



Koliko hrvatski liječnici i opće pučanstvo znaju o čimbenicima rizika za kardiovaskularne bolesti?

How much do Croatian Physicians and Croatian Population Know about Risk Factors for Cardiovascular Diseases?

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SAŽETAK: Prikazani su rezultati dvaju istraživanja o znanju i osviještenosti o čimbenicima rizika za kardiovaskularne bolesti (KVB) 1.382 hrvatskih liječnika opće prakse/obiteljske medicine, internista i kardiologa te 882 građana. Rezultati upućuju da, iako velika većina liječnika drži da su smjernice za prevenciju KVB korisne, tek ih nešto više od polovice uistinu rabi u svakodnevnom radu. Premda više od četiri petine liječnika misli da dobro liječi svoje bolesnike s dislipidemijom, tek nešto više od polovice zna koje su ciljne vrijednosti LDL u bolesnika s velikim rizikom za KVB, kao i koja koncentracija HDL predstavlja rizik za KVB. Iako se otprilike dva puta češće umire od KVB nego od zloćudnih bolesti, ispitanici u skupini općeg pučanstva se značajno više boje malignih bolesti, mada ih dosta zna da su KVB glavni uzrok smrtnosti. Svega je nešto više od petine ispitanika dobilo od svoga liječnika savjete u svezi s poremećajima lipida kao čimbenikom rizika za KVB, dok više od polovice ispitanika nije dobilo uopće nikakve upute o čimbenicima rizika. Može se zaključiti da bi znanje liječnika o čimbenicima rizika i smjernicama za prevenciju KVB trebalo biti veće te da bi svijest i znanje o tim čimbenicima u hrvatskom pučanstvu također trebalo povećati. Posebno bi valjalo poboljšati prijenos informacija o čimbenicima rizika za KVB između liječnika i pacijenata.

KLJUČNE RIJEČI: kardiovaskularne bolesti, čimbenici rizika, dislipidemija, arterijska hipertenzija, prevencija.

SUMMARY: The results of two studies about knowledge and awareness of risk factors for cardiovascular diseases (CVD) of 1382 Croatian primary care physicians, internists and cardiologists as well as 882 citizens have been presented. The results show that although a great majority of physicians think that the guidelines for the prevention of CVD are useful, only more than a half of them use them in their daily work. Although more than four-fifths of physicians think that they provide good treatment to their patients suffering from dyslipidemia, only a half of them know what are the LDL target values in the patients with a high risk for CVD and which HDL concentration is risky for CVD. Although the population die because of CVD twice as much than of malignant disease, the respondents in the group of general population are much more afraid of malign diseases, although many of them know that CVD are the main cause of death. Only more than one fifth of patients have received advice from their physician in connection with lipid disorders as the CVD risk factor, while more than a half of respondents have received no instructions about the risk factors. We may conclude that physicians should know more about risk factors and guidelines for prevention of CVD and that the awareness of and knowledge about these factors in Croatian population should also be improved. The transfer of information about CVD risk factors between physicians and patients should be improved as well.

KEYWORDS: cardiovascular diseases, risk factors, dyslipidaemia, hypertension, prevention.

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Kardiovaskularne bolesti (KVB) su glavni uzrok pobola i pomora u Hrvatskoj i prema podacima za 2009. godinu one uzrokuju 49,56% svih smrti sa stopom od 568,49 na 100.000 stanovnika ili ukupno 25.976 smrti od 52.414 umrlih u toj godini¹. Dakle, svaki drugi građanin Hrvatske umro je zbog neke od tih bolesti. Ipak, treba naglasiti da je 2009. godine po prvi puta u nekoliko zadnjih desetljeća od tih bolesti umrlo manje od 50% svih umrlih. To ukazuje da je možda ipak napokon započeo trend smanjenja smrtnosti od ovih bolesti i u nas, kao što već godinama postoji u većini razvijenih zemalja.

Većina KVB je uzrokovana čimbenicima rizika kao što su dislipidemije, arterijska hipertenzija (AH), pušenje, pretilost i dijabetes na koje se može utjecati promjenom načina života i/ili lijekovima². Nema mnogo podataka u svjetskoj literaturi tome kakvo je znanje i osviještenost o čimbe-

Cardiovascular diseases (CVD) are the main cause of morbidity and mortality in Croatia and according to data of 2009, they cause 49.56% of all deaths with a rate of 568.49 per 100,000 citizens or total 25,976 deaths from 52,414 of dead persons during that year¹. So, every second Croatian citizen dies because of some of these diseases. Anyway, we should emphasize that in 2009 less than 50% of all dead persons died of such diseases for the first time in the last several decades. This shows that the trend of reduction of dying of such diseases may have started in our country similar to the trend in the most developed countries in the world for many years.

The most CVD have been caused by the risk factors such as dyslipidemia, hypertension, smoking, obesity and diabetes which can be influenced by changing the lifestyle and/or medicines². There is not much information in the literature on knowledge about and awareness of the CVD risk factors of physicians with different specialization or



nicima rizika za KVB, bilo liječnika različitog usmjerenja bilo općeg pučanstva, a u nas to još nikada nije bilo ispitivano. Stoga smo načinili dva ispitivanja pod zajedničkim nazivom "PERception of cardiovascular Risk factors in CROatia — PERCRO" rezultati kojih su nedavno objavljene^{3,4}. U ovom ćemo tekstu sažeto prikazati podatke objavljene u tim člancima.

Ispitanici i metode

Prvi dio ispitivanja proveden je na 1.382 liječnika iz različitih dijelova Hrvatske (618 liječnika opće/obiteljske medicine i 312 specijalista obiteljske medicine, 165 kardiologa te 213 specijalista interne medicine) 2008. godine. Oni su anonimno odgovarali na upitnik koji se sastojao od 21 pitanja višestrukog izbora kojim se htjelo doći do podataka o njihovom znanju o čimbenicima rizika za KVB, poznavanju smjernica za prevenciju KVB i njihovoj percepciji problema u primjeni tih smjernica u Hrvatskoj.

Drugi je dio ispitivanja proveden tako da je u 37 ljekarni u različitim dijelovima Hrvatske svima koji su ušli u te ljekarne određenih dana 2008. godine zbog bilo kojeg razloga, ponuđen upitnik koji se sastojao od 25 pitanja višestrukog izbora kojim se željelo doći do podataka o znanju i osviještenosti prosječnih građana Hrvatske o čimbenicima rizika za KVB. Na pitanja iz upitnika anonimno je odgovorilo 883 građana.

Dobiveni podaci prikazani su u obliku frekvencija, kumulativnih frekvencija i postotaka, a povezanost nekih odrednica provjerena je hi-kvadrat testom.

Rezultati

Ispitivanje liječnika. Većina liječnika koji su sudjelovali u prvom dijelu ispitivanja bili su u životnoj dobi između 45 i 54,9 godina (46,3%) i radili su kao liječnici između 15 i 29,9 godina (58,6%), tj. imali su dovoljno iskustva. Ipak, u ispitivanju su sudjelovali i mlađi liječnici koji su imali manje iskustva, no i neki stariji. 95,1% liječnika je smatralo da su smjernice za prevenciju KVB vrlo korisne ili prilično korisne, a 56,9% je odgovorilo da koriste smjernice u svakodnevnom radu, uglavnom Zajedničke europske smjernice za prevenciju KVB. 57% liječnika izjavilo je da dobro poznaju te smjernice, a 36,6% da ih donekle poznaju. Pri tome su liječnici opće/obiteljske medicine lošije poznavali smjernice nego internisti i kardiolozi ($p < 0.001$). Na pitanje o rangiranju čimbenika rizika za KVB po važnosti 40% liječnika je na prvo mjesto stavilo AH, a 25% je na drugo mjesto svrstalo dijabetes. Liječnici opće/obiteljske medicine su češće nego kardiolozi i internisti na prvo mjesto svrstavali AH ($p < 0.001$), dok su kardiolozi češće nego liječnici opće/obiteljske medicine i internisti kao najvažniji čimbenik rizika spominjali dijabetes ($p < 0.001$).

80,6% liječnika smatralo je da dobro liječe svoje bolesnike s dislipidemijom pri čemu nije bilo značajnije razlike između različitih profila liječnika. Međutim, na pitanje o ciljnoj vrijednosti ukupnog kolesterola u zdravih osoba prema Zajedničkim europskim smjernicama, iako je 76,3% ispravno odgovorilo da je ona manja od 5 mmol/l, 2,2% je odgovorilo da je ona manja od 5,6 mmol/l, 1,7% smatra da je ona manja od 6,5 mmol/l, a 0,1% drži da je

general population and this has never been investigated in our country so far. Therefore, we have designed two studies under the common title "PERception of cardiovascular Risk factors in CROatia — PERCRO" and the findings have been recently published^{3,4}. In this article, we shall briefly represent the data published in these articles.

Respondents and methods

The first part of the questionnaire was conducted on 1382 physicians from different parts of Croatia (618 primary care physicians and 312 family medicine specialists, 165 cardiologists and 213 internal medicine specialists) in 2008. They anonymously answered the survey that consisted of 21 multiple choice questions aimed at obtaining information on their knowledge about CVD risk factors, knowledge about guidelines for the CVD prevention and their perception of the problem in applying those guidelines in Croatia.

The second part of the survey was conducted in the way that in 37 pharmacies in various parts of Croatia all persons entering the pharmacies on certain days in 2008 for any reason whatsoever, were offered a questionnaire that consisted of 25 multiple choice questions aimed at obtaining information about knowledge and awareness of average Croatian citizens about the CVD risk factors. 883 citizens anonymously answered the questions from the questionnaire.

The obtained data was shown in the form of frequencies, cumulative frequencies and percentages, while the connection of specific parameters was analysed by chi-square test.

Results

Physicians Survey. Most of the physicians who participated in the first part of the survey were aged between 45 and 54.9 (46.3%) and had been working as physicians between 15 and 29.9 years (58.6%), that is, they had sufficient experience. Nevertheless, younger physicians having less experience and even some older physicians participated in the questionnaire as well. 95.1% physicians thought that the guidelines for the CVD prevention were very useful or rather useful, while 56.9% answered that they used the guidelines in their daily work, mainly the European guidelines for the CVD prevention. 57% physicians said that they were well familiar with the guidelines, while 36.6% said that they had a slight knowledge about them. General medicine/family medicine physicians had less knowledge about the guidelines than the internists and cardiologists ($p < 0.001$). The question about ranking the CVD risk factors according to importance was answered in the way that 40% of physicians put hypertension in the first place and 25% put diabetes in the second place. Primary care physicians put hypertension in the first place ($p < 0.001$) more frequently than cardiologists and internists, while cardiologists mentioned diabetes ($p < 0.001$) as the most important risk factor more frequently than primary care physicians.

80.6% of physicians thought that they treated their patients suffering from dyslipidemia well, whereas there was no significant difference among different profiles of physicians. However, the question about the target value of total cholesterol in healthy persons according to the Common European Guidelines was correctly answered by 76.3% answering that it was lower than 5 mmol/l, while



ona manje od 7,8 mmol/l. Treba naglasiti da niti jedan kardiolog nije odgovorio da je ciljna vrijednost manja od 7,8 mmol/l.

Svega 69,7% internista, 59,2% kardiologa i 58,7% liječnika primarne/obiteljske medicine odgovorilo je ispravno da je vrijednost HDL manja od 1,2 mmol/l u žena pokazatelj povećanog rizika za KVB. Kao ciljnu vrijednost za LDL u bolesnika s dijabetesom 53,3% liječnika je ispravno navelo manje od 2,5 mmol/l dok je čak 28,5% odgovorilo netočno da je to manje od 3 mmol/l, 7,1% da je to manje od 5 mmol/l, a 6,1% da je to manje od 4 mmol/l. Nije bilo značajnije razlike između različitih profila liječnika u tim odgovorima.

Iako je većina liječnika odgovorila točno na pitanje o ciljnim vrijednostima arterijskog tlaka (AT) u osoba s velikim rizikom za KVB, 10,6 je smatralo da je optimalni AT u tih osoba 140/90 mmHg ili manji, a 1,5% je čak odgovorilo da AT treba biti 150/90 mmHg ili manji.

Na pitanje o postotku za koji se može smanjiti ukupni kolesterol u krvi samo dijetom, 65,1% liječnika je točno odgovorilo, ali čak 9,2% liječnika misli da se samo dijetom može postići smanjenje od 50%. Iako je 87% liječnika odgovorilo da propisuje antilipemike svakom bolesniku koji je preživio akutni infarkt miokarda (AIM), ishemijski moždani udar ili tranzitornu ishemijsku ataku (TIA), ima dokazanu koronarnu bolest srca (KBS) ili boluje od dijabetesa, 8% je odgovorilo da to ne čini. Pritom nije bilo značajnije razlike između različitih profila liječnika u odgovorima.

Na pitanje o tome kako bi se mogla poboljšati prevencija kardiovaskularnog rizika u nas, 66,9% liječnika je odgovorilo da bi se to moglo postići boljom informiranosti bolesnika i njihovim većim posvećivanjem pozornosti dijeti i promjeni načina života, 14,8% je odgovorilo da bi se to moglo postići boljom edukacijom liječnika, 11,1% drži da bi najvažnije bilo bolje financiranje, tj. odobravanje od Hrvatskog zavoda za zdravstveno osiguranje više sredstava za dijagnostiku i osobito lijekove, dok je samo 1,3% odgovorilo da bi za to trebali bolji lijekovi.

Ispitivanje građana. U drugom dijelu ispitivanja provedenog u općem pučanstvu 59,4% su bile žene. Prema odgovorima, ljudi se u Hrvatskoj najviše boje neke od zloćudnih bolesti — 40,0% odgovora, dok su KVB bile na drugom mjestu s 21,6% odgovora. Na upit što je prema njihovom mišljenju najčešći uzrok smrti u Hrvatskoj 36,1% ispitanika je odgovorilo da su to KVB dok je 27,0% odgovorilo da su to zloćudne bolesti. Ispitanici višeg stupnja obrazovanja češće su smatrali da su KVB glavni uzrok smrti ($p=0.001$). Na upit da poredaju po važnosti čimbenike rizika za KVB većina ispitanika je na prvo mjesto od 10 čimbenika rizika stavila povišeni AT, dok je nadovoljno kretanja, sporta i tjelovježbe većina stavila na zadnje mjesto.

74,4% ispitanika znalo je vrijednost svojeg AT dok je svega njih 43,3% znalo svoju vrijednost ukupnog kolesterola. Svega 30,9% ispitanika znalo je koja je ciljna vrijednost ukupnog kolesterola, a 33,9% odnosno 8,5% je odgovorilo da je ciljna vrijednost AT u osoba s rizikom za KVB $<140/90$ odnosno $<150/90$ mmHg. Svega 30,9% ispitanika znalo je da je povećana vrijednost LDL kolesterola čimbenik rizika za KVB, dok je 49,0% znalo da je HDL "zaštitni" kolesterol. Znanje o ciljnim vrijednostima lipida

2,2% answered that it was lower than 5.6 mmol/l, and 1.7% thought that it was lower than 6.5 mmol/l, and 0.1% thought it was lower than 7.8 mmol/l. We should mention that no cardiologist answered that the target value was lower than 7.8 mmol/l.

Totally 69.7% internists, 59.2% cardiologists and 58.7% primary care physicians correctly answered that the HDL value lower than 1.2 mmol/l in women was an indicator of CVD higher risk. 53.3% physicians correctly answered that the target value for LDL in patients with diabetes was lower than 2.5 mmol/l while even 28.5% gave a wrong answer saying that it was lower than 3 mmol/l, 7.1% said it was lower than 5 mmol/l, while 6.1% said it was lower than 4 mmol/l. There was no significant difference between different profiles of doctors in giving such answers.

Although most of physicians gave a correct answer to the question about target values of blood pressure (BP) in persons with high risk of CVD, 10.6 thought that optimum BP in such persons was 140/90 mmHg or lower, while 1.5% even answered that BP should be 150/90 mmHg or lower.

The question about the percentage by which total cholesterol in blood may be reduced only with diet was answered by 65.1% of physicians correctly, but even 9.2% of doctors thought that only diet may lead to 50% reduction of blood cholesterol. Although 87% of physicians answered that they prescribed hypolipidemic drugs to every patient who survived acute myocardial infarction (AMI), ischemic stroke or transitory ischemic attack (TIA), those who has a proved coronary heart disease (CHD) or suffers from diabetes, 8% answered that they were not doing it. There was no significant difference between different profiles of physicians in such answers.

The question about the possibility of improvement of prevention of cardiovascular risk in our country was answered by 66.9% of physicians in the way that this could be achieved if patients become better informed and if they pay greater attention to diet and change their way of life, 14.8% of them answered that this could be achieved if physicians become better trained and 11.1% think that financing for, that is, approval of a greater number of diagnostic devices and especially medicines by the Croatian Institute for Health Insurance is most important, while only 1.3% of them answered that better medicines are required for that.

Population Survey. 59.4% of women were included in the second part of the questionnaire conducted on the population. According to the answers, the Croatian citizens are most afraid of malignant diseases — 40.0% of answers, while CVD took the second place with 21.6% answers. The question, which is, in their opinion, the most frequent cause of death in Croatia was answered by 36.1% of respondents that it was CVD, while 27.0% answered it was malignant diseases. The respondents with higher educational background more often thought that CVD were the main cause of death ($p=0.001$). Being asked to grade CVD risk factors according to importance, the majority of the respondents put higher BP in the first place of the ranking list out of 10 risk factors, while insufficient physical activity and sports took the last place.

74.4% of respondents knew what the level of their BP was, while only 43.3% knew what their total cholesterol was. Only 30.9% of respondents knew which level was the target value of total cholesterol, while 33.9% or 8.5% answered that the target BP in persons with high CVD risk was $<140/90$ or $<150/90$ mmHg. Only 30.9% of respondents



i AT te vrijednostima LDL i HDL kolesterola bilo je povezano s višim stupnjem obrazovanja ispitanika ($p < 0.001$).

80% ispitanika bilo je kod svog liječnika opće prakse/obiteljske medicine nekoliko puta tijekom prošle godine no samo 21,2% je od njega dobilo objašnjenje od opasnostima povišenog kolesterola u krvi, 32,6% o opasnostima povišenog AT, 15,3% o opasnostima pušenja, a 15,9% o opasnostima pretjerane tjelesne težine. 53,2% nije dobilo nikakvo objašnjenje jer o tome uopće nisu razgovarali sa svojim liječnikom.

Rasprava i zaključci

Iako je čak 95,1% svih ispitanih liječnika odgovorilo da smatra da su međunarodne smjernice za prevenciju KVB⁵ vrlo korisne ili donekle korisne, a 93,6% da ih dobro ili donekle poznaju, tek ih nešto više od polovice uistinu rabi u svakodnevnom radu. Zacijelo je to i razlog da svega pola naših liječnika zna koja je ciljna vrijednost za LDL kolesterola u bolesnika s velikim rizikom za KVB. Premda je taj postotak nedvojbeno porazno malen, on je sličan postotku koji je uočen u jednom sličnom istraživanju provedenom na liječnicima u USA⁶. To ukazuje da je znanje o čimbenicima rizika za KVB, ne samo hrvatskih liječnika već i onih u svijetu, nedovoljno. Zacijelo je nedostatno znanje liječnika o tome jedan od važnih razloga zbog čega su ne samo veliko TASPIC-CRO istraživanje provedeno u Hrvatskoj između 1998. i 2003. godine na 15.520 bolesnika s KBS, već i nedavna velika EUROASPIRE istraživanja o prevenciji KVB u Europi, u kojima je sudjelovala i Hrvatska, pokazala priličan neuspjeh u suzbijanju čimbenika rizika u primarnoj, a još više u sekundarnoj prevenciji KVB⁷⁻¹⁰. Brine i prilično skromno znanje naših liječnika o važnosti preniskih vrijednosti HDL kolesterola i povišene koncentracije triglicerida u krvi kao važnih čimbenika rizika za KVB¹¹. To je očito jedan od razloga zbog čega u nas liječnici vrlo rijetko primjenjuju kombinirano liječenje dislipidemija usmjereno ne samo ka smanjivanju ukupnog i LDL kolesterola već i povećanju vrijednosti HDL kolesterola te smanjenju hipertrigliceridemije¹².

Premda više od 80% liječnika smatra da dobro liječi svoje bolesnike s dislipidemijom, iz drugog dijela istraživanja provedenog na općem pučanstvu razvidno je da je svega nešto više od petine ispitanika dobilo od svoga liječnika savjete u svezi s poremećajima lipida kao čimbenikom rizika za KVB, a više od polovice ispitanika od liječnika nije dobilo uopće nikakve upute o čimbenicima rizika za KVB. Zacijelo je i to jedan od razloga zbog čega percepcija hrvatskog pučanstva o čimbenicima rizika ne odgovara stvarnom stanju. Naime, iako se u nas otprilike dva puta češće umire od KVB nego od zloćudnih bolesti, ljudi se značajno više boje malignih bolesti, mada ih dosta zna da su KVB glavni uzrok smrtnosti. Općenito znanje o čimbenicima rizika za KVB u općem je pučanstvu preslabo što nedvojbeno doprinosi velikom pobolu i smrtnosti od ovih bolesti u nas.

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knew that elevated LDL is the CVD risk factor, while 49.0% knew that HDL cholesterol is "protective" cholesterol. Knowledge of target value of lipids and BP, LDL and HDL values was connected with higher educational background of respondents ($p < 0.001$).

80% of respondents visited their primary care physician for several times last year, but only 21.2% received an explanation from him/her about the danger of higher serum cholesterol, 32.6% of them received an explanation about the danger of higher BP and 15.3% about danger of smoking, while 15.9% received an explanation about the danger of increased body weight. 53.2% received no explanation since they did not talk to their physician about that at all.

Discussion and conclusions

Although even 95.1% of all surveyed physicians answered that they thought that Joint European guidelines for prevention of CVD⁵ were very useful or rather useful, while 93.6% answered that they were well or rather familiar with them, only more than a half of them really apply them in their daily work. This must be a reason why only a half of our physicians know which is the target value for LDL cholesterol in patients with a high CVD risk. Although this percentage is undoubtedly small, it is similar to the percentage observed in one similar research conducted on physicians in the USA⁶. It shows that the knowledge about the CVD risk factors not only of the Croatian, but also the physicians all round the world is inadequate. Such inadequate physicians' knowledge about that is one of the important reasons why not only large TASPIC-CRO survey conducted in Croatia from 1998 and 2003 on 15,520 patients suffering from CVD, but also the recent large EUROASPIRE survey on prevention of CVD in Europe in which Croatia took part as well, showed a rather failure in combating risk factors in primary and even greater failure in CVD secondary prevention⁷⁻¹⁰. We are concerned about rather bad knowledge of our physicians about the importance of too low values of HDL cholesterol and higher concentration of blood triglycerides as important risk factors for CVD¹¹. This must be one of the reasons why physicians in our country very rarely apply combined treatment of dyslipidemia focused not only on lowering total and LDL cholesterol, but also increasing the HDL cholesterol values and decreasing hypertriglyceridemia¹².

Although more than 80% of physicians think that they provide good treatment for their patients suffering from dyslipidemia, the second part of the research conducted on general population shows that only approximately one fifth of respondents received advices from their physicians regarding lipid disorders as the CVD risk factor, while more than a half of the respondents received no instructions about CVD risk factors from their physicians at all. This must be one of the reasons why the Croatian citizens have wrong perception about the risk factors. Although our citizens die of CVD twice as much than of malignant diseases, people are much more afraid of malignant diseases, although many of them know that CVD are the main cause of death. Citizens' general knowledge about risk factors for CVD is too bad which undoubtedly leads to high morbidity and mortality from these diseases in our country.



Literature

1. Kralj V, Ćorić T, Tomić B, Hrabak-Žerjavić V. Izvori podataka za pokazatelje mortaliteta i morbiditeta kardiovaskularnih bolesti. *Kardio list*. 2011;6(1-2):1-9.
2. Reiner Ž. Cardiovascular prevention under the burden of cardiovascular disease: what should be done and what could be done. *Fundam Clin Pharmacol*. 2008;22 (Suppl. 2):1-3.
3. Reiner Z, Sonicki Z, Tedeschi-Reiner E. Physicians' perception, knowledge and awareness of cardiovascular risk factors and adherence to prevention guidelines: The PERCRO-DOC survey. *Atherosclerosis*. 2010;213:598-603.
4. Reiner Z, Sonicki Z, Tedeschi-Reiner E. Public perceptions of cardiovascular risk factors in Croatia: The PERCRO survey. *Prev Med*. 2010;51:494-6.
5. Graham I, Atar D, Borch-Johnsen K, Boysen G, Burell G, Cifkova R, et al. European guidelines on cardiovascular disease prevention in clinical practice: full text. *Eur J Cardiovasc Prev Rehabil*. 2007;14(Suppl 2): S1-S113.
6. Doroodchi H, Abdolrasulnia M, Foster JA, Foster E, Turakhia MP, Skelding KA, et al. Knowledge and attitudes of primary care physicians in the management of patients at risk for cardiovascular events. *BMC Fam Pract*. 2008;9:42.
7. Reiner Ž, Mihatov Š, Miličić D, Bergovec M, Planinc D, on behalf of the TASPIC-CRO Study Group Investigators. Treatment and secondary prevention of ischemic coronary events in Croatia (TASPIC-CRO study). *Europ J Cardiovasc Prevent Rehabil*. 2006;13:646-54.
8. Kotseva K, Wood D, De Backer G, De Bacquer D, Pyörälä K, Keil U; EUROASPIRE Study Group. EUROASPIRE III: a survey on the lifestyle, risk factors and use of cardioprotective drug therapies in coronary patients from 22 European countries. *Eur J Cardiovasc Prev Rehabil*. 2009;16:121-37.
9. Kotseva K, Wood D, De Backer G, De De Bacquer D, Pyörälä K, Keil U; EUROASPIRE Study Group. Cardiovascular prevention guidelines in daily practice: a comparison of EUROASPIRE I, II, and III surveys in eight European countries. *Lancet*. 2009;373:929-40.
10. Kotseva K, Wood D, De Backer G, De Bacquer D, Pyörälä K, Reiner Z, Keil U; the EUROASPIRE Study Group. EUROASPIRE III. Management of cardiovascular risk factors in asymptomatic high-risk patients in general practice: cross-sectional survey in 12 European countries. *Eur J Cardiovasc Prev Rehabil*. 2010;17:530-40.
11. Fruchart JC, Sacks F, Hermans MP, Assmann G, Brown WV, Ceska R, et al. The Residual Risk Reduction Initiative: a call to action to reduce residual vascular risk in patients with dyslipidemia. *Am J Cardiol*. 2008;102:1K-34K.
12. Reiner Ž. Combined therapy in the treatment of dyslipidemia. *Fundam Clin Pharmacol*. 2010;24:19-28.