	4,43	0,76	4,53	0,734	3,33	0,001
13. Telling you what you wanted to know about your symptoms and/or illness?	4,52	0,72	4,58	0,644	2,21	0,03
14. Helping you deal with emotional problems related to your health status?	4,36	0,88	4,37	0,851	0,29	0,7
15. Helping you understand the importance of following his or her advice?	4,48	0,71	4,50	0,716	0,69	0,5
16. Knowing what s/he had done or told you during contacts?	4,43	0,75	4,50	0,732	2,35	0,02
17. Preparing you for what to expect from specialist or hospital care?	4,36	0,82	4,37	0,827	0,30	0,7
18. The helpfulness of the staff (other than the general practitioner)?	4,36	0,90	4,64	0,637	9,41	<0,001
19. Getting an appointment to suit you?	4,28	1,04	4,51	0,785	6,47	<0,001
20. Getting through to the practice on the phone?	4,61	0,73	4,48	0,798	-4,15	0,001
21. Being able to speak to the general practitioner on the telephone?	4,60	0,81	4,56	0,752	-1,28	0,2
22. Waiting time in the waiting room?	3,67	1,07	3,93	1,019	6,21	<0,001
23. Providing quick services for urgent health problems?	4,47	0,86	4,54	0,761	2,18	0,03

study and therefore presented a possible selection bias. One possible limitation of the study could be that patients were included when attending the surgery and frequent attendees (e.g. patients with chronic disease) were thus more likely to be included. This fact gave the possibility that opinion of patients who rarely visit these practices may be underrepresented. The same is true for patients who do not master the national language well.

We obtained a high response rate in both surveys, minimizing the risk of selection bias due to dropout. One can argue that the very high response rate (99,6%) in the second study can be related to a slightly different method in collecting questionnaires. In the EUROPEP study the answers were posted back to the research institute while in the 2004 study the filled-in questionnaires were put in the sealed box in the waiting room. But in this way we probably received the answers even from those who otherwise would not like to participate because of time constrains. Compared with 1998 results, we received more questionnaires from men, younger patients and those who had fewer contacts with their family doctor. Regarding the data from literature, all those groups of patients are usually less satisfied with health care (7, 23, 24). The 2004 results present higher overall satisfaction scores in spite there were younger practice visitors, more men and more those with fewer contacts in the sample. This important finding adds to the reliability of the study.

The study demonstrates that high rates of patient satisfaction in 1998 remained high also in 2004. There may be several explanations for these findings. The first may be that patient satisfaction in our country is a stable category, which is relatively immune to changes in the health policy. Professional organisations and the media have perceived restrictive policy changes from 1998 till 2004 as important, but they perhaps did not affect patient satisfaction, which may be more linked to a personal doctor-patient relationship. In the period we have examined, the role of a personal doctor was strengthened that worked towards improving patient satisfaction. The second explanation may be the improvements in the quality of family practice in the country during the process of accession to EU counteracted the negative effects of the health policy decisions on patient satisfaction.

Probably the most interesting points to examine are the areas where patients perceive the biggest improvements. They all relate to organisational aspects of care and probably reflect the growing importance of management of family practices that was considered important after the health care reform. Management

became a frequent topic in CME (continual medical education) meetings in recent years and an obligatory topic in the new vocational training for family physicians in the country (25). Nevertheless, patients still complain about the time spent waiting to see their doctor. Even we are witnessing lack of family doctors in almost all regions of the country and the average consultation time in doctor's office is among the lowest in Europe, doctors and practice managers should focus more on this field.

The second survey has shown a decrease in patient's satisfaction with telephone access to the practice and their doctor. Telephone appointments can reduce patient's office visits and they have become increasingly popular in recent time (26, 27). Obviously, the practices have not adequately adapted to this challenge. One of the excuses is that telephone consultations are not recognised as a part of the contract with the payer.

Among the highly rated items in both surveys were the confidentiality of medical records, and listening capacity of family doctors. Demands of the national insurance institutions to review patients records to remain in financial control, and the demands of different insurance companies to have access to patients' records are a great challenge to the confidentiality so highly prized by patients today. In spite of lack of time, family doctors appeared to be good listeners and focused on actual patient problems. The study also demonstrated that there is still space to improve doctor-patient communication. Probably even more efforts in postgraduate education and CME activities are needed in this area in the future years.

## 5 Conclusion

The relatively high scores, after administering the questionnaire on patients' satisfaction with family medicine to practice attendees, observed in 1998 study even slightly increased in 2004 study. So, we may expect that results of our study provide a clear insight in the trends of satisfaction of family practice visitors in Slovenia. These trends are positive but the results also identified possible areas for quality improvement, such as in the telephone accessibility, management of waiting time in the waiting room and doctor-patient communication skills.

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# UČINKOVITOST PROGRAMA “SPODBUJAJMO NEKAJENJE” PRI PRVI GENERACIJI SLOVENSkih OSNOVNOŠOLCEV EFFECTIVENESS OF PRIMARY SCHOOL-BASED PROGRAMME “LET’S PROMOTE NONSMOKING” IN FIRST GENERATION OF SLOVENE PUPILS

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Izvirni znanstveni članek  
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## Izvleček

**Izhodišča:** Namen raziskave je oceniti učinkovitost programa “Spodbujajmo nekajenje” v slovenskih osnovnih šolah s prikazom učinkov programa na znanje in stališča o tobaku ter kadilske navade mladostnikov.

**Metode:** Primerjali smo znanje in stališča o tobaku in njegovi škodljivosti za zdravje ter različne vidike kadilskega vedenja med osnovnošolci, ki so bili deležni šestletnega programa spodbujanja nekajenja, in osnovnošolci, ki v tovrsten program niso bili vključeni. V raziskavi je bilo s pomočjo vprašalnika anketiranih 1.055 učencev v starosti 14 do 16 let iz 20 osnovnih šol iz različnih predelov Slovenije, od tega 560 iz osnovnih šol, kjer izvajajo program, in 495 iz osnovnih šol, kjer programa niso izvajali. Raziskava je bila izvedena v obdobju maj do junij 2006.

**Rezultati:** V naši raziskavi smo zabeležili ugodne učinke programa na znanje, stališča in kadilsko vedenje osnovnošolcev. Program je pomembno povečal celokupno raven znanja pri mladostnikih obeh spolov, pomembno vplival na stališča pri dekletih, pri fantih in na delež tistih, ki niso kadili. Pomembnih razlik v drugih vidikih kadilskega vedenja nismo zabeležili.

**Zaključki:** Programi preprečevanja kajenja v šolah so eden od učinkovitih ukrepov za zmanjševanje rabe tobaka med mladimi. Program “Spodbujajmo nekajenje” izkazuje ugodne učinke na znanje, stališča in kadilske navade osnovnošolcev. Rezultati naše raziskave in podatki iz tuje strokovne literature podpirajo nadaljevanje izvajanja pa tudi prenovo oziroma dopolnitve programa “Spodbujajmo nekajenje”.

**Ključne besede:** kajenje, šole, otroci, adolescenti, mladostniki

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## Abstract

**Aim:** The aim of the study was to estimate effectiveness of the primary school-based programme “Let’s Promote Nonsmoking” with describing its effects on knowledge and attitudes about tobacco and also smoking behaviour of youth.

**Methods:** We compared knowledge and attitudes about tobacco and health consequences of tobacco use and also different measures of smoking behaviour between primary school pupils, who were participating in nonsmoking promotion programme of six years duration and primary school pupils, who were not participating in the programme. In our study we used a questionnaire and surveyed 1.055 pupils aged 14 to 16 from 20 primary schools from different parts of Slovenia, 560 were from primary schools in which the programme was implemented and 495 from primary schools without the programme. The study was carried out during the period from May to June 2006.

**Results:** We demonstrated positive effects of the programme on knowledge, attitudes and smoking behaviour of primary school pupils. The programme significantly increased the overall knowledge in youth of both genders,

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*significantly increased attitudes against tobacco in girls and share of never smokers in boys. We have not demonstrated significant changes in other measures of youth smoking behaviour.*

**Conclusions:** *School-based smoking prevention programmes are one of the effective measures for decreasing tobacco use among youth. Programme "Let's Promote Nonsmoking" also demonstrates positive effects on knowledge, attitudes and smoking behaviour of primary school pupils. Results of our study and data from foreign scientific literature support continued implementation and also renovation and updating of the programme "Let's Promote Nonsmoking".*

**Key words:** smoking, schools, children, adolescents, youth

## 1 Uvod

Programi preprečevanja kajenja v šolah so eden od ukrepov za preprečevanje in zmanjševanje rabe tobaka med mladostniki in ostale poznane in učinkovite ukrepe z istim ciljem podpirajo ter dopolnjujejo in obratno (1-5). V zadnjih desetletjih je bilo šolsko okolje v središču dejavnosti za zmanjševanje kajenja med mladostniki zaradi možnega dostopa do velikega števila otrok in mladostnikov in prileganja vsebine ciljem izobraževanja v šolah.

Programi preprečevanja kajenja v šolah so učinkoviti (1,6-15). Na kadilske navade tovrstni programi po obstoječih podatkih učinkujejo zmerno in kratkoročno (1,3,6,8-13,15). O dolgoročnih učinkih je zaenkrat na voljo premalo raziskav, rezultati obstoječih raziskav pa so nedosledni (1,6,8,12,13,14). Ne glede na to, da nekatere raziskave kažejo, da se učinki programov s časom zmanjšujejo, pa vendarle obstajajo dokazi, da intenzivnejši in kompleksnejši programi lahko učinkujejo vse tja do konca srednje šole (1,6).

Programi preprečevanja kajenja v šolskem okolju delimo v več različnih skupin (6,8,9), med njimi so glede na obstoječe dokaze najučinkovitejši programi t.i. "družbenih vplivov" (1,3,6,8,10,14,15), pa tudi kombinirani programi t.i. "družbene usposobljenosti" oziroma "družbenih vplivov" (6,8,9).

Programi t.i. družbene usposobljenosti uporabljajo kognitivno-vedenjske veščine (učenje, demonstracije, ponavljanje, povratne informacije, delo zunaj razreda, torej doma v obliki domačih nalog in obveznosti) in učijo splošne osebne in družbene veščine, kot so postavljanje ciljev, reševanje problemov, odločanje in tudi veščine za upiranje vplivom medijev in drugih oseb, za izboljšanje samopodobe, za obvladovanje stresa in tesnobe, za povečanje samozavesti ipd. Programi t.i. "družbenih vplivov" uporabljajo normativno (usmerjevalno) učenje in učenje veščin za upiranje kajenju. Vključujejo popravljanje mladostnikovega precejevanja kajenja med odraslimi in vrstniki, prepoznavanje visoko tveganih situacij, povečanje

osveščenosti o vplivu medijev, vrstnikov in družine, učenje in urjenje odklanjanja oziroma zavrnitve in javno zavezanost k nekajenju (6,8,9).

V Sloveniji približno 40 % slovenskih osnovnih šol izvaja program "Spodbujajmo nekajenje". Drugi programi in dejavnosti, ki jih izvajajo osnovne šole, so zelo raznoliki in se izvajajo v znatno manjšem številu osnovnih šol (16).

Program "Spodbujajmo nekajenje" so pripravili strokovnjaki Inštituta za varovanje zdravja RS in Društva pljučnih bolnikov in je bil prvi tovrstni program v Sloveniji. Cilji programa so povečati znanje in oblikovati pozitivna stališča do zdravih navad in nekajenja oziroma spodbuditi negativno stališče do kajenja, zvišati starost ob iniciaciji kajenja, vplivati na pozitivno samopodobo nekadilca, učence opozoriti na kritične trenutke za odločanje o kajenju in jih naučiti, da jih prepoznajo, ter se nanje ustrezno odzivajo. Program poteka od 4. do 9. razreda devetletke, torej 6 let in sicer 7-krat po 1 šolsko uro na teden. Vsako leto je posvečeno različnim temam, prilagojene pa so starosti učencev. Za izvajanje programa se bodoči izvajalci izobrazijo v enodnevnem izobraževanju (17).

Program "Spodbujajmo nekajenje" bi glede na njegove značilnosti lahko uvrstili med programe t.i. "družbenih vplivov", glede na nekatere značilnosti programa pa morda tudi med kombinirane programe t.i. "družbene usposobljenosti" oziroma "družbenih vplivov".

V program se je v prvem letu izvajanja, to je v šolskem letu 2000/01, vključilo 11 osnovnih šol. Sodelujoče šole so bile obenem vključene tudi v projekt "Zdrave šole". Prva generacija mladih v osnovnih šolah, ki so pričele z izvajanjem programa leta 2000, je s programom zaključila leta 2006.

Natančnih in strogih vrednotenj učinkovitosti programov spodbujanja nekajenja oziroma preprečevanja kajenja v šolah v Sloveniji nimamo. Dve tretjini osnovnih šol sicer na različne načine ocenjuje učinkovitost izvajanja tovrstnih vsebin, vendar to niso natančne in stroge ocene, iz katerih bi lahko črpali podatke o učinkovitosti programov in dejavnosti (16).

Ob uvajanju programa "Spodbujajmo nekajenje" v slovenske osnovne šole ni bilo načrtovano spremljanje kadilskih navad pri učencih, vključenih v program, prav tako ne primerjava znanja, stališč in kadilskih navad z učenci iz šol, kjer programa niso izvajali. Načrtovano in izvedeno je bilo spremljanje znanja in stališč pri posameznih učencih ob napredovanju skozi program. Za grobo oceno učinkovitosti programa "Spodbujajmo nekajenje", ki bi vključevala tako kadilske navade kot tudi znanje in stališča v primerjavi z okoljem brez programa, smo se zato odločili naknadno, ob zavedanju vseh pomanjkljivosti, ki jih tak pristop prinaša.

Namen raziskave je oceniti učinkovitost osnovnošolskega programa preprečevanja kajenja "Spodbujajmo nekajenje" pri prvi generaciji osnovnošolcev, ki je pričela s programom v šolskem letu 2000/01 in zaključila šestletni program v šolskem letu 2005/06. Ocena učinkovitosti programa je izvedena v času ob zaključku programa s pomočjo primerjave znanja in stališč o tobaku in njegovi škodljivosti ter kadilskega vedenja med osnovnošolci, ki so bili deležni šestletnega preprečevalnega programa, in osnovnošolci, ki v tovrstni program niso bili vključeni. Osnovni cilji raziskave so ugotoviti, ali obstajajo razlike med znanjem in stališči o tobaku ter razlike med kadilskimi navadami (opredelimo z deležem trenutnih kadilcev (dnevnik, tedenskih), nikoli kadilcev, trenutnih nekadilcev, starostjo ob prvem poizkusu kajenja, količino pokajenih cigaret v zadnjih 30 dneh in z namero za kajenje v prihodnosti) med osnovnošolci zadnjega razreda osnovnih šol, ki izvajajo program, in osnovnih šol, ki programa ne izvajajo.

## 2 Opazovanci in metode

Učinkovitost programa smo vrednotili s primerjavo znanja, stališč in kadilskih navad osnovnošolcev iz šol, kjer so program izvajali, in šol brez programa. Preiskovana populacija so učenci in učenke zadnjih razredov devetletke in osemletke v starosti od 14 do 16 let. V skupino šol, kjer so program izvajali, je bilo vključenih 10 osnovnih šol, v katerih so v šolskem letu 2000/01 začeli z izvajanjem programa "Spodbujajmo nekajenje". V primerjalno skupino je bilo vključenih 10 osnovnih šol, ki programa "Spodbujajmo nekajenje" ali podobnega dolgoročnega programa niso izvajale in so bile izbrane kot par posamezni osnovni šoli iz prve skupine na osnovi treh meril: ista zdravstvena regija, podobno okolje (mestno, primestno, vaško) in podobna velikost šole glede na število učencev.

Raziskava je presečna epidemiološka raziskava. Izvedena je bila s pomočjo anketnega vprašalnika, ki je vseboval 46 vprašanj o starosti in spolu anketiranca, kadilskih navadah anketiranca, kadilskih navadah staršev, sorojencev in prijateljev, kadilskih namerah anketiranca v prihodnosti, pravih glede kajenja in izvajanju pravil v šoli, ki jo obiskuje anketiranec, ter vprašanja in trditve o znanju in stališčih anketiranca. Vprašanja in trditve o znanju so vsebovale izbrana področja o škodljivostih aktivnega in pasivnega kajenja, razširjenosti kajenja, zasvojenosti in umrljivosti zaradi kajenja. Anketiranci so pri trditvah ocenjevali njihovo resničnost (5-stopenjska lestvica). Trditve o stališčih so vsebovale izbrana področja o privlačnosti in koristih kajenja oziroma nekajenja ter o pomenu zavračanja cigarete oziroma kajenja za druženje z vrstniki. Anketiranci so pri teh trditvah ocenjevali, koliko se z njimi strinjajo (5-stopenjska lestvica). Vprašalnik je bil prej pilotsko preizkušen na manjši skupini osnovnošolcev podobne starosti.

Za izvedbo raziskave na posamezni šoli smo se dogovorili z izbranim šolskim delavcem in jim posredovali navodila za izvedbo. Šolski delavec je v razredu učence obvestil o raziskavi in razdelil vprašalnike, ki so jih učenci nato izpolnili. Učenci so vprašalnike izpolnjevali anonimno, brez vpisovanja osebnih podatkov. Izpolnjene vprašalnike so vložili v kuverto in jo zalepljeno oddali predstavniku šolske svetovalne službe oziroma učitelju. Sodelovanje v raziskavi je bilo prostovoljno. Anketiranje je potekalo od konca maja do konca junija 2006.

Za analizo pridobljenih podatkov smo poleg opisnih statističnih metod uporabili bivariatne metode: za opisne spremenljivke test hi-kvadrat, za številske spremenljivke pa neparametrične teste, saj številske spremenljivke niso bile normalno porazdeljene. Analizo podatkov smo izvedli v programu SPSS 11.0.

V nadaljevanju članka povsod, kjer posebej ne omenjamo spola, navajamo podatke za oba spola in sicer z navedbo samostalnika moškega spola.

Rezultate raziskave smo želeli primerjati s podatki iz strokovne literature. V bazi PubMed smo poiskali pregledne članke, poročila, metaanalize in posamezne raziskave o učinkovitosti programov za preprečevanje kajenja v šolah. Izbrali smo primerjalne raziskave učinkovitosti šolskih programov za preprečevanje kajenja, kjer so bili posamezni študenti, razredi, šole ali šolska okrožja po procesu randomizacije vključeni v eksperimentalno ali primerjalno skupino, in pri katerih so bili zbrani podatki o kadilskem vedenju pred izvajanjem programa in spremljani do zaključka raziskave in vsaj 6 mesecev po zaključku

ukrepa. Izbrane so bile raziskave pri mladih v starosti med 6 in 18 leti, v nekaterih primerih je bila starost ob zadnjem spremljanju več kot 18 let. Izbrane raziskave so ocenjevale učinkovitost programov za preprečevanje kajenja ali širše, to je preprečevanje rabe psihoaktivnih drog med mladostniki, vključno s tobakom. Upoštevane so bile primerjalne raziskave iz obdobja zadnjih 15 let, ki so ocenjevale učinkovitost t. i. programov "družbenega vpliva" ali kombiniranih programov t. i. "družbene usposobljenosti" in t. i. "družbenega vpliva".

### 3 Rezultati

V končni analizi je bilo upoštevanih skupno 1.055 izpolnjenih vprašalnikov učencev v starosti 14 do 16 let, od tega 560 iz osnovnih šol, kjer izvajajo program SN, in 495 iz primerjalne skupine. Anketiranci iz obeh skupin se ne razlikujejo statistično značilno po spolu ali starosti.

Porazdelitev vzorca, po starosti, in spolu je prikazana v Tabeli 1.

Na začetek kajenja pri mladostniku med drugim pomembno vplivajo kadilske navade staršev, bratov in sester ter vrstnikov (6,18). Med obema primerjanima skupinama v tem oziru ni bilo statistično značilnih razlik.

Celokupna ocena znanja se je statistično značilno razlikovala med anketiranci iz obeh primerjanih skupin in je bila statistično značilno višja med osnovnošolci iz osnovnih šol, kjer so izvajali program ( $\chi^2$  je bil značilen pri  $p=0,015$ ). Pri tem nismo zabeležili razlik glede na spol. Program pa ni vplival na oceno deleža kadilcev med odraslimi in vrstniki. Anketirance smo zaprosili, naj ocenijo, kolikšen je okvirno delež kadilcev med mladimi njihove starosti. Ponudili smo jim odgovore, ki so zajemali deset odstotnih točk razlike za posamezen odgovor in sicer v razponu od 0 % do 100 %. Pravilni odgovor smo umestili med 21 – 30 %, kajti raziskava "Obnašanje v zvezi z zdravjem v šolskem okolju" iz leta 2002 kaže, da je v starosti 15 let kadilo 22,4 % anketiranih (19). Razlike v oceni deleža kadilcev med mladimi v obeh skupinah anketirancev so prikazane v Tabeli 2.

Tabela 1. Porazdelitev anketirancev po starosti in spolu (Raziskava o učinkovitosti osnovnošolskega programa "Spodbujajmo nekajenje" na prvi generaciji slovenskih osnovnošolcev, 2006).

Table 1. Study participants by age and sex (Effectiveness of primary-school based programme "Let's Promote Nonsmoking" in first generation of Slovene pupils, 2006).

	Osnovne šole, ki izvajajo program / Primary schools with the programme	Osnovne šole, ki ne izvajajo programa / Primary schools without the programme	p <sup>*</sup>	Skupaj / Total
<b>Starost / Age</b>				
Skupaj / Total	560	495	0,996	1.055
14	322 (57,5 %)	285 (57,6 %)		607 (57,5 %)
15	232 (41,4 %)	204 (41,2 %)		436 (41,3 %)
16	6 ( 1,1 %)	6 (1,1 %)		12 (1,1 %)
<b>Spol</b>				
Skupaj / Total	560	494	0,480	1.054
Fantje / Boys	257(45,9 %)	216 (43,7 %)		473 (44,9 %)
Dekleta / Girls	303(54,1 %)	278 (56,3 %)		581 (55,1 %)

Tabela 2. Ocena deleža kadilcev med mladimi pri anketirancih iz OŠ, kjer program izvajajo, in OŠ, kjer programa ne izvajajo, ter skupno (Raziskava o učinkovitosti osnovnošolskega programa za preprečevanje kajenja "Spodbujajmo nekajenje" na prvi generaciji slovenskih osnovnošolcev, 2006).

Table 2. Estimation of smoking prevalence among peers by participants in total and separately from primary schools with the programme and primary schools without the programme (Effectiveness of primary-school based programme "Let's Promote Nonsmoking" in first generation of Slovene pupils, 2006).

	Osnovne šole, ki izvajajo program / Primary schools with the programme	Osnovne šole, ki ne izvajajo programa / Primary schools without the programme	p*	Skupaj / Total
<b>Ocena deleža kadilcev med mladimi / Estimation of smoking prevalence among peers</b>				
Skupaj / Total	546	490	0,173 ( $\chi^2$ )	1.036
0–20 % - podcenjevanje /underestimation	74 (13,6 %)	52 (10,6 %)		126 (12,2 %)
21–30 % - pravilna ocena / right estimation	78 (14,3 %)	60 (12,2 %)		138 (13,3 %)
31 % in več – precenjevanje / overestimation	394 (72,2 %)	378 (77,1 %)		772 (74,5 %)

Večina anketirancev izkazuje stališča, ki niso naklonjena rabi tobaka. Okoli 70 % vseh anketirancev skupno pri več kot polovici trditve izkazuje stališča, uperjena proti rabi tobaka, polovica pa pri skoraj vseh trditvah.

Med primerjanima skupinama anketirancev nismo zasledili statistično značilnih razlik v stališčih celokupno, smo pa zabeležili statistično značilno razliko v stališčih celokupno pri dekletih. Dekleta iz šol, kjer izvajajo program "Spodbujajmo nekajenje", so v svojih stališčih glede rabe tobaka močnejše usmerjena proti rabi tobaka kot dekleta iz osnovnih šol, kjer programa ne izvajajo ( $\chi^2$  je bil značilen pri  $p=0,025$ ). Pri kadilskih navadah obeh skupin smo zabeležili statistično značilne razlike v deležu tistih, ki nikoli niso kadili, torej tistih, ki ne navajajo poskusa kajenja v preteklosti. Med anketiranci iz osnovnih šol, kjer so program izvajali, je nikoli kadilcev statistično značilno več kot med anketiranci v primerjalni skupini ( $\chi^2$  je bil značilen pri  $p=0,030$ ). Po analizi podatkov po spolu se

statistično značilna razlika pokaže pri fantih ( $\chi^2$  je bil značilen pri  $p=0,029$ ). Pri dekletih statistično značilne razlike ni. Podatki so prikazani v Tabeli 3.

Drugih statistično značilnih razlik med kadilskimi navadami anketirancev iz obeh skupin nismo zaznali.

#### 4 Razpravljanje

V raziskavi smo zabeležili ugodne učinke programa na znanje o tobaku in njegovi škodljivosti za zdravje, na stališča do tobaka in kadilsko vedenje osnovnošolcev.

Učenci iz osnovnih šol, kjer so izvajali program "Spodbujajmo nekajenje", so imeli statistično značilno višjo oceno znanja o značilnostih in škodljivosti rabe tobaka. Program je povečal delež tistih, ki so pravilno odgovarjali na določene trditve, vendar predvsem na tiste, ki jih že sicer skupno pravilno ovrednoti večina anketiranih. Znanje mladostnikov je slabše na področju



Tabela 3. *Poskus kajenja v preteklosti skupno in po spolu pri učencih iz OŠ, kjer program izvajajo in OŠ, kjer programa ne izvajajo (Raziskava o učinkovitosti osnovnošolskega programa za preprečevanje kajenja "Spodbujajmo nekajenje" na prvi generaciji slovenskih osnovnošolcev, 2006).*

Table 3. *Smoking experience in the past in total and by sex in participants in total and separately from primary schools with the programme and primary schools without the programme (Effectiveness of primary-school based programme "Let's Promote Nonsmoking" in first generation of Slovene pupils, 2006).*

	Osnovne šole, ki izvajajo program / Primary schools with the programme	Osnovne šole, ki ne izvajajo programa / Primary schools without the programme	p <sup>*</sup>	Skupaj / Total
<b>Poizkus kajenja v preteklosti / Smoking experience in the past</b>				
Skupaj	559	494	0,030 ( $\chi^2$ )	1.053
Da / Yes	231 (41,3 %)	237 (48,0 %)		468 (44,4 %)
Ne / No	328 (58,7 %)	257 (52,0 %)		585 (55,6 %)
<b>Poizkus kajenja v preteklosti po spolu / Smoking experience in the past by age</b>				
<b>Fantje / Boys</b>	256	215	0,029 ( $\chi^2$ )	471
Da / Yes	104 (40,6 %)	109 (50,7 %)		213 (45,2 %)
Ne / No	152 (59,4 %)	106 (49,3 %)		258 (54,8 %)
<b>Dekleta / Girls</b>	303	278	0,316 ( $\chi^2$ )	581
Da / Yes	127 (41,9 %)	128 (46,0 %)		255 (43,9 %)
Ne / No	176 (58,1 %)	150 (54,0 %)		326 (56,1 %)

razširjenosti kajenja in posledicah kajenja za javno zdravje ter o vplivu kajenja na stres. Poseben poudarek je potrebno usmeriti na zmanjševanje precejevanja deleža kadilcev med vrstniki in odraslimi, na kar program ni vplival, saj podatki kažejo, da tisti, ki deleže kadilcev najbolj precejujejo, najverjetneje postanejo kadilci tudi sami (1,18).

Ugodni učinki programa "Spodbujajmo nekajenje" na znanje učencev, ki so bili deležni programa, so v skladu z ugotovitvami iz strokovne literature, (6,10,20-26), niso pa v skladu z ugotovitvami o učinkih tovrstnih programov na oceno deleža kadilcev med vrstniki in/ali odraslimi (11,20,23).

Pri anketiranih mladostnikih so do neke mere trdno zasidrana stališča proti tobaku in kajenju, saj kar polovica anketirancev podpira skoraj vsa v raziskavi

uporabljenata stališča v smislu proti rabi tobaka. Med primerjanima skupinama nismo zasledili statistično značilnih razlik v stališčih, zasledili pa smo jih pri dekletih iz obeh primerjanih skupin v prid programu. Zakaj je program učinkoval samo pri dekletih, ni razvidno, vendar pa bo potrebno razmisliti o tem, kako dodelati program s ciljem, da bo učinkoval pri obeh spolih.

Izbrane raziskave iz tujine o učinkih tovrstnih programov na stališča poročajo redko, rezultati pa niso dosledni, zato so primerjave otežene (20,21,23,24,26,27).

Pri kadilskih navadah smo med primerjanima skupinama zabeležili statistično značilne razlike v deležu tistih, ki nikoli niso kadili, katerih je bilo statistično značilno več v šolah, kjer so program izvajali in sicer pri fantih.

Večina raziskav iz tujine prikazuje pozitivne učinke programov na kadilске navade mladih (20-23,28-42), obstaja pa jih tudi precej, ki tovrstnih učinkov niso prikazale (24,27,43-47). Raziskave v tujini najpogosteje kot merilo učinkovitosti programov uporabljajo prav različne vidike kadilskega vedenja pri mladih. Raziskave so prikazale statistično značilne ugodne učinke programov t.i. "družbenih vplivov" in kombiniranih programov t.i. "družbene usposobljenosti" in t.i. "družbenega vpliva" običajno na enega od kadilskih izidov, npr. na prevalenco kajenja (22,40,41,42), pogostost kajenja (20,31,39), redno kajenje (21,33,37,38,41), poskuse kajenja (21,23,28,29,36,37,38,42), kajenje v preteklem mesecu (23,28,30,32,34,35) in preteklem tednu (28,30,32,34,36) ter število pokajenih cigaret (20,31,41). Primerjave so otežene zaradi raznolikosti spremljanih izidov med raziskavami. Rezultati naše raziskave so v grobem v skladu z rezultati večine navedenih raziskav, saj prikazujejo statistično značilen učinek programa na enega od izidov kadilskega vedenja.

V raziskavi smo prikazali, da je program dosegel številne cilje, ki si jih je zastavil na začetku, tako povečanje znanja, spodbujanje negativnih stališč do kajenja, spodbujanje pozitivnih stališč do nekajenja, obenem pa je še posebej spodbudno, da je tudi zmanjšal poskuse kajenja med tistimi, ki so bili deležni programa.

Po dostopnih podatkih v Sloveniji do sedaj ni bila opravljena podobna raziskava vrednotenja večletnega programa preprečevanja rabe tobaka v osnovnih šolah in je naša raziskava prva tovrstna. Podatki o učinkovitosti programa, ki smo jih prikazali v raziskavi, so osnova za zagovor nadaljnjega izvajanja programa, obenem pa raziskava ponuja tudi obilo podatkov za izboljšanje in dopolnitve oziroma prenovu programa. Raziskava je bila zasnovana tik pred koncem izvajanja programa pri prvi generaciji osnovnošolcev. V raziskavi torej nismo mogli pridobiti podatkov o obeh primerjanih skupinah na začetku izvajanja programa. Nimamo podatkov o kadilskem vedenju v raziskavo vključenih učencev, njihovih staršev, sorojencev in vrstnikov pred pričetkom izvajanja programa. Prav tako v raziskavo niso bile vključene šole, izbrane naključno. Zato je potrebno rezultate razlagati v luči možne pristranosti izbora.

V vseh letih izvajanja programa nismo spremljali kakovosti izvedbe, časa namenjenega programu in sledenja načrtu izvedbe programa, da bi lahko zaznali morebitne razlike v izvedbi programa, ki po naših predvidevanjih obstajajo in bi lahko spremenile pridobljene rezultate v katero koli smer. Po mnenju tujih

avtorjev med učitelji obstaja tendenca k prilagajanju programov v skladu z zahtevami učnega načrta in drugimi zahtevami šole (48). Prav tako nimamo na voljo natančnejših podatkov o obsegu izvajanja dejavnosti za preprečevanje kajenja v šolah iz primerjalne skupine. Manjša kakovost, krajše trajanje izvajanja programa in vsebinske spremembe v programu v osnovnih šolah, ki izvajajo program, ter obsežne preprečevalne dejavnosti v šolah v primerjalni skupini, bi lahko navidezno zmanjšale učinke programa (pristranost zaradi motečih dejavnikov).

Raziskava spremlja učence le takoj po končani izvedbi programa, to je konec osnovne šole, kasneje pa ne. To pa po strožjih merilih ne zadošča niti za uvrstitev med raziskave kratkoročnih učinkov programa, kamor sodijo tiste raziskave, ki spremljajo učinke programa vsaj še 6 mesecev po zaključku ukrepanja (8). Spremljanje anketirancev po prehodu na srednjo šolo je povezano s številnimi ovirami, tudi finančnimi, in se za tovrstno spremljanje tokrat nismo odločili. Program "Spodbujajmo nekajenje" se izvaja šest šolskih let, kar je precej več kot večina ocenjevanih programov v raziskavah kratkoročnih učinkov, ki trajajo običajno od 1 do 3 šolska leta, lahko manj, redkeje pa dalj (20,21,22,24,27,28-41,43-47), zato kljub temu menimo, da raziskavo lahko primerjamo z raziskavami kratkoročnih učinkov šolskih programov za preprečevanje kajenja.

V raziskavi smo analizirali individualne podatke in pri analizi nismo upoštevali povezav med posameznimi skupinami, kot so razredi, šole oziroma druge skupine, kar bi lahko privedlo do povečanja napake tipa 1 oziroma precenjevanja učinkov programa (69). Raziskave učinkovitosti programov preprečevanja kajenja v šolah zaradi značilnosti skupin zahtevajo drugačen pristop, načrt in modele analize kot običajne primerjalne randomizirane raziskave (48-52). Vendar pa posamezni avtorji ugotavljajo, da so sicer skupine lahko pomembne pri primerjalnih raziskavah ukrepov v lokalni skupnosti, medtem ko imajo le minimalen učinek pri tovrstnih raziskavah v šolskem okolju (2,31).

Malo verjetno je, da bi na rezultate vplival izpad iz skupine učencev na programu ali prehajanje učencev iz šol s programom v šole brez oziroma obratno. Predvidevamo, da je v osnovnošolskem okolju takih prehodov ali pa izstopov iz šol le malo in da se ne razlikujejo pomembno med obema skupinama. Prav tako predvidevamo, da ne more biti bistvenih razlik med obema skupinama v tem, koliko je bilo učencev, ki niso bili prisotni v šoli na dan anketiranja. Vpliv pristranosti zaradi izgube iz sledenja je tako po naši oceni malo verjeten, pristranost napačne razvrstitve

pa bi lahko imela večji vpliv. Morda so nekateri učenci zavestno podajali napačne informacije o svojem kadilskem statusu, vendar pa ocenjujemo, da je malo verjetno, da bi se obseg zavestno napačnih odgovorov razlikoval med skupino v programu in primerjalno skupino, razen v primeru, da bi se učenci iz šol s programom, ki so obenem tudi t.i. "Zdrave šole", počutili bolj obvezane, da navajajo nekajenje, kar bi lahko vodilo v precenjevanje učinkov programa. Vprašalnik po naših predvidevanjih ne bi smel vplivati na obseg napačnih odgovorov, saj je bil enostaven pri kadilskih navadah, razumljiv, vprašanja so bila standardna in je bil predhodno stestiran.

Raziskava "Z zdravjem povezano vedenje v šolskem okolju" iz leta 2006 beleži med 15-letniki 54,2 % takih, ki so že kadarkoli poskusili kaditi (57), v naši raziskavi pa beležimo 44,4 % delež. V raziskavi iz leta 2006 je vsaj enkrat na teden ali pogosteje kadilo 18 % vseh 15-letnikov (57), v naši raziskavi pa je bilo takih 7,6 %. V naši raziskavi je bila povprečna starost anketirancev nekaj manj kot 14,5 leta (v obeh skupinah). V naši raziskavi smo torej prikazali nižje deleže tistih, ki so kadarkoli poskusili kaditi, predvsem pa nižje deleže tistih, ki kadijo vsaj enkrat na teden ali pogosteje, kar lahko delno razložimo z razliko v starosti, ki znaša približno pol leta. Morda je razlog tudi v tem, da smo se v naši raziskavi osredotočili na kajenje in so se morda učenci počutili bolj izpostavljeni v tem smislu, kot pri zgoraj omenjeni raziskavi (57), kjer so preverjali različno vedenje, povezano z zdravjem. Metodologija izvajanja obeh raziskav je bila sicer podobna.

Zavedamo se, da obstajajo številne pristranosti in drugi dejavniki pri zasnovi raziskave, ki bi lahko vplivali na rezultate raziskave v katerokoli smer. Raziskava pa nam vendarle omogoča grob vpogled v učinkovitost najbolj razširjenega osnovnošolskega programa preprečevanja kajenja v Sloveniji. Omejitve in pomanjkljivosti te raziskave kažejo na to, da in kako je za natančnejšo oceno potrebno načrtovati in izvesti strožje vrednotenje učinkov tovrstnega programa.

## 5 Zaključki

Programi preprečevanja kajenja v šolskem okolju so eden od učinkovitih ukrepov za zmanjševanje rabe tobaka med mladimi. Programi preprečevanja kajenja v šolah so učinkoviti. Cilj za uvajanje vsebin v učne programe osnovnih in srednjih šol ter uvajanje morebitnih dodatnih programov smiselno. V Sloveniji se v šolah najpogosteje izvaja program "Spodbujajmo nekajenje".

Program "Spodbujajmo nekajenje" je pomembno povečala raven znanja pri mladostnikih obeh spolov, pomembno vplival na stališča pri dekletih in na enega od vidikov kadilskega vedenja pri fantih.

Program "Spodbujajmo nekajenje" sodi v skupino najučinkovitejših tovrstnih programov, prav tako vsebuje nekatere pomembnejše prvine, ki povečajo učinkovitost programa. Program po skoraj desetletju od prve zasnove potrebuje prenovo, del zasnov in idej za prenovo pa lahko črpamo tudi iz naše raziskave. Program "Spodbujajmo nekajenje" je potrebno okrepiti na področju znanj, pri katerih je raziskava pokazala na pomanjkljivosti, s poudarkom na precenjevanju deleža kadilcev med vrstniki in odraslimi, pa tudi drugih dejstvih o razširjenosti kajenja in posledicah kajenja za javno zdravje ter tudi o vplivu kajenja na stres. Obenem bo potrebno v večji meri vključiti tematiko o kratkoročnih učinkih kajenja na zdravje mladostnikov, saj se je naše znanje na tem področju v zadnjih letih okrepilo. Pri določenih ciljnih program deluje selektivno glede na spol, zato ga bo potrebno dodelati v smislu primernosti, sprejemljivosti in učinkovitosti za oba spola. Za samo izvedbo prenove bo potrebno dodatno pridobiti mnenja in želje vseh deležnikov, ki so vključeni v pripravo, izvajanje in vrednotenje programa, opraviti pregled novejših literatur ter dobrih praks ter posodobljeni program pilotsko preizkusiti ter učinke programa ustrezno ovrednotiti.

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# PRESCRIBING OF BENZODIAZEPINES AMONG SLOVENIAN FAMILY PHYSICIANS

## PREDPISOVANJE BENZODIAZEPINOV MED SLOVENSKIMI ZDRAVNIKI DRUŽINSKE MEDICINE

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### Abstract

**Background:** In spite of their side effects, benzodiazepines are the most frequently prescribed psychotropic drugs in family medicine. The objective of this study was to investigate the possible association between physician characteristics, practice structure and practice population size with the pattern of prescribing benzodiazepines among Slovenian family physicians.

**Methods:** We studied a representative sample of 100 family physicians using a combination of self-administered questionnaire, demographic data and data on prescribing provided by the Institute of Public Health of the Republic of Slovenia. The characteristics potentially influencing frequent prescribing were investigated by multiple linear regression analysis.

**Results:** The estimated annual benzodiazepine consumption in Slovenia is nearly 3-fold lower than in the United Kingdom. Benzodiazepines were found to be less frequently prescribed by physicians with lower numbers of registered patients, as well as by female physicians, younger physicians, physicians following the specialist training, those with short length of service, and by physicians working in large towns of the central healthcare region. The physicians' age and access to computerised decision-making support for drug management at the workplace were found to be significantly associated with increased prescription of benzodiazepines compared to the volume of prescribed psychotropic drugs.

**Conclusions:** The results indicate that family physicians in Slovenia prescribe appropriate amounts of benzodiazepines. Benzodiazepines are less frequently prescribed in practices with less workload, by younger and female family physicians, in practices located in central Slovenia and by family physicians with online access to information at their workplace.

**Key words:** family physicians, drug prescriptions, benzodiazepines

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### Izveček

**Izhodišča:** Kljub stranskim učinkom so benzodiazepini najpogosteje predpisani psihofarmaki v družinski medicini. Z raziskavo smo ocenjevali povezanost značilnosti zdravnikov, značilnosti ambulantnega dela in velikosti populacije bolnikov s predpisovanjem benzodiazepinov pri slovenskih zdravnikih družinske medicine.

**Metode:** Na reprezentativnem vzorcu stotih zdravnikov družinske medicine smo z multiplo linearno regresijo ocenili, kateri dejavniki vplivajo na pogosto predpisovanje benzodiazepinov.

**Rezultati:** Zdravniki družinske medicine v Sloveniji predpišejo v povprečju skoraj trikrat manj benzodiazepinov kot v Veliki Britaniji. Manj pogosto so benzodiazepine predpisovali zdravniki z manjšim številom opredeljenih bolnikov, zdravnice, mlajši zdravniki, specializanti, zdravniki s krajšo delovno dobo in zdravniki v večjih krajih v osrednjem delu države. Delež benzodiazepinov med vsemi recepti za psihofarmake je bil večji pri starejših zdravnikih in zdravnikih,

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ki na delovnem mestu niso imeli dostopa do spletne informacijske podpore pri predpisovanju zdravil.

**Zaključek:** Zdravniki družinske medicine v Sloveniji zmerno predpisujejo benzodiazepine. Manjše predpisovanje je povezano z manjšimi delovnimi obremenitvami, ženskim spolom, nižjo starostjo, umeščenostjo ambulate v centralnih delih Slovenije in dostopom do spletne informacijske podpore pri predpisovanju zdravil na delovnem mestu.

**Ključne besede:** zdravniki družinske medicine, predpisovanje zdravil, benzodiazepini

## 1 Introduction

Benzodiazepines (BZD) are among the most commonly prescribed psychotropic drugs, even though family physicians regard prescribing these drugs as one of the most demanding and uncomfortable tasks in their clinical work (1). BZD have strong anti-anxiety effects (2), yet they also induce physical and psychological addiction and withdrawal symptoms upon treatment discontinuation (3). In the elderly, they cause cognitive impairment, and are responsible for falls and consecutive hip fractures (4). In a Spanish study, addiction was identified in 47% of the patients prescribed BZD for over one month (5).

On the basis of their structure BZD are divided into three subclasses: 2-keto, 3-hydroxy and triazolo BZD. They differ in their pharmacokinetic properties, i.e. plasma half-lives, and may therefore be further grouped into long-acting (plasma half-life of > 20 hours), intermediate-acting (plasma half-life of 6 - 20 hours) and short-acting BZD (plasma half-life of < 6 hours) (6). The advantages of long-half-life drugs over short-half-life drugs are: less frequent dosing, less variation in plasma concentration, and less severe withdrawal phenomena. The disadvantages include: drug accumulation, increased risk of daytime psychomotor impairment, and increased daytime sedation. Rebound insomnia and anterograde amnesia are more severe with the short-half-life drugs (6, 7). In our study, BZD classes were not subdivided— despite the different levels of severity — because all groups presented with considerable addiction problems, as well as with sedation and psychomotor impairment. Anxiety is also controlled by antidepressant agents, mainly by selective serotonin reuptake inhibitors (SSRIs) (8). These drugs show other drug-related problems (DRP), such as sexual dysfunction, risk of bleeding, hyponatremia, discontinuation symptoms, and increased body weight (9, 10). Modern treatment guidelines advocate short term use and combining BZD with antidepressants, or using only antidepressants for anxiety control (11).

General practices vary in practice population parameters, such as the practice list size and age-

gender structure; in their organization, such as practice location and the quantity and type of resources available; and in family physicians' characteristics, such as age and training level (12, 13). A Danish study, which used the defined daily dose (DDD) as a measure of prescribing psychotropic drugs, reported larger prescribing rates in rural areas and in small towns compared to cities, but found no differences in prescribing rates in relation to the size and type of practice, or to the age and gender of the physician (14). In their studies, Rosser and Pimlott proved that educational programmes on psychotropic drug prescribing for family physicians reduced the rates of prescribing BZD to patients over 65 years of age (15, 16). The Danish restriction of BZD prescribing to one month at a time and only following consultation reduced prescribing of BZD hypnotics to 46.5% and the use of BZD anxiolytics to 41.7% (17). Computer-based access to drug profiles and alerts about potential prescribing problems significantly reduced the rate of potentially inappropriate prescribing, but only selectively effected discontinuation of this prescribing (18). To our knowledge, there have been no studies exploring the connection between general practitioners' workload and the rate of prescribing BZD.

The goal of the study was to analyze the factors that influence frequent prescribing of BZD in a representative sample of Slovenian family physicians.

## 2 Materials and methods

### 2.1 Sampling and research procedure

Data were obtained from the national database of all prescriptions, which is maintained by the Institute of Public Health (IPH). A representative sample of 160 family physicians was selected by means of stratified random sampling. The sample was well-matched to the total population in terms of regional representation, age distribution, gender ratio and percentage of public and private practitioners. The study did not include physicians who worked part time, those who were absent from work for over three months during the year

under study, and/or those who were retired or worked at emergency departments.

The questionnaire described below was sent to the selected family practitioners. A letter explaining the aims and procedures of the survey was attached to ensure their collaboration. A coding system was used to facilitate follow-up, and two reminders were added in order to increase response rate while keeping the family physician's identity confidential.

The questionnaire was completed by 100 family physicians, yielding a 62.5% response rate. Further analyses were performed on the respondent sample because the non-respondents did not consent to the use of their data from the IPH prescription database.

## 2.2 Family physician characteristics and practice structure variables

A questionnaire was used to obtain demographic data on the physicians' gender and age; workload data (practice list size, number of extra duty hours per week, number of house calls per day, number of standby hours per week, emergency treatment during regular practice hours, number of telephone consultations per day, mentorship); data on physicians' training (specialist training in family medicine, further training in psychopharmacology, recognition and treatment of anxiety and depression); data on practice organization (population area covered, distance from the nearest general hospital, employment in a public institution versus private practice, implementation of the appointment system, duration of employment in family practice and in the current surgery in years); and data on the access to information (computerised decision-making support for drug management) at the workplace.

## 2.3 Prescribing data

Data on the prescribed medications for the year 2005 were obtained from the national database. In total, 52 115 prescriptions for psychotropic drugs were taken into consideration. Drugs were coded according to the Anatomical Therapeutic and Chemical Classification System (ATC).

## 2.4 Statistical analysis

For each physician, we calculated the proportion of patients who were prescribed a monotherapy with BZD more than six times in the year under study (considered as frequent prescribing) (11). For BZD and antidepressants, the annual defined daily dose (DDD) per 1000 practice population was calculated.

The first step of the study was to calculate descriptive statistics for all the variables studied; and to analyze univariately their relationship with frequent prescribing of BZD using the Student's t-test for numeric variables and the Fisher's exact test for binary variables.

The second step consisted of excluding physicians who did not prescribe BZD more than six times in a given year to the same patient. Frequent prescribing of BZD per patient, and frequent prescribing of BZD per patient with at least one psychotropic drug prescribed were analyzed using multiple linear regression.

The third step of the study was to apply multiple linear regression analysis to the entire sample to determine the ratio of BZD prescriptions to the total number of psychotropic drug prescriptions, and the ratio of BZD annual DDD to the total annual DDD of antidepressants

Variables for all the multiple regression models were selected on the basis of univariate analyses and mutual correlation in order to avoid overfit and collinearity.

Data were analysed using the SPSS for Windows 14.0.2 software (SPSS Inc., Chicago, IL, 2003). Two-sided statistical tests were used with the significance level of  $p < 0.05$ .

## 3 Results

Annual DDD of BZD per 1000 practice population ranged from less than 1 to 5.2, with a mean of 1.8 (standard deviation 1.2) and a median of 1.7, which shows a large variation in prescribing BZD between Slovenian physicians (Figure 1).

Table 1 presents univariate comparisons of demographic and work characteristics between family physicians who, by the Muijrs et al. definition (11), could be labeled as frequent prescribers of BZD and the remaining respondents.

Multiple regression on the sample of 93 physicians who prescribed BZD more than six times per year to at least one patient indicated that physicians with a larger number of patients on their list ( $p = 0.001$ ) and those working in healthcare regions other than the central part of the country ( $p = 0.006$ ) had more patients to whom BZD were frequently prescribed (Table 2). In the same sample, the rate of frequent BZD prescribing among patients prescribed at least one psychotropic drug also proved to be higher among physicians located in the peripheral healthcare regions ( $p = 0.002$ ) (Table 3).



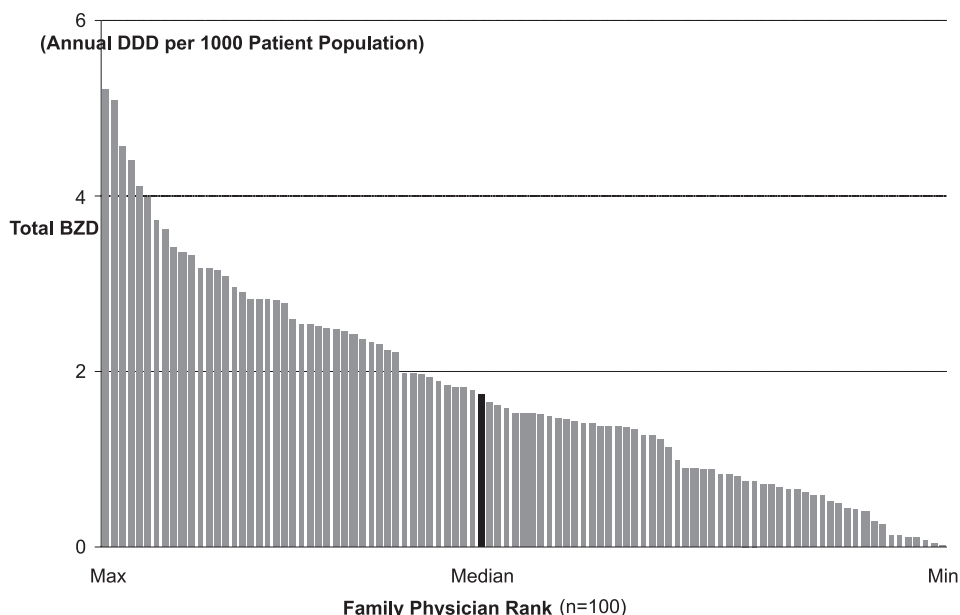


Figure 1. Distribution of annual DDD of BZD per 1000 practice population.

Slika 1. Porazdeljenost DDD BZD na 100 bolnikov splošne prakse na leto.

Table 1. Comparison of demographic and work characteristics between family physicians who frequently prescribed a BZD drug and those who did not.

Tabela 1. Primerjava demografskih in delovnih značilnosti pri zdravnikih družinske medicine, ki pogosto predpisujejo BZD in pri tistih, ki jih ne predpisujejo pogosto.

Physician/practice characteristic	BZD prescribed to the same patient > 6 times in the studied year				p (FET)
	No (N=7)		Yes (N=93)		
Binary variables	Category counts		Category counts		
Gender	0 male	7 female	37 male	56 female	0.044
Specialisation	5 ongoing	2 done/none	20 ongoing	73 done/none	0.030
CDS at work	5 yes	2 no	54 yes	39 no	0.697
Town size (number of inhabitants)	7 >10,000 inh.	0 <10,000 inh.	52 >10,000 inh.	41 <10,000 inh.	0.032
Practice type	7 public	0 private	72 public	21 private	0.340
Appointment system	4 yes	3 no	54 yes	39 no	0.748
Emergency duty	6 yes	1 no	72 yes	21 no	1.000
Healthcare region	1 peripheral	6 central	35 peripheral	53 central	0.647

Numeric variables	Mean (SD)		Mean (SD)		p (t)
Age (years)	36.9	(6.4)	46.5	(8.9)	0.006
Employment in family practice (years)	8.1	(7.5)	17.9	(10.1)	0.013
Employment in present surgery (years)	3.5	(2.3)	12.4	(8.9)	<0.001
Training (days per year)	9.4	(1.2)	10.5	(6.1)	0.174
Telephone calls (number per day)	4.9	(4.1)	12.0	(10.1)	0.066
Home visits (number per day)	1.1	(1.8)	0.9	(1.0)	0.601
Extra duty (hours per week)	10.6	(16.4)	8.6	(8.3)	0.762
Number of designated patients	1478.3	(423.9)	1821.2	(409.5)	0.036
Distance from nearest general hospital (km)	29.4	(25.5)	20.6	(18.3)	0.235

Legend: SD=standard deviation, p=statistical significance (FET=Fisher's exact test, t=independent-samples t-test); CDS=computerised decision-making support for drug management.

Table 2. Summary of multiple linear regression model for predicting the proportion of patients who were often prescribed BZD per designated patients.

Tabela 2. Povzetek multiple linearne regresije za napoved deleža bolnikov, ki so jim pogosto predpisali BZD, na opredeljenega bolnika.

Independent variable	b	SE	β	p
Gender (male vs. female)	0,0017	0,0019	0,095	0,358
Age (years)	0,0001	0,0001	0,049	0,715
Employment in present practice (years)	0,0001	0,0001	0,008	0,948
Specialisation (ongoing vs. completed or none)	-0,0044	0,0025	-0,205	0,077
Number of designated patients	0,0001	0,0001	0,329	0,001
Healthcare region (peripheral vs. central)	0,0053	0,0019	0,275	0,006

Legend: n=93 GPs, model  $p < 0.001$ , adjusted  $R^2 = 0.209$ , b=regression coefficient, SE=standard error, β=standardized regression coefficient, p=statistical significance.

The analysis of BZD prescriptions compared to the total number of psychotropic prescriptions in the year studied, performed on the entire sample, showed that higher proportion of BZD was prescribed by older practitioners ( $p = 0.028$ ) and by those who had no access to a computerised decision-making support

for drug management at their workplace ( $p = 0.022$ ) (Table 4). The analysis of the ratio of BZD to the total annual DDD of antidepressants, performed on the total sample, confirmed the association of older age with higher share of BZD ( $p = 0.008$ ) (Table 5).

Table 3. Summary of multiple linear regression model for predicting the proportion of patients who were often prescribed BZD per patient with prescribed at least one psychotropic drug in the studied year.

Tabela 3. Povzetek multiple linearne regresije za napoved deleža bolnikov, ki so jim pogosto predpisali BZD, na bolnika s predpisanim najmanj enim psihotropnim zdravilom na leto.

Independent variable	b	SE	$\beta$	p
Gender (male vs. female)	-0,0114	0,0252	-0,048	0,653
Age (years)	0,0004	0,0018	0,031	0,823
Employment in present practice (years)	0,0012	0,0016	0,096	0,438
Specialisation (ongoing vs. completed or none)	-0,0609	0,0334	-0,218	0,072
Number of designated patients	0,0001	0,0001	0,050	0,610
Healthcare region (peripheral vs. central)	0,0799	0,0253	0,322	0,002

Legend: n=93 GPs, model p=0.003, adjusted R<sup>2</sup>=0.146, b=regression coefficient, SE=standard error,  $\beta$ =standardized regression coefficient, p=statistical significance.

Table 4. Summary of multiple linear regression model for predicting the ratio between the number of BZD prescriptions and total number of psychotropic prescriptions.

Tabela 4. Povzetek multiple linearne regresije za napoved razmerja med številom receptov za BZD in celotnim številom receptov za psihotropna zdravila.

Independent variable	b	SE	$\beta$	p
Gender (male vs. female)	0,0063	0,0188	0.037	0.740
Age (years)	0,0030	0,0013	0.319	0.028
Employment in present practice (years)	0,0004	0,0012	0.042	0.736
Home visits (number per day)	-0,0059	0,0078	-0.074	0.453
Specialisation (ongoing vs. completed or none)	0,0310	0,0233	0.161	0.186
Number of designated patients	0,0001	0,0001	0.025	0.800
Distance from nearest general hospital (km)	0,0006	0,0004	0.147	0.145
CDS at work (yes vs. no)	-0,0386	0,0165	-0.229	0.022
Healthcare region (peripheral vs. central)	0,0104	0,0186	0.058	0.579

Legend: n=100, model p=0.021, adjusted R<sup>2</sup>=0.109; b=regression coefficient, SE=standard error,  $\beta$ =standardized regression coefficient, p=statistical significance; CDS=computerised decision-making support for drug management.

## 4 Discussion

The estimated annual DDD for BZD in Slovenia is on average 2.7-fold lower than in the United Kingdom, a finding indicating a reasonable and appropriate prescribing practice among Slovenian family physicians

(19). Nevertheless, the study demonstrated large variation in BZD prescribing patterns between the family physicians studied.

Univariate comparisons of demographic and work characteristics of family physicians labeled as frequent prescribers of BZD according to the

Table 5. Summary of multiple linear regression model for predicting the ratio of the BZD annual DDD to the total annual DDD of antidepressants.

Tabela 5. Povzetek multiple linearne regresije za napoved razmerja med letno DDD za BZD in celotno etno DDD za antidepressive.

Independent variable	b	SE	$\beta$	p
Gender (male vs. female)	0,0594	0,1606	0,041	0,713
Age (years)	0,0309	0,0113	0,389	0,008
Employment in present practice (years)	-0,0063	0,0100	-0,078	0,533
Home visits (number per day)	-0,0479	0,0669	-0,070	0,476
Specialisation (ongoing vs. completed or none)	0,0445	0,1988	0,027	0,823
Number of designated patients	0,0001	0,0002	0,079	0,425
Distance from nearest general hospital (km)	0,0043	0,0037	0,114	0,257
CDS at work (yes vs. no)	-0,2096	0,1409	-0,146	0,140
Healthcare region (peripheral vs. central)	0,1266	0,1588	0,082	0,428

Legend: n=100, model p=0.019, adjusted R<sup>2</sup>=0.111; b=regression coefficient, SE=standard error,  $\beta$ =standardized regression coefficient, p=statistical significance; CDS=computerised decision-making support for drug management.

Muijers et al. definition (11), and of the remaining respondents revealed the following physician and practice characteristics associated with increased BZD prescribing: male gender, no or completed specialist training, older age, longer employment in family practice and longer employment in the present surgery as physician characteristics, and smaller town size and larger number of registered patients. However, because of the very small number of family physicians who did not prescribe BZD on a frequent basis, and because of the inflated alpha error due to multiple statistical tests, these analyses should be interpreted with caution, and may serve merely as indicators of potential BZD prescribing issues. The criterion of prescribing BZD to the same patient more than six times in a given year labels over 90% of the family physicians studied as frequent prescribers of BZD even though the estimated total BZD consumption appears to be low, which renders the usefulness of this criterion questionable.

Hence, multiple linear regression analysis was performed in order to determine which factors had greatest influence on prescribing BZD, and to what extent. The analysis of registered patients suggested that frequent prescribing may be due to short consultation time assigned to patients because of their high number, an observation applying mostly to smaller

and more remote regions with a presumably limited access to specialists. The difference between regions was confirmed by the analysis of patients prescribed at least one psychotropic drug.

The analysis of the total number of psychotropic prescriptions showed that younger age of family physicians predicted lower BZD prescribing rates. This finding was confirmed by the total annual DDD. Older physicians with longer service periods who had had good results with BZD in terms of controlling anxiety in their patients may have insufficient experience with the anxiolytic effects of newer antidepressants. As a rule, they care for older patients, many of whom are likely to be already addicted to BZD and are therefore unlikely candidates for drug change or dosage reduction (2). Access to computerised decision-making support for drug management at the workplace was also predictive of lower BZD prescribing, a finding stressing the need for information support in the medical work environment in the Slovenian primary care setting.

#### 4.1 Study limitations

Other factors, which are not addressed in this study, but undoubtedly affect BZD prescribing include diagnosis and other patient characteristics, the physician's attitude towards psychiatric disorders, expectations

about therapeutic outcomes and diagnostic skills, and advertising by pharmaceutical companies (20). Individual prescribing was not studied, because a nation-wide system of computerized patient records has not yet been established in the Slovenian primary care. Excessive doses, duration of therapy and use of different BZD derivatives were not examined because of limitations of the data source.

Considering the available (i.e., aggregated) data, the meta-regression approach would be a possible alternative to the multivariate models used (21). Yet, as the parameter estimates would probably not differ substantially from the ordinary least-squares models (22), we opted for the simpler and more easily interpretable approach.

## 5 Conclusions

The data collected in the representative sample of Slovenian family physicians indicate that they prescribe appropriate volumes of BZD. In order to further decrease the rate of BZD prescribing, it would be advisable to reduce the family physicians' work overload, especially in the peripheral healthcare regions. Older physicians with older patient population would probably need specialist advice on how to change their prescribing practice and start prescribing antidepressants instead of BZD. Also, access to information should be improved by implementing a better computerized information-support system in family practice environments.

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# THE PRESENCE OF ANXIETY AND DEPRESSION IN THE ADULT POPULATION OF FAMILY PRACTICE PATIENTS WITH CHRONIC DISEASES

## PRISOTNOST ANKSIOZNOSTI IN DEPRESIJE V AKTIVNI POPULACIJI BOLNIKOV S KRONIČNIMI BOLEZNIMI

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### Abstract

**Background:** The prevalence of multimorbidity in family practice is rising and psychiatric comorbidity presents a risk factor for premature mortality.

**Objective:** The aim of this study was to determine the prevalence of anxiety and depression in the adult population of family practice patients with chronic somatic diseases, aged between 18 and 64 years old.

**Methods:** We performed a cross sectional study in 500 consecutive patients from twelve family practices. Zung's self-assessment inventories for anxiety and depression were used to determine the presence of psychiatric comorbidity. The main outcome measures were depression and anxiety scores in patients with various comorbidities.

**Results:** The response rate was 90.4 %. 8.4 % of family practice visitors suffered from anxiety symptoms and 15.2 % from depressive symptoms. At least one chronic disease was present in 40.7 % of the patients. Significantly higher rates of depression and anxiety were found among patients with chronic somatic disease ( $p=0.001$ ,  $P<0.001$ , respectively;  $\chi^2$  test) or chronic pain ( $p<0.001$ ,  $p<0.001$ , respectively;  $\chi^2$  test). Significantly more patients with rheumatic diseases had depression in comparison to those without them ( $p=0.018$ ;  $\chi^2$  test). Significantly more patients with migraine or rheumatic diseases had anxiety in comparison to those without them ( $p=0.010$ ,  $p=0.030$ , respectively;  $\chi^2$  test). Chronic pain was present in significantly more patients with a particular chronic disease in comparison to the patients without it ( $p<0.050$ ;  $\chi^2$  test).

**Conclusions:** Family doctors should actively search and treat psychiatric comorbidity also in the population of patients with chronic somatic diseases, aged between 18 and 64 years old.

**Key words:** family practice, anxiety, depression, chronic disease, pain

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### Izveleček

**Izhodišča:** Pogostnost prisotnosti več sočasnih bolezni pri bolnikih v ambulantah družinske medicine narašča. Prisotnost psihiatričnih sočasnih bolezni pri bolnikih s kroničnimi boleznimi pa je dejavnik tveganja za prezgodnjo umrljivost.

**Cilji:** Cilj te raziskave je bil ugotoviti pogostnost anksioznosti in depresije med odraslo aktivno populacijo (starost med 18 in 64 let) s pridruženimi kroničnimi boleznimi v ambulantah družinske medicine.

**Metode:** Narejena je bila presečna raziskava na vzorcu 500 zaporednih obiskovalcev 12 ambulant družinske medicine. Za ugotavljanje prisotnosti anksioznosti in depresije sta bila uporabljena v slovenščino prevedena Zungova vprašalnika o anksioznosti in depresiji.

**Rezultati:** Odzivnost bolnikov je bila 90,4 %. Anksioznost je bila prisotna pri 8,4 % bolnikov, depresija pa pri 15,2 % bolnikov. 40,7 % bolnikov je imelo vsaj eno kronično bolezen. Depresija in anksioznost sta bili prisotni pri statistično značilno večjem številu bolnikov s pridruženimi kroničnimi boleznimi glede na bolnike brez kroničnih bolezni ( $p=0.001$ ,  $p<0.001$ ; zaporedno; test  $\chi^2$ ) in s pridruženo kronično bolečino glede na bolnike brez kronične bolečine ( $p<0.001$ ,  $p<0.001$ ; zaporedno; test  $\chi^2$ ). Statistično značilno več bolnikov z revmatsko boleznijo glede

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na bolnike brez le-tega je imelo prisotno depresijo ( $p=0.018$ ; test  $\chi^2$ ). Statistično značilno več bolnikov z migreno oziroma revmatičnim obolenjem v primerjavi z bolniki brez teh bolezni je imelo prisotno anksioznost ( $p=0.010$ ,  $p=0.030$ ; zaporedno; test  $\chi^2$ ). Kronična bolečina je bila prisotna pri statistično značilno večjem številu bolnikov z določeno kronično boleznijo v primerjavi s tistimi brez nje ( $p<0.050$ ; test  $\chi^2$ ).

**Zaključki:** Zdravniki družinske medicine naj aktivno iščejo in zdravijo pridružene psihiatrične bolezni tudi med aktivno populacijo bolnikov s kroničnimi boleznimi.

**Ključne besede:** družinske medicina, anksioznost, depresija, kronična bolezen, bolečina

## 1 Introduction

Family medicine differs from other medical disciplines in several ways, such as having a unique consultation process, which establishes a relationship over time, having a responsibility for the provision of longitudinal continuity of care, and providing a simultaneous management for both acute and chronic health problems of individual patients (1). Chronic conditions represent a large proportion of family doctors' workload (2-4). Also, the prevalence of multimorbidity in family practice patients is quite high (2, 5) and increases significantly with age in both men and women (2). Individuals with 4 or more chronic conditions are 99 times more likely to have incurred a hospitalization that could have been prevented with appropriate family practice care (6).

Among persons with chronic diseases psychological distress can intensify the effect of illness by increasing pain, functional limitations and disability, and by decreasing adherence to medical treatment protocols, all of which may lead to difficult clinical courses, such as poorer health outcomes and increased risks of complications (2, 5). Although psychiatric disorders account for almost a quarter of family practice attendees (7, 8), around 60 % of depressed patients in family practice are left unidentified and untreated (9). Depression and anxiety account for a great part of all psychiatric diseases in family practice and they are associated with each other in 50 to 70 % of the patients (10).

Somatic complaints are a risk factor for the development of depressive disorders (11-13). According to the findings of previous research up to 20 % of patients with chronic somatic disease suffer from major depression (14). At the same time, presence of mental disorder negatively impacts the prognosis of somatic diseases and vice versa (11, 15). Depressed patients have double mortality rate as compared to not depressed patients (16).

Untreated mental disorder deteriorates health status of the patients with time and affects working efficiency, quality of life, interpersonal relationships and other

medical conditions. Major depression, for example, is the fourth leading illness causing functional impairment, disability, and days lost from work (17). Depression is associated with reduced quality of life and functioning in a number of domains, including social, physical, self-care, work, and productivity (18). Furthermore, comorbid psychiatric disorders amplify the disability normally associated with many medical conditions (19-21) and worsen health status of those patients (22).

Despite the high prevalence of multimorbidity in family practice our knowledge about the relationship between medical multimorbidity and psychological distress is still relatively weak. This is especially true for the patients that are still working. The aim of our study was therefore to determine the prevalence of anxiety and depression in the adult population of primary care patients with chronic physical conditions, aged between 18 and 64 years old.

## 2 Methods

### 2.1 Type of study

We performed a prospective cross sectional study in 12 Slovenian family practices, located in Primary Health Care Centre Kranj. This centre provides primary health care services for 76,000 people.

We got an approval of the National Ethic Committee.

### 2.2 Study population

500 consecutive patients, who visited their family doctors in July 2005, were included in the study. We included male and female patients, aged from 18 to 64 years old (mostly economically active population). Patients, younger than 18 years old and older than 64 years old were excluded.

### 2.3 Data collection

Patients were approached by a nurse practitioner in the waiting room of their chosen family doctor's

practice. She explained the purpose and methods of the research and obtained their voluntary written approval. Afterwards they were given a self-rating questionnaire to fulfill it anonymously. They posted it back to the research unit.

For the assessment of depressive and anxious symptoms we used the Zung's self-rating depression scale (23) and the Zung's self-rating anxiety scale (24). Each scale consists of 20 depression-related (or anxiety-related) questions. All questions had to be answered according to 4 statements (most of the time/always – scored 4, often – scored 3, sometimes – scored 2 and never/rarely – scored 1). The composite score can range from minimal 20 points to maximal 80 points. The depression (or anxiety) is present if the composite score is 50 or more. Both questionnaires were translated from English to Slovene in accordance to translation standards.

Attached to both questionnaires was a sheet with questions about patients' sex, age, marital (married, divorced, widowed, single) and employment status (employed, unemployed, retired), the presence of chronic pain (defined as pain that lasts for more than one year), the level of chronic pain in the last two weeks, and the presence of physical comorbidity (defined as a chronic disease that lasts for more than one year). Patients could choose various psychological conditions from the list, containing the following chronic diseases: heart diseases, chronic obstructive pulmonary disease, bronchial asthma, post-stroke condition, cancer, rheumatic disease, migraine, high blood pressure, diabetes mellitus, and chronic gastritis. Patients marked level of chronic pain on a 10-point Visual Analog Pain Scale (VAS) (25), ranging from 0 (no pain) to 10 (the worst pain imaginable).

## 2.4 Statistical analysis

We used the SPSS 13.0 package (SPSS Inc, Chicago, IL, USA). Descriptive statistics were computed. We calculated the reliability coefficient (Cronbach's alpha) of the questionnaires. To identify the statistically significant differences between different variables independent samples t-test and  $\chi^2$  test were performed. P value < 0.05 was considered statistically significant.

## 3 Results

### 3.1 Demographic data

The participants returned 452 questionnaires (90.4 % response rate). Out of that, 277 (61.3 %) were female.

Mean (SD) age of the respondents was 44.2 (11.2). The majority of them were married (299; 66.2 %), others were single (90; 19.9 %), divorced (49; 10.8 %) or widowed (14; 3.1 %). Most of them finished high school (202; 44.7 %), following by university degree (100; 22.1 %), vocational school (94; 20.8 %) or primary school (53; 11.7 %). Most of the respondents were employed (346; 76.5 %) and others were retired (66; 14.6 %) or unemployed (40; 8.8 %).

### 3.2 Depression

The mean (SD) score on the Zung's depression scale was 38.0 (10.1) points. The total scores were ranging from 20 to 68 points. The reliability of the questionnaire was very good (Cronbach's alpha was 0.896). The depression was present in 69 (15.2 %) of the respondents. Significantly higher rate of depression was found in women than men, in older than 45 years old, in patients with only primary school education, in patients with chronic condition, and in patients with chronic pain (Table 1).

### 3.3 Anxiety

The mean (SD) score on the Zung's anxiety scale was 37.0 (13.7) points. The reliability of the questionnaire was very good (Cronbach's alpha was 0.853). The depression was present in 38 (8.4 %) of the respondents. Significantly higher rate of anxiety was found in the patients with only primary school education, in patients with chronic condition, and in patients with chronic pain (Table 2).

### 3.4 Chronic pain

Chronic pain was present in 250 (55.3 %) of patients. Mean (SD) of VAS score was 3.4 (3.4). 38.3 % of men and 42.4 % of women had chronic pain. The difference was not statistically significant. Chronic pain was more often present in older patients (47.5 (10.7) vs. 41.9 (11.1);  $p < 0.001$ ; t-test). Also, patients, 45 years old and older had significantly higher scores on VAS scale (3.9 (3.3) vs. 2.8 (3.5);  $p < 0.001$ ; t-test). Chronic pain was significantly more often present in patients with primary and vocational education in comparison to patients with high and university education (72.6 % vs. 59.9 %;  $\chi^2 = 7.892$ ;  $p = 0.006$ ;  $\chi^2$  test), in unemployed and retired patients in comparison to employed ones (89.7 % vs. 75.6 %;  $\chi^2 = 14.685$ ;  $p < 0.001$ ;  $\chi^2$  test). Patients with primary school education had significantly higher scores on VAS scale than others (5.0 (3.5) vs. 3.2 (3.4);  $p < 0.001$ , t-test). The same was also true for the patients with primary and vocational school in comparison to



Table 1. Percentages of the patients with depression by their characteristics.  $\chi^2$  test was performed.  
Tabela 1. Delež bolnikov z depresijo, glede na njihove značilnosti (test  $\chi^2$ ).

Characteristic	Depressed patients ( %)	$\chi^2$ value	p value
Sex (male vs. female)	10.9 vs. 18.1	4.290	0.044
Age (< 45 vs. 45 years old)	11.3 vs. 18.8	4.803	0.036
Marital status (married vs. other)	15.4 vs. 15.0)	0.010	1.000
Education (primary school vs. other)	34.0 vs. 12.6)	16.558	< 0.001
Employment status (employed vs. other)	14.7 vs. 13.6	0.054	1.000
Chronic condition (present vs. not present)	21.7 vs. 10.5	10.771	0.001
Chronic pain (present vs. not present)	23.2 vs. 5.4	27.227	< 0.001

Table 2. Percentage of the patients with anxiety by their characteristics.  $\chi^2$  test was performed.  
Tabela 2. Delež anksioznih bolnikov glede na značilnosti (test  $\chi^2$ )

Characteristics	Anxious patients ( %)	$\chi^2$ value	p value
Sex (male vs. female)	5.7 vs.10.1	2.689	0.118
Age (< 45 vs. 45 years old)	5.7 vs. 10.8	3.912	0.061
Marital status (married vs. other)	8.4 vs. 8.5	0.002	1.000
Education (primary school vs. other)	7.1 vs. 18.9	8.398	0.008
Employment status (employed vs. other)	7.2 vs. 12.1	1.803	0.213
Chronic condition (present vs. not present)	14.1 vs. 4.5	13.109	< 0.001
Chronic pain (present vs. not present)	14.8 vs. 0.5	29.691	< 0.001

others (4.5 (3.4) vs. 2.9 (3.3);  $p < 0.001$ ; t-test). Chronic pain was present in significantly more patients with a particular chronic disease in comparison to the patients without it (Table 3).

### 3.5 Chronic diseases

At least one chronic disease was present in 184 (40.7 %) of the patients. One chronic disease was present in 123 (27.3 %) of the patients, two in 48 (10.6 %) of the patients, three in 9 (2.0 %) of the patients, and four in 4 (0.9 %) of the patients. Chronic diseases were more present in older patients (47.5 (10.7) vs. 41.9 (11.1);  $p < 0.001$ ; t-test). Significantly more patients with primary and secondary school had at least one chronic disease in comparison to the patients with high school and university education (72.6 % vs. 59.9 %;  $\chi^2 = 7.892$ ;  $p = 0.006$ ;  $\chi^2$  test). Significantly more unemployed and retired patients had at least one chronic disease

present in comparison to employed patients (89.7 % vs. 75.6 %;  $\chi^2 = 14.685$ ;  $p < 0.001$ ,  $\chi^2$  test). Significantly more patients with chronic pain had at least one chronic disease in comparison to the patients without chronic pain (100 % vs. 0 %;  $\chi^2 = 451.000$ ;  $p < 0.001$ ;  $\chi^2$  test). No differences were found according to patients' sex.

The following number and percentage of patients had various chronic diseases: migraine (53; 11.7 %), rheumatic disease (47; 10.4 %), bronchial asthma (29; 6.4 %), chronic obstructive pulmonary disease (26; 5.8 %), cancer (19; 4.2 %), cardiovascular diseases (20; 4.4 %), diabetes mellitus (11; 2.4 %), high blood pressure (11; 2.4 %), gastritis (5; 1.1 %), chronic post-stroke condition (4; 0.9 %), and other (38; 8.4 %). Significantly more patients with rheumatic diseases had depression in comparison to those without them (table 3). Significantly more patients with migraine or rheumatic diseases had anxiety in comparison to those without them (Table 3).

## 4 Discussion

We found high rates of depressed patients and patients with anxiety disorders which are in line with other studies (8, 26-28). The demographic factors, found to be associated with a greater prevalence of both mental disorders, are also in line with other studies (12, 28-30).

The rates of both mental disorders in patients with chronic somatic diseases were lower as in other studies (14, 31). Reasons for this difference could be three. Firstly, our study took place in July. It is known that the prevalence of depression and anxiety depends on the season; the so-called seasonal affective disorders are more often present in wintertime (32). Secondly, the depression and anxiety prevalence are known to vary by geography (8). And thirdly, our study had deliberately focused on the patients between 18 and 64 years old. It is known that the prevalence of both diseases is higher in older age (33, 34).

Still, a considerable number of patients with a particular chronic disease scored positive for depression or anxiety. Cancer patients showed as high depression rate as 31.6 %, which is in line with the findings of previous research, that 50 % of women with breast cancer in the first year after the first diagnosis develop depressive or anxiety disorder (35). Depression is one of the most prevalent comorbid conditions in migraine patients (36), a fact that was confirmed also in our study. Asthma and mental disorders are in the highlights of research community as asthma exerts higher rates of anxiety, which in vulnerable individuals evolves into panic attacks. We demonstrated a higher number of depressed patients in asthmatics, but we could not demonstrate four times higher prevalence of anxiety in asthma patients, found in other studies (37). We could demonstrate high rates of depression and anxiety in patients with rheumatic diseases as well in stroke patients, which is also in line with other studies (11).

An important finding of our study are significantly higher rates of depression in rheumatic patients, and of anxiety in rheumatic patients and patients with migraine, when compared to the patients without those diseases. This is also in concordance with other studies, which revealed rheumatic diseases and migraine to be positively associated with both mental diseases (20, 38, 40).

The prevalence of depression and anxiety was significantly higher in patients suffering from chronic pain as compared to other patients, which is in line with the findings of other authors (13, 40-43). Moreover, the presence of each particular chronic somatic disease

was significantly connected with the presence of chronic pain. This finding points out to an ineffective management of chronic pain in family practice. Considering the fact, that chronic untreated pain might provoke the development of depression (44-46), it is of a huge importance that family doctors actively search for the presence of chronic pain in their patients with chronic diseases and effectively treat the pain.

This study is one of very few in the field of interrelation of medical and psychiatric comorbidity in the population, aged between 18 and 64 years old. Special merits of the study are high response rate, prospective design, broad range of physical complaints, and inclusion of two most prevalent psychiatric disorders in family practice and use of validated instruments for self-evaluation, thus excluding possible biases of the interviewer. Selection of a relatively neglected age group from 18 to 64 years yields additional important contribution to the literature from this field.

There are some limitations of this study. We included the use of self-report of chronic diseases, which can lead to inaccurate reporting. There is also a relatively low power of the study for the subgroups, which are expected to have low prevalence in family practice. So, some differences could not be confirmed by statistical analysis.

Further studies of greater statistical power can demonstrate statistically significant inference between other patient characteristics and comorbidity of mental disorders. The main focus should be put on an active population, especially the workers with chronic conditions. The consequences of mental problems and chronic pain comorbidity on health care costs and economic productivity should be studied and measures should be proposed.

## 5 Conclusion

This study proved higher rates of anxiety in depression in patients with chronic somatic comorbidities also in the age group from 18 to 64 years old. This is important because that population is mostly a working one and as such, when missing from work due to poor health, contributes a great deal to greater health care costs and economic losses (47, 48). Although older people represents a considerable burden of family doctors workload, they should focus also on the active part of the population, especially that with somatic chronic conditions. Here, they should actively seek for the presence of depression, anxiety and chronic pain, using internationally confirmed reliable tools, such as Zung's depression and anxiety scale, and VAS scale.

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Table 3. Percentages of patients with the presence of depression or anxiety or chronic pain according to different chronic conditions.  $\chi^2$  test was performed.

Chronic condition (present vs. not present)	Percentage of the patients with depression (%)	$\chi^2$ value (depression)	p value (depression)	Percentage of the patients with anxiety (%)	$\chi^2$ value (anxiety)	p value (anxiety)	Percentage of patients with chronic pain (%)	$\chi^2$ value (chronic pain)	p value (chronic pain)
Cancer	31.6 vs. 14.5	4.081	0.054	15.8 vs. 8.1	1.404	0.208	100 vs. 38.2	28.783	<0.001
Migraine	22.6 vs. 14.3	2.525	0.152	17.0 vs. 7.3	5.732	0.030	100 vs. 32.9	87.149	<0.001
Rheumatic disease	27.7 vs. 13.8	6.229	0.018	19.1 vs. 7.2	7.860	0.010	100 vs. 34.1	74.331	<0.001
Bronchial asthma	20.7 vs. 14.9	0.705	0.422	10.3 vs. 8.3	0.151	0.725	100 vs. 36.7	44.973	<0.001
Chronic obstructive pulmonary disease	11.5 vs. 15.5	0.296	0.781	15.4 vs. 8.0	1.744	0.260	100 vs. 37.2	40.036	<0.001
Cardiovascular disease	20.0 vs. 15.0	0.363	0.526	20.0 vs. 7.9	3.652	0.077	100 vs. 38.1	30.368	<0.001
High blood pressure	0 vs. 15.6	2.031	0.386	0 vs. 8.6	1.035	0.611	100 vs. 39.3	16.361	<0.001
Diabetes mellitus	18.2 vs. 15.2	0.074	0.678	0 vs. 8.6	1.035	0.611	100 vs. 39.3	16.361	<0.001
Chronic gastritis	40.0 vs. 15.0	2.391	0.169	20.0 vs. 8.3	0.882	0.357	100 vs. 40.1	7.337	0.011
Post-stroke condition	25.0 vs. 15.0	0.310	0.481	25.0 vs. 8.3	1.437	0.298	100 vs. 40.3	5.856	0.027

# MODELI PLAČEVANJA ZDRAVSTVENIH STORITEV S POUDARKOM NA PLAČEVANJU PO SKUPINAH PRIMERLJIVIH PRIMEROV V SLOVENIJI

## REIMBURSEMENT OF HEALTH CARE SERVICES WITH SPECIAL ATTENTION PAID TO DRG REIMBURSEMENT SYSTEM IN SLOVENIA

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### Izvleček

*Plačevanje zdravstvenih storitev izvajalcem zdravstvene dejavnosti v Sloveniji poteka po modelu skupin primerljivih primerov, ki je bil uveden leta 2003. Pred tem so se v Sloveniji uporabljali različni modeli plačevanja, od plačevanja po storitvah, po bolnišničnooskrbnih dnevih in po primerih. Prav zaradi slabosti in pomanjkljivosti, ki so jih različni sistemi prinesli, se je v Sloveniji uveljavil sistem skupin primerljivih primerov (SPP), ki je trenutno v veljavi. Namen članka je pregledati in klasifikirati sisteme financiranja zdravstvenega varstva v Sloveniji glede na izbrane kriterije ter izpostaviti prednosti in slabosti posameznih skupin modelov. V nadaljevanju članek opisuje in analizira prednosti in pomanjkljivosti modela plačevanja po skupinah primerljivih primerov ter prikaže njegov zgodovinski razvoj in uporabo. Članek zaključuje z zgodovinskim pregledom uveljavljanja sistema SPP v Sloveniji.*

**Ključne besede:** skupine primerljivih primerov, sistem financiranja, izvajalci, primeri, potrebe, izidi, financiranje, zdravstveno varstvo, bolnišnice

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### Abstract

*The reimbursement of inpatient health care in Slovenia is based on the diagnosis related groups model (DRG), which was introduced in 2003. In earlier days in Slovenia different reimbursement models were used, like fee for service model, payment according to hospital days and payment per number of inpatient cases. The DRG system was introduced to Slovenia in order to address the shortcomings and weaknesses of the previous reimbursement systems. The purpose of this article is to classify and analyze the health care reimbursement systems in Slovenia according to the selected criteria and determine the pros and cons of each group of systems. Further on, the article describes the development and use of DRG reimbursement model and presents its implementation and developmental path in Slovenia.*

**Key words:** diagnosis-related groups, reimbursement, health care providers, case, needs, outcome assessment, financing, health care, hospitals

### 1 Uvod

Financiranje sistema zdravstvenega varstva zajema zbiranje sredstev in razdeljevanje sredstev (oz.

plačevanje) izvajalcem zdravstvene dejavnosti. Modeli plačevanja izvajalcem zdravstvene dejavnosti so različni. Razlike izhajajo iz opravljanja različnih vrst zdravstvenih dejavnosti. Modeli plačevanja se lahko

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razlikujejo tudi v okviru posamezne zdravstvene dejavnosti, izbran model plačevanja pa je odvisen od oblikovalcev zdravstvene politike.

Dosedanji modeli plačevanja izvajalcem specialistične bolnišnične dejavnosti so temeljili na plačevanju po storitvah, bolnišnično oskrbnih dnevih in primerih. Medtem ko je model plačevanja po storitvah usmeril izvajalce v množitev storitev, je model plačevanja po bolnišničnooskrbnih dnevih spodbujal izvajalce v kopičenje bolnišničnooskrbnih dni in podaljševanje ležalne dobe. Omenjeni slabosti naj bi odpravil model plačevanja po primerih, ki je bil uveden v letu 2000. V letu 2003 je bil uveden nov model plačevanja, in sicer model plačevanja po skupinah primerljivih primerov. Najpomembnejša prednost pred obstoječim modelom plačevanja predstavlja bistveno bolj razčlenjena klasifikacija storitev, ki omogoča diferencirano plačevanje izvajalcem glede na zahtevnost opravljenih storitev.

## 2 Vrste modelov plačevanja

V razvitem svetu se za plačevanje izvajalcev uporabljajo različni načini plačevanja zdravstvenih storitev, katerih prednosti in pomanjkljivosti so analizirane in opisane v številnih znanstvenoraziskovalnih in analitičnih publikacijah. Namen tega članka ni predstaviti posamezne modele, niti ne prikazati njihove prednosti in pomanjkljivosti, pač pa poskusi klasificiranja modelov po določenih skupnih značilnostih, ki jih imajo.

Modele plačevanja zdravstvenih storitev lahko klasificiramo na različne načine. Ena od teh je delitev *na podlagi temelja, po katerem storitve financiramo*. Glede na to ločimo naslednje načine plačevanja (1):

- **Plačevanje na podlagi potreb** zagotavlja izvajalcu plačilo, ki je sorazmerno zdravstvenim potrebam prebivalcev določenega področja. Pri določanju zdravstvenih potreb določene populacije ali območja se uporabljajo demografsko-socialno-ekonomska merila (npr. starost, spol in socialnoekonomski status določene skupine ali področja). Tako se zmanjšujejo razlike v zdravstvenem stanju prebivalcev, vendar pa model preprečuje prosto izbiro izvajalca, zmanjšuje dostopnost in le delno zmanjšuje demografsko-ekonomske vplive.
- **Plačevanje na podlagi vnosa** zagotavlja izvajalcu plačilo njegovih zmogljivosti za izvajanje zdravstvene dejavnosti. Sredstva za prihodnje plačilno obdobje se dodelijo na podlagi izdatkov preteklega obdobja, možne so delne prilagoditve s spremembo količine

oziroma vsebine programov. Ta metoda zagotavlja plačevanje obstoječih zmogljivosti. Pri izračunu potrebnih sredstev za posameznega izvajalca se uporabljajo različni načini (na primer bolnišnično oskrbni dnevi, bolniške postelje, zdravstveni timi). Ta način se je uveljavil v državnih zdravstvenih sistemih in se danes opušta. Administrativno je zelo preprosto, vendar ne zagotavlja poštenega plačila izvajalcev in ne spodbuja stroškovne učinkovitosti ter dobre klinične prakse. Ohranja se le še pri plačevanju oskrbe na domu.

- **Plačevanje na podlagi storitev** temelji na natančno opredeljenih zdravstvenih storitvah in njihovih relativnih cenah. Učinkovitost metode je odvisna od števila postavljenih osnovnih storitvenih enot in vzpostavljenega nadzora. Plačevanje na podlagi storitev omogoča pregledno in pravičnejše razporejanje sredstev po opravljenem delu in nudi spodbude za stroškovno učinkovitost, vendar tudi za opravljanje čim večjega števila storitev. Prodornost metode je odvisna od števila osnovnih enot (pregled, bolnišničnooskrbni dan, primer, poseg, zdravila, ...), združevanja v kategorije (skupina primerov, epizoda, sveženj, ...), relativne cene posamezne enote ali kategorij enot in nadzora opravljenega obsega storitev. Metoda je zato tehnološko zahtevna. Želi si jo večina zdravnikov, zdravstvenih delavcev in sodelavcev.
- **Plačevanje na podlagi izidov** zagotavlja izvajalcem dodatno plačilo, če njihovi izidi zdravljenja presežajo povprečje primerljivih izvajalcev. Izid zdravljenja je odvisen od vpliva celotnega poteka obravnave na zdravstveno stanje bolnika. Gre za izjemno zahteven pristop, saj je težko meriti izide za številne zdravstvene storitve, zahtevnost obravnave. Zato so tudi plačila zdravljenja različna (pljučnica, operacija žolčnih kamnov, presaditev jeter). Navkljub temu mora ta sistem predstavljati vizijo razvoja sistema financiranja, ki je usmerjen v potrebe državljana.

Modele plačevanja zdravstvenih storitev delimo tudi po merilu (ne)predvidljivosti na (1):

- **Retrospektivni model**, to je model, pri katerem plačnik za višino izdatkov izve takrat, ko mu izvajalec pošlje račun za opravljene zdravstvene storitve. Plačnik tako vnaprej ne more oceniti ali celo določiti velikosti izdatkov zdravstvene dejavnosti v poslovnem obdobju. Na izdatke plačnik ne more vplivati, saj so ti že nastali. Retrospektivno plačevanje ima pomembno pomanjkljivost, saj se celotno tveganje obvladovanja stroškov zdravljenja prenese na plačnika, medtem ko za

izvajalca ni spodbud za iskanje načinov izvajanja dejavnosti, ki bi bile ob enaki kakovosti stroškovno ugodnejše. Retrospektivni modeli plačevanja tako najbolj ustrezajo interesom izvajalcev, saj le-ti v tem primeru dobijo plačilo za vse opravljene storitve. Posledici sta dobra kakovost zdravstvene oskrbe (v središču pozornosti je bolnik in njegova celovita zadovoljitev zdravstvenih potreb, nekatere opravljene storitve so zato tudi nepotrebne) ter močno naraščanje izdatkov za zdravstveno varstvo, slednje pa ob omejenih virih financiranja za plačnika ni sprejemljivo.

- **Prospektivni modeli**, s katerimi lahko vplivamo na velikost prihodnjih izdatkov zdravstvene dejavnosti, saj so v normalnih okoliščinah izdatki vnaprej predvidljivi. Prospektivni modeli plačevanja omogočajo, da se izvajalci in plačnik vnaprej dogovorijo za določeno plačilo za izvedbo dogovorjenega zdravstvenega programa. Bistvo prospektivnih modelov je v tem, da tako izvajalec kot plačnik vnaprej vesta, pri čem sta. Pomembno je, da izvajalec še pred začetkom poslovnega obdobja ve, s kolikšnimi prihodki bo razpolagal in kaj bo moral za to narediti. Prospektivno plačevanje sili izvajalce v obvladovanje stroškov.

Modele plačevanja zdravstvenih storitev delimo tudi po (ne)omejenosti. **Modeli z omejitvami** uravnotežijo tveganja plačnikov in izvajalcev pri poračunih realiziranih storitev. Omejitve so finančne (od celotnega proračuna do posamezne enote), časovne (od celotnega leta do posamezne časovne obračunske enote) in količinske (število izvajalcev, postelj, storitev).

Izjemnega pomena pri sistemu financiranja zdravstvenih storitev je **porazdelitev finančnega tveganja** med plačniki in izvajalci ob posameznem modelu. Sama omejitev programov in časovnega razporejanja sredstev pomembno vpliva in spremeni porazdelitev finančnega tveganja. Vselej je potrebno upoštevati retrospektivnost oziroma prospektivnost razporejanja sredstev ob omejevanju programov z določitvijo količine osnovnih enot ali finančnih sredstev. Od celotne postavitve modela plačevanja je namreč odvisno, ali bo morebitna izguba ostala pri plačniku ali pri izvajalcu. Obvladovanje stroškov poteka na ravni celotnega proračuna, posameznega izvajalca ali programa. Ker je celotno plačilo zmnožek količine storitev in cene storitev, je obvladovanje stroškov mogoče doseči bodisi z omejevanjem števila storitev ali njihovih stroškov. Plačnik seveda praviloma vztraja pri enakem (ali večjem) obsegu programa in zahteva zmanjševanje stroškov.

Če plačnik razporeja sredstva izvajalcem retrospektivno s priznavanjem dejanskih stroškov, prevzame sam celotno tveganje za preseganja stroškov. Ob retrospektivnem razporejanju sredstev izvajalcem po prospektivno določenih cenah se tveganje porazdeli. Ob preseganju celotnega programa prevzema breme izgube plačnik, ob preseganju stroškov pri posameznem primeru breme izgube ostane neučinkovitemu izvajalcu. Prospektivno razporejanje sredstev ob prospektivno določenih cenah in omejenem obsegu programa prenese celotno tveganje na izvajalce. Tako preseganje omejenega programa (in s tem stroškov) kot preseganje stroškov pri posameznem bolniku povečuje stroške in izgubo izvajalca. Prospektivni model ob omejenem programu spodbuja izvajalce k doseganju planiranega obsega programa, kar lahko vodi v porast števila neustreznih obravnav. Plačnik mora imeti predvidene rezervne sklade le za pokrivanje presežkov dogovorjenih programov ob nepredvidenem porastu bolezni.

Retrospektivni način plačevanja storitev je značilen za tržno naravnane zdravstvene sisteme. Ob prospektivni omejitvi cen je uporaben za plačevanje zahtevnih obravnav ali obravnav, ki so nacionalna prioriteta.

### 3 Sistem plačevanja zdravstvenih storitev po modelu SPP

Za bolnišnično raven se najpogosteje uporablja metoda plačevanja po zahtevnosti primera. Pri tem modelu plačilo storitev opredeli celoten postopek obravnave bolnika (2). Tako se za različne primere zagotovi različno plačilo, ki je sorazmerno stroškom. V svetu je najbolj razširjena metoda SPP, ki se od leta 1982 uporablja za sistem financiranja zdravstvene dejavnosti v okviru programa Medicare v ZDA (3). Sistem je razvila skupina strokovnjakov z univerze Yale v ZDA (Hospital Administration on Yale University) s postavitvijo 23 glavnih diagnostičnih skupin, ki so vsebovale 467 diagnoz. Po prilagoditvi svojim nacionalnim okoljem so ga prevzele tudi druge države. Danes je število diagnostičnih skupin med državami različno in večinoma ne presega 700. Tak sistem pozna in uporablja večina držav Evrope in sveta (ZDA, Kanada, Avstralija, skandinavske države, Francija, Italija, Avstrija, Nemčija ..). Velika Britanija uporablja podoben sistem (Healthcare Resource Groups), Nizozemska pa je uvedla bolj zapleteno razvrščanje (Diagnosis and Treatment Combinations). V Sloveniji smo leta 2003 uvedli skupine primerljivih primerov (SPP) po zgledu v Avstraliji uporabljenega modela.

Na ta način se plačilni model zanesljivo preusmeri na bolnika in njegove potrebe. Model tako sledi osnovnemu načelu, da "denar sledi bolniku". Zahtevnost primera namreč določajo klinične diagnoze, opravljeni posegi in trajanje obravnave. Modeli razvrščajo vse bolnike v skupine primerov, ki so primerljivi po diagnozah ali standardiziranih tipih obravnav. V uporabljenem modelu v Avstraliji je med najdražjimi primeri presaditev jeter, ki je 30,13-krat dražja od povprečnega primera. Med cenejšimi pa je opravljena kolonoskopija v dnevni obravnavi, ki predstavlja 0,3 vrednosti povprečnega primera. Ob tem imajo zdravstvene storitve v posamezni skupini podobno stroškovno strukturo. Določitev posamezne obtežitve je ponavljajoči se proces kliničnih in statističnih ocenjevanj. Obtežitev posameznih skupin najpreprosteje določimo po načelu povprečnih stroškov. Stroške povprečnega primera dobimo tako, da delimo celotna sredstva za bolnišnične primere z vsemi bolnišničnimi primeri. Po enakem postopku za celotna sredstva in vse primere znotraj posamezne skupine pridobimo tudi povprečne stroške za vsako skupino. Obtežitev posamezne skupine primerov nato predstavlja kar razmerje med povprečnimi stroški skupine in ceno povprečnega primera. Tako se različna zahtevnost obravnave dokončno prikaže z razponom med najcenejšimi in najdražjimi primeri, ki je lahko tudi več kot stokratno, med 0,15- in 30-kratniki povprečnega primera. Pri določanju obtežitev lahko uporabimo zahtevnejše pristope s standardnimi ali dejanskimi stroški oziroma stroške, povezane z dobro klinično prakso. Vselej pa relativno ceno posamezne skupine primerov dobimo z obtežitvijo skupine in ceno povprečnega primera. Proračun izvajalca je sestavljen iz relativnih plačil za vse primere. Ta metoda je seveda administrativno in izvedbeno najbolj zahtevna. Postavitev je povezana z dostopnostjo podatkov o kliničnih obravnavah in stroških. Metoda zagotavlja pravičnost in primerljivost razporejanja sredstev med posamezne izvajalce. Olajšano je načrtovanje prednostnih obravnav ter nadzor delovanja in stroškov izvajalcev. Posamezne izvajalce spodbuja k optimiziranju stroškov z vzdrževanjem povprečne porabe v obsegu plačila za posamezne skupine primerov. Metoda potrebuje izdelan nadzor nad zlorabo (pretirano beleženje višjih obtežitev, neupravičene diagnoze in posegi), ki težijo k večjemu plačilu za primere (4).

Izkušnje držav, ki so na bolnišnični ravni uvedle prospektivno plačevanje po obteženih primerih z omejitvijo proračuna, potrjujejo uspešnost z dvigom učinkovitosti. Ob tem pa je vpliv na samo kakovost obravnave negotov. Zato v obstoječe sisteme

vgrajujejo načela plačevanja dobre klinične prakse s podpiranjem medicine, podprte z dokazi, ter uvajanjem kliničnih poti in smernic. Ob visoki preglednosti pa uveljavljeni modeli razvrščanja obteženih akutnih obravnav v bolnišnicah ne morejo v celoti predstaviti vse kompleksnosti organizacijskega ustroja bolnišnice. Zato seveda ne presenečajo stalne nadgradnje modelov razvrščanja. Njihov cilj je preglednejši in pravičnejši sistem razporejanja sredstev, kar je možno preko ločenih proračunov za gravitacijsko področje, intenzivne enote, raziskovalno in izobraževalno dejavnost ter opredelitvami napotovanj in referenčnosti. V nekaterih državah uporabljajo ločeno plačevanje zdravnikov. V zasebnih bolnišnicah Avstralije ob sistemu razvrščanja obravnav ločeno plačujejo tudi zdravnike, na Nizozemskem so zdravniki plačani ločeno od ostalih izvajalcev zdravstvenih storitev, kar ne spodbuja timskega dela in zmanjšuje možnost sodelovanja med zdravstvenim osebjem. Večina držav tako uporablja uveljavljene modele razvrščanja akutnih bolnišničnih obravnav le za določitev dela proračuna. Zaradi pomembnosti in sorazmerno visokih cen se v nekaterih sistemih plačevanja bolnišničnega programa obravnava v intenzivni enoti razvršča in tudi plačuje ločeno. Pri obravnavi v intenzivni enoti na primer upoštevamo smrtno ogroženost. Raziskovalno in klinično izobraževanje v zdravstvenem sektorju se v nekaterih ustanovah odvija vzporedno s procesom zdravstvene obravnave. V večini evropskih držav se ta sredstva zagotavljajo z ločenim proračunom preko javnih razpisov. Izobraževalnim ustanovam pripada največji del sredstev, ki so vezana na poročila o opravljenem delu. V Veliki Britaniji, kjer izobraževalne ustanove ob raziskovanju in izobraževanju obravnavajo bolj zapletene bolnike, plačila prejema po višji povprečni ceni obravnave. To zmanjšuje preglednost in onemogoča nadzor uspešnosti poslovanja. V Avstraliji vsaka bolnišnica prejme posebna sredstva za raziskave, izobraževanje in zahtevnost bolnikov na podlagi meritev dejanskih stroškov teh storitev, kar poveča preglednost.

#### 4 Uvedba SPP v Sloveniji

Specialistične bolnišnične obravnave so se v Sloveniji v preteklosti plačevale na podlagi opravljenih storitev, bolnišnično oskrbnih dni in primerov (5, 6, 7). Do leta 1993 je model plačevanja specialističnih bolnišničnih obravnav temeljil na **stroškovno ovrednotenih storitvah**, katerih skupna količina je bila omejena na letni ravni. Posamezni bolnik je predstavljal



seštevek vseh opravljenih storitev. Administrativno nezahteven model je izvajalce spodbujal k množenju storitev, in sicer tistih, ki so bile dobro plačane. Količina storitev je zrcalila predvsem zmogljivosti izvajalca, zato je plačevanje po storitvah na prvo mesto postavljalo možnosti in potrebe izvajalcev in ne potrebe bolnikov. V letu 1993 uvedeno plačevanje specialističnih bolnišničnih obravnav po **bolnišnično oskrbnih dnevih** je izvajalce vzpodbudilo k zmanjševanju storitev med ležanjem v bolnišnici, podaljševanje ležalne dobe pa je morebitni učinek iz naslova zmanjševanja storitev izničil. Plačevanje bolnišnično oskrbnih dni je zavrlo skrajševanje ležalnih dob v bolnišnicah.

Omenjene slabosti naj bi odpravil model **plačevanja po primerih**, ki je bil uveden v letu 2000 (8, 9, 10). Model plačevanja po primerih je postal razvojni mejnik od plačevanja izvajalcev k plačevanju bolnikov. Bolnišnice je močno spodbudil k skrajševanju ležalne dobe (cena primera je bila enaka ne glede na trajanje bolnišnične obravnave), kar je nedvomno zmanjšalo stroške ter povečalo učinkovitost izvajalcev. Ob omenjenih prednostih je model ohranil slabosti plačevanja po bolnišnično oskrbnih dnevih, saj ni upošteval različne zahtevnosti obravnav bolnikov, bolnišnice pa so bile še naprej neenako plačane za enake opravljene storitve. Poleg tega ni vseboval ustreznih nadzornih mehanizmov ter spodbud za razvoj učinkovitejših načinov zdravljenja (dnevna obravnava, zdravljenje na domu, ...). Pomanjkanje nadzora je vplivalo na širjenje tako moralnega tveganja kot tudi pobiranja smetane pri določenih izvajalcih, saj je omogočalo manipulacije, kot so sprejemanje nezapletenih bolnikov, administrativno povečevanje števila primerov s prekinitvijo obravnave v bolnišnici in ponovnim sprejemom ter premeščanje zahtevnejših bolnikov v terciarne ustanove. Pomanjkanje spodbud za razvoj učinkovitejših načinov zdravljenja (npr. prenizko vrednotenje dnevnih obravnav) je bolnišnice usmerilo v sprejemanje bolnikov na oddelke, saj je bil tak bolnik bolje plačan kot pa ambulantni bolnik. V državah z ustreznim financiranjem ambulantnih obravnav se delež bolnikov, obravnavanih v ambulanti, približuje 50 %. Delež dnevne obravnave se je na primer v Avstraliji ob uvedbi ustreznih finančnih spodbud, povečal z 12 % v letu 1983 na 50 % v letu 2000 (11). Ob upoštevanju, da v slovenskih bolnišnicah kar 40 % akutnih bolnikov ostaja v bolnišnici tri dni ali manj in da se je s plačevanjem po primeru celo povečal delež bolnikov s kratko ležalno dobo, bi bilo dnevnega zdravljenja veliko več od tedanjih dobrih 10 %, če bi bila uvedena primerna cena takega zdravljenja.

Prav pomanjkljivosti modela plačevanja akutnih bolnišničnih obravnav na podlagi primerov so bile najpomembnejši razlog za uvedbo **plačevanja akutnih bolnišničnih obravnav na podlagi SPP**. Plačevanje po primerih je vsebovalo izjemno ozko opredeljeno klasifikacijo storitev (10 različnih storitev, ki so se nanašale na t. i. povprečne primere po posameznih dejavnostih, npr. povprečni primer za internistiko, kirurgijo, ...), katerih cene so bile po posameznih izvajalcih različne. Razlike med najvišjo in najnižjo ceno primera so v obdobju 2000 – 2002 znašale tudi prek 30 % (12). O pravem izvajanju nakupne funkcije s strani Zavoda za zdravstveno zavarovanje Slovenije (v nadaljevanju: ZZZS) kot kupca in plačnika storitev ni bilo mogoče govoriti, saj razlik v cenah storitev med posameznimi izvajalci z vidika zahtevnosti obravnav ni bilo mogoče utemeljiti. ZZZS namreč podatkov, ki bi verodostojno utemeljili razlike v vsebini obravnav po posameznih izvajalcih in s tem razlike v cenah storitev, ni imel. Poleg tega se je planirani obseg programa opredeljeval zgolj po desetih osnovnih dejavnostih, kar se je izkazalo, da je v določenih primerih ali premalo specifično (z vidika kupovanja natančno definiranih ciljnih storitev in ne samo skupin storitev), po drugi strani pa celo preveč podrobno. V primeru opredelitve dodatnega programa za točno določeno obravnavo se je lahko ta širitev izgubila v celotnem planiranem (sedaj večjem) obsegu programa posamezne dejavnosti.

Po zgledu mnogih držav v svetu smo v Sloveniji uvedli enega od obstoječih modelov razvrščanja akutnih obravnav po diagnozah in opravljenih posegih. Pri izbranem sistemu smo upoštevali mednarodni sistem razvrščanja bolezni (MKB-10-AM). V letu 2003 so se pri izračunih težavnosti povprečnega primera uporabile uteži, izračunane na podlagi stroškovne študije treh pilotskih bolnišnic v Sloveniji ter avstralskih uteži National Hospital Cost Data Collection Round 6 (2001-2002), v letu 2004 pa so bile uporabljene avstralske uteži National Hospital Cost. Data Collection Round 6 (2001-2002). Te so v uporabi tudi v letu 2008 (7). Proces nadgradnje bo moral za določitev standardnih stroškov primerov upoštevati klinične poti, ki natančno opisujejo obravnavo določenega primera po načelih z dokazi podprte sodobne medicine. Pri manj pogostih primerih se lahko uporabijo dejanski povprečni stroški. Statistične podatke pa bo nujno potrebno prilagajati z upoštevanjem razmerij med stroški opravljenega dela in razlikami v ležalni dobi. Kljub veliki preglednosti model SPP ne more v celoti predstaviti vse kompleksnosti organizacijskega ustroja bolnišnic (13). Prav tako ne more posameznega zelo

zapletenega primera razvrstiti tako, da bi bili stroški ustrezno povrnjeni. Pri določanju obtežitev ni možno upoštevati verjetnosti zelo redkih zapletov, ki pa povzročajo zelo velike dodatne stroške.

Sam model plačevanja po SPP je bil uveden v letu 2003, ko je klasifikacija SPP vsebovala 661 storitev, na podlagi katerih se je med 19 izvajalcev razporedilo 10 % sredstev proračuna za akutno bolnišnično obravnavo v Sloveniji. Ob tem je bilo najvišje možno zmanjšanje sredstev pri posameznem izvajalcu zaradi uvedbe novega modela plačevanja omejeno na 1 % (10). V letu 2004 je bil enakemu številu izvajalcev akutnih bolnišničnih obravnav ob manjšemu številu storitev (653) in spremenjenih relativnih cenah razporejen celoten proračun za akutno bolnišnično obravnavo v Sloveniji (14).

Tudi obstoječi model ni popoln in ima določene slabosti, ki omogočajo zlorabe (4): pretirano zniževanje stroškov z omejevanjem potrebnih preiskav in izborom manj ustreznih zdravil, sprejemanje bolnikov, ki ne potrebujejo hospitalizacije in lažno prikazovanje diagnoz in obravnav z visokimi cenami. Zato bo na teh točkah potreben ustrezen nadzor.

Razvrščanje in financiranje obravnav po modelu SPP usmerja izvajalce k stroškovno učinkoviti obravnavi, ne pa tudi h kakovosti. Te lastnosti nima sam po sebi tudi noben drug način razporejanja sredstev bolnišnicam. Zato je nujno potrebno uvesti kakovostno izvajanje obravnave na podlagi kliničnih smernic in kliničnih poti. S postopnim vključevanjem meril financiranja, kot sta zadovoljstvo uporabnikov in izid zdravljenja za najpogostejše obravnave, bo v plačevanje vgrajena razsežnost kakovosti.

## 5 Sklep

V državah razvitega sveta potrebe po zdravstvenih storitvah praviloma presejajo ponudbo, ki jo omejujejo razpoložljiva finančna sredstva. Zato je neizogibno in edino sprejemljivo, da se obstoječa sredstva razdelijo med izvajalce zdravstvenih storitev na sistematičen in pregleden način. Modelov, kako razdeliti sredstva, je veliko in samo na ravni bolnišničnega varstva jih je toliko, da je že sama njihova klasifikacija zahtevna. Vseeno smo modele razdeljevanja sredstev skušali smiselno razdeliti v skupine glede na nekatera merila bistvenega pomena.

Z vzpostavitvijo modela SPP se je tudi Slovenija pridružila večini zdravstvenih sistemov, ki težijo k večji učinkovitosti, preglednosti, pravičnosti in primerljivosti. Tako omogočamo preusmeritev sredstev od enkratnih na trajne potrebe državljanov, samo plačilo storitev pa povezujemo z zadovoljstvom uporabnikov in izidi zdravljenja. Prispevek predstavi zgodovinski pregled uveljavljanja modela SPP tako v svetu kot tudi v Sloveniji. Navedeni so razlogi za odločitev o izbiri modela SPP, pri čemer pa smo navedli tudi njegove pomanjkljivosti tako na osnovi domačih kot mednarodnih izkušenj. Uvajanje SPP modela smo primerjali z nekaterimi evropskimi državami, predvsem pa Avstralijo, saj smo v Sloveniji uvedli avstralske uteži za model SPP.

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\* Zavarovalnic, ki izvajajo dopolnilno zdravstveno zavarovanje kot aktivnega izvajalca nakupne funkcije ne izpostavljamo, saj te niso vključene v postopke partnerskih pogajanj.

† Sistem je bil izbran po strokovni primerjavi več sistemov drugih držav. Za podlago našega sistema je bil izbran avstralski, ki so ga skupine strokovnjakov prilagodile našim razmeram, dokončno pa ga je potrdil Zdravstveni svet.

‡ Klinična pot opisuje potek določene obravnave in določa pravila poročanja in analiziranja odklonov od normale. Postopek je usmerjen v največjo učinkovitost in kakovost obravnave. V letu 2002 so bile v pilotskih bolnišnicah izdelane in uvedene prve klinične poti. Prve analize kažejo na skrajševanje ležalnih dob in dvig stroškovne učinkovitosti.

§ Od leta 2005 je teh storitev oziroma skupin storitev 653.

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**Andrej Marušič, Sanja Temnik: Javno duševno zdravje.  
Celje : Celjska Mohorjeva družba : Društvo Mohorjeva družba ; Koper : Fakulteta za  
matematiko, naravoslovje in informacijske tehnologije, 2009. 110 str.**

Naj recenzijo začnem s premiso: Če ni zdravja brez duševnega zdravja, potem ni javnega zdravja brez javnega duševnega zdravja.

Kot je zapisal izr. prof. Andrej Marušič igra prav javno duševno zdravje ključno vlogo ustvarjanju boljše sedanjosti in prihodnosti sleherne družbe. Svoje in tudi druge znanstveno in strokovno utemeljene poglede na problem duševnega zdravja je tik pred svojim prezgodnjim slovesom v sodelovanju s psihologinjo Sanjo Temnik zbral v knjigi, pravzaprav učbeniku, z naslovom Javno duševno zdravje na zanimiv, privlačen, duhovit, a vendarle zelo znanstveno strokoven način. Knjiga je pomemben del v mozaiku znanstvene zapuščine izr. prof. Andreja Marušiča.

Način pisanja in poglobljanja tematike je tak, da bralec dobi občutek, kakor da v rokah drži vodnik po duševnem zdravju. Začetek knjige nas seznani s sodobno delitvijo javnega duševnega zdravja, z nekaterimi za to področje pomembnimi opredelitvami ter mednarodno perspektivo oziroma cilji na področju javnega duševnega zdravja. V učbeniškem slogu knjiga ponudi pregled dejavnikov tveganja za nastanek duševnih motenj in, to je njena posebnost, dejavnike tveganja opredeli tudi kot možne kazalce in opredeljivke duševnih motenj. Zelo jasno in brez oklevanja je podan odgovor na vprašanje zakaj so duševne motnje tako velik javnozdravstveni problem in kakšna je pravzaprav njihova razširjenost.

Osrednji del knjige je namenjen opisu in razlagi nekaterih najbolj razširjenih ter resnih duševnih motenj: depresiji, z alkoholom povezanim problemom ter kroničnim duševnim motnjam. Med slednjimi sta izpostavljeni demenca, ki z naraščanjem deleža starega prebivalstva v družbi postaja vedno bolj pereč problem, ter shizofrenija. Vključene duševne motnje so predstavljene celostno, od dejavnikov tveganja, ogroženih skupin, do znakov in simptomov, opredeljeno pa je tudi njihovo breme umrljivosti. V povezavi s slednjim je izpostavljena problematika samomorilnega vedenja, ki je v Sloveniji zelo pomemben problem. Vsebina knjige ne ostane le na ravni opisovanja zakonitosti samomorilnega vedenja, temveč poda tudi shemo smiselne hierarhije vseh pomembnih akterjev, ki naj v skladu s svojim znanjem in odgovornostjo preprečujejo samomorilno vedenje. Ta hierarhija je bila zelo dobrodošla usmeritev pri snovanju dela nacionalnega programa za duševno zdravje.

Sklepni del knjige se začne z opredelitvijo ekonomskega bremena duševnih bolezni in se na subtilen način preslika v opis ukrepov na različnih ravneh preventive. Posebna pozornost je namenjena tudi duševnemu zdravju v skupnosti oziroma skupnostni oskrbi, ki naj se ravna po načelu vsi za enega in eden za vse. V samem zaključku knjige je bralec deležen še pogleda v prihodnost, saj so navedene misli in ideje za javno duševno zdravje jutrišnjega dne.

Področje javnega duševnega zdravja, ki je pri nas še v razvoju, je v učbeniku Javno duševno zdravje prikazano celovito, jasno in pregledno. S temi lastnostmi je knjiga neprecenljiv kompas za vse, ki so, ali še bodo, tako ali drugače dejavni na področju duševnega zdravja.

dr. Saška Roškar

## RECENZIJA

### **Dražen Gorjanski: Je li hrvatski zdravstveni sustav - sustav? Osijek: Matica hrvatska; 2009. 469 str.**

Knjiga z nekoliko provokativnim naslovom *Je li hrvatski zdravstveni sustav – sustav?* (Ali je hrvaški zdravstveni sistem – sistem?) avtorja Dražena Gorjanskega se loteva kritike zdravstvenega sistema sosednje Hrvaške. Če bi si sami postavili to na videz enostavno vprašanje za slovenski sistem, bi kmalu ugotovili, da odgovoriti nanj pravzaprav še zdaleč ni tako lahko, saj je v današnjem kompleksnem svetu težko reči, kaj natančno je zdravstveni sistem, kaj vsebuje, kje se začne in kje konča. Ali je sploh sistem v teoretičnem pomenu?

Najširša opredelitev sistemov zdravstvenega varstva vključuje vse dejavnosti, ki so prvenstveno namenjene izboljšanju (ohranitvi, krepitvi, povrnitvi) zdravja. Zaradi različnih stališč družbe do socialnih oz. zdravstvenih tveganj so države razvile različne sisteme financiranja in organiziranosti zdravstvene dejavnosti, preskrbe z zdravili in drugih zdravstvenih dejavnosti. A kljub velikim razlikam v zdravstvenih sistemih, ki jih hkrati eni hvalijo, drugi pa so do njih kritični, se različne države sveta spopadajo s podobnimi problemi in sodobne reforme se usmerjajo v podobno smer: v izboljšave v javnem zdravstvu, ki bi vodile v izboljšanje zdravstvenega stanja prebivalstva kot celote, v zmanjševanje stroškov z zmanjšanjem dragih hospitalizacij, z osredotočanjem v primarno zdravstveno varstvo ipd. Nam je to kaj znano? Ti problemi so v državah v tranziciji (mednje sodita tudi Hrvaška in Slovenija), kot kaže, še bolj izraženi, saj je v ospredju ves čas iskanje nečesa novega ("boljšega"), a tudi čim prejšnje oddaljevanje od starega ("slabega"). Kljub temu se kriza zdravstvenih sistemov v teh državah še pogloblja. Tudi v Sloveniji je tako in dandanes pogosto slišimo: čakalne dobe in vrste so predolge in se še daljšajo, zdravstveni sistem ni odraz potreb prebivalstva, raba javnofinančnih sredstev je nesmotrna ipd. Vse te probleme bi radi rešili v čim krajšem času, pri čemer se zdi, da bomo tem uspešnejši, čim večji bo odmik od starega sistema zdravstvenega varstva. Morda pa bi se morali vprašati, ali se ne pogloblja prav zaradi tega preusmerjanja. Podobno razmišlja tudi avtor pričujoče knjige.

Vsebina knjige je oblikovana v pet poglavij (kazala in literature ne štejem). V prvem poglavju avtor najprej ponudi teoretična razmišljanja o sistemih na splošno, v drugem pa o zdravstvenih sistemih. Že v tem poglavju postane kritičen (interesi različnih deležnikov v zdravstvenih sistemih, medikalizacija in njen pomen, zablode v zdravstvenih sistemih, zanemarjanje korupcije itd.). V tretjem poglavju obširno opiše in zelo kritično razmišlja o sistemu zdravstvenega varstva Hrvaške, kot je tukaj in zdaj (navzkrižje interesov v hrvaškem zdravstvu, poštenost in integriteta v zdravstvenem sistemu, korupcija kot bolezen sistema ipd.). Četrto poglavje je posvečeno prihodnosti hrvaškega zdravstva (kritično razmišljanje o nacionalni strategiji razvoja zdravstva in kaj prinaša reforma 2009), v petem poglavju pa sta dodana še dva etična kodeksa.

Ker sta sistema Hrvaške in Slovenije zrasla iz istega skupnega sistema in ker se spopadata s podobnimi problemi v času tranzicije, bo knjiga marsikateremu slovenskemu bralcu zanimivo branje. Hrvaški sistem zdravstvenega varstva ni izjema pri soočanju s prej omenjenimi problemi in avtor ne skopari z njegovo kritiko, zaradi česar, kot sem že omenila, ni provokativen le naslov knjige, temveč tudi vsebina, ki je nastala na podlagi temeljitega avtorjevega poznavanja sistema (avtor dela kot nadzornik hrvaškega Zavoda za zdravstveno zavarovanje v Osijeku; in ima pri svojem delu redno stik z zdravniki osnovnega zdravstvenega varstva v Osješko-Baranjski županiji), je na marsikaterem mestu takšna, ko se loteva tem, kot so: enakost in pravičnost v zdravstvenih sistemih, neučinkovitost tržnih zakonitosti v zdravstvu, navzkrižje interesov v zdravstvenih sistemih, medikalizacija, ki jo izvaja država, morala vodilnih politikov in njihov vpliv na zdravstveni sistem, korupcija v sistemih zdravstvenega varstva, pravne pomanjkljivosti v sistemu zdravstvenega varstva Hrvaške itd. Pri tem jasno opozarja na zdravstveno, ekonomsko, zgodovinsko, moralno in intelektualno odgovornost vodstvenih struktur na vseh ravneh hrvaškega sistema zdravstvenega varstva na eni strani, na drugi strani pa tudi večine politikov in dobrega dela zdravnikov in drugega medicinskega osebja, ki so krivi najmanj zaradi tega, ker so se izneverili Hipokratu, demokraciji in samospoštovanju. Avtor je še posebej kritičen do privatizacije zdravstvenega sistema Hrvaške, ki ta sistem potiska v smeri ameriškega zdravstvenega sistema. Ta je za avtorja nesprejemljiv. Če se ne ohrani vloga zdravstvenih domov, se bo celoten sistem osnovnega zdravstvenega varstva zrušil. Osnovno zdravstveno varstvo bi moralo temeljiti predvsem na preventivi in preprečevanju bolezni. V nasprotju s temi načeli pa zdravstveno varstvo, ki temelji na tržnih načelih, potrebuje več bolnih ljudi, da se jim proda čim več zdravil, opravi več diagnostičnih

postopkov in več posegov, ki jih nudi trg. Interesi teh dveh sistemov si namreč nasprotujejo. Nam je to kaj znano? Se Slovenija ne spopada s popolnoma enakimi problemi?

Knjiga bo dragoceno gradivo tudi študentom različnih študijev javnega zdravja, od tistih, ki že potekajo, pa do tistih, ki jih v Sloveniji šele načrtujemo, saj v svojem začetnem delu ponudi bralcu teoretične osnove, kasneje pa veliko gradiva za kritično razmišljanje. Knjigo lahko jemljemo tudi kot odsev v ogledalu tistega, kar se dogaja v naši državi. Brez kritičnega razmišljanja se bomo v prihodnje namreč morali preveč enostransko odločati pri reševanju našega sistema zdravstvenega varstva. Tudi avtor zaključi knjigo v tej smeri in zapiše: »Prihodnost hrvaškega zdravstvenega sistema bo odvisna od sposobnosti vodilnih ljudi, da rešijo dve ključni nalogi: prepoznati pravo (neprofitno, v zdravje svojega prebivalstva usmerjeno) naravo zdravstvenega sistema in prepoznati vrednost ljudi, ki tvorijo ta sistem.«. V knjigi so poleg te pomembne misli zapisane še številne druge, zato naj tudi zaključim predstavitev s citiranjem še ene od njih: »Naloga, ki je pred nami, ni v dokazovanju premoči »sodobnega (kapitalističnega) tržnega modela« glede na »preživeti (socialistični) model«, ampak v iskanju zlatega standarda zdravstvenega sistema«.

Lijana Zaletel-Kragelj

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Izvleček znanstvenega članka naj povzema namen dela, osnovne metode, glavne izsledke in njihovo statistično pomembnost ter poglavitne sklepe. Navedenih naj bo 3-10 ključnih besed, ki nam bodo v pomoč pri indeksiranju. Uporabljajte izraze iz MeSH - Medical Subject Headings, ki jih navaja Index Medicus. Praviloma naj bo izvleček oblikovan v enem odstavku, izjemoma v večih. Kategorijo prispevka naj predlaga avtor, končno odločitev pa sprejme urednik na osnovi predloga recenzenta.

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Primeri za citiranje literature:

#### primer za knjigo:

1. Premik M. Uvod v epidemiologijo. Ljubljana: Medicinska fakulteta, 1998.
2. Mahy BWJ. A dictionary of virology (2nd ed.). San Diego: Academic Press, 1997.

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12. Mendels P. Textbook publishers extend lessons online. Pridobljeno 23.9.1999 s spletne strani: <http://www.nytimes.com/library/tech/99/09>.

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#### example for a book:

1. Premik M. Uvod v epidemiologijo. Ljubljana: Medicinska fakulteta, 1998.
2. Mahy BWJ. A dictionary of virology (2nd ed.). San Diego: Academic Press, 1997.

#### example for the chapter in a book:

3. Urlep F. Razvoj osnovnega zdravstva v Sloveniji zadnjih 130 let. In: Švab I, Rotar-Pavlič D, editors. Družinska medicina. Ljubljana: Združenje zdravnikov družinske medicine, 2002: 18-27.
4. Goldberg BW. Population-based health care. In: Taylor RB, editor. Family medicine. 5th ed. New York: Springer, 1999: 32-6.

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5. Barry HC, Hickner J, Ebell MH, Ettenhofer T. A randomized controlled trial of telephone management of suspected urinary tract infections in women. *J Fam Pract* 2001; 50: 589-94.

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6. Anon. Early drinking said to increase alcoholism risk. *Globe* 1998; 2: 8-10.

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7. Women's Concerns Study Group. Raising concerns about family history of breast cancer in primary care consultations: prospective, population based study. *BMJ* 2001; 322: 27-8.

**example for the article from journal volume with supplement, with number:**

8. Shen HM, Zhang QF. Risk assessment of nickel carcinogenicity and occupational lung cancer. *Environ Health Perspect* 1994; 102 Suppl 2: 275-82.

9. Payne DK, Sullivan MD, Massie MJ. Women's psychological reactions to breast cancer. *Semin Oncol* 1996; 23 (1 Suppl 2): 89-97.

**example for the article from collection of scientific papers:**

10. Sugden K. et al. Suicides and non-suicidal deaths in Slovenia: Molecular genetic investigation. In: 9th European Symposium on Suicide and Suicidal Behaviour. Warwick: University of Oxford, 2002: 76.

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11. Bartol T. Vrednotenje biotehniških informacij o rastlinskih drogah v dostopnih virih v Sloveniji. Doktorska disertacija. Ljubljana: Biotehniška fakulteta, 1998.

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