

STIL ŽIVOTA, ZNANJE I PERCEPCIJA GOJAZNOSTI PROKOMERNO UHRANJENIH I GOJAZNIH OSOBA

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SAŽETAK

Uvod/Cilj: Istraživanje je imalo za cilj da ispita uticaj sociodemografskih faktora i indeksa telesne mase na stil života, znanje i percepciju gojaznosti prekomerno uhranjenih i gojaznih osoba.

Metode: Studijom preseka obuhvaćeno je 96 prekomerno uhranjenih i gojaznih osoba registrovanih u Domu zdravlja Krupa na Uni u periodu od 01.10.2018. do 01.10.2019. godine. U istraživanju su korišćeni opšti uputnik i upitnik o stilu života, znanju i percepciji gojaznosti (engl. *Knowledge, Attitude, and Practice (KAP) questionnaire about obesity*).

Rezultati: Studijom preseka je obuhvaćeno 96 ispitanika i to 66 (68,8%) sa prekomernom telesnom težinom i 30 (31,3%) sa gojaznošću (gojaznost I stepena 29,2%, gojaznost II stepena 1%, gojaznost III stepena 1%). Muškaraca je bilo neznatno više (54,2%) nego žena (45,8%). Prosečna starost ispitivane populacije je bila 56,0±3,2 godine. Fakultetsko obrazovanje imalo je 5 (5,2%) učesnika u istraživanju, srednju stručnu spremu 61 (63,5%), dok je 30 (31,3%) završilo samo osnovnu školu. Učesnici u istraživanju nisu imali uvid u definiciju i značenje indeksa telesne mase, dok je poznavanje osnovnih principa zdrave ishrane i terapije gojaznosti bilo nisko. Znanje o komorbiditetima gojaznosti pokazalo se kao zadovoljavajuće. Većina ispitanika je bila svesna svoje gojaznosti i smatrali su da im gojaznost ne može ugroziti zdravlje i zbog telesne težine su se osećali depresivno. Učesnici u istraživanju imali su sedentarni način života i nepravilnu ishranu (ekscesivni energetske unos). Ocena znanja i percepcije o gojaznosti je bila značajno ($p < 0,05$) bolja kod osoba sa višim (61,0±1,0 i 68,0±6,1) nego sa nižim (41,0±6,7 i 59,0±2,1) obrazovanjem. Osobe koje su bile gojazne značajno su češće imale nižu ocenu znanja (36,0±3,4) i percepciju (56,0±3,1) o gojaznosti, nego osobe sa prekomernom telesnom težinom (40,0±2,2 i 62,0±1,7) ($p < 0,05$).

Zaključak: U ambulanti porodične medicine je potrebno intenzivirati zdravstveno vaspitni rad sa ciljem edukacije (sa naglaskom na osobe sa nižim obrazovanjem i visokim indeksom telesne mase) i iznalaženja faktora koji bi aktivnije podstakli promenu životnog stila prekomerno uhranjenih i gojaznih osoba.

Ključne riječi: Znanje, percepcija, životni stil, gojaznost, prekomerna uhranjenost

Uvod

Gojaznost se definiše kao abnormalna akumulacija masti u organizmu u meri u kojoj može ugroziti zdravlje (1). Podrazumeva indeks telesne mase (engl. *body mass index*, BMI) ≥ 30 kg/m² (2). Gojaznost predstavlja značajan javnozdravstveni problem (2,3). Prema podacima Svetske zdravstvene organizacije (engl. *World Health Organization*, WHO) oko 600 miliona ljudi u svetu je gojazno (2,3). Zbog gojaznosti svake godine umre 2,8 miliona ljudi (4). Etiopatogeneza gojaznosti je multifaktorijalna (2).

Primarna gojaznost je posledica energetskeg disbalansa, odnosno unošenja hranljivih materija koje prevazilazi nivo energetske potrošnje (2,5). Sekundarna gojaznost je retka i nastaje kao rezultat endokrinih i genetičkih poremećaja, lezija centralnog nervnog sistema i jatrogenih uzroka (1). Gojaznost, naročito abdominalna, je povezana sa metaboličko-hormonalnim komplikacijama, bolestima organskih sistema, malignim bolestima, mehaničkim i psihosocijalnim komplikacijama (1). Dijagnostička evaluacija gojaznih podrazumeva anamnezu (uključujući

LIFESTYLE, KNOWLEDGE AND ATTITUDE ABOUT OBESITY AMONG OVERWEIGHT AND OBESE PERSONS

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SUMMARY

Introduction/Aim: The aim of the study was to examine the impact of sociodemographic factors and body mass index on knowledge, attitude and perception of obesity in overweight and obese individuals.

Methods: A cross-sectional study included 96 overweight and obese persons registered at the Health Center "Krupa on the Una River" from October 1st, 2018 to October 1st, 2019. A general questionnaire and a questionnaire assessing knowledge, attitude and practice of obesity (KAP) were used in the study.

Results: A cross-sectional study included 96 participants, that is, 66 (68.8%) overweight participants and 30 (31.3%) obese participants (obesity class I 29.2%, obesity class II 1%, obesity class III 1%). 52 (54.2%) men and 44 (45.8%) women participated in the study. The mean age of the study population was 56.0 ± 3.2 years. 5 (5.2%) research participants had university education, 61 (63.5%) had some form of secondary education, while 30 (31.3%) completed only primary school. The study participants had no insight into the definition and meaning of body mass index, while knowledge of the basic principles of healthy eating and obesity therapy was low. Knowledge about the comorbidities of obesity proved to be satisfactory. Most of the respondents were aware of their obesity, felt that it could endanger their health and felt depressed because of their weight. The participants in the study had a sedentary lifestyle and unhealthy nutrition (excessive energy intake). The assessment of knowledge and perception of obesity was significantly ($p < 0.05$) better in persons with a higher level of education (61.0 ± 1.0 and 68.0 ± 6.1) in comparison to persons with a lower level of education (41.0 ± 6.7 and 59.0 ± 2.1). Obese persons significantly more frequently had a lower score of knowledge (36.0 ± 3.4) and perception of obesity (56.0 ± 3.1) in comparison to overweight people (40.0 ± 2.2 and 62.0 ± 1.7) ($p < 0.05$).

Conclusion: In the family medicine clinic, it is necessary to intensify health education (with emphasis on people with lower education and the high body mass index) and to find factors that would more actively encourage the change of lifestyle of overweight and obese people.

Key words: Knowledge, perception, lifestyle, obesity, overweight

Introduction

Obesity is defined as abnormal fat accumulation that presents a risk to health (1). People are considered obese when their body mass index (BMI) is $> 30 \text{ kg/m}^2$ (2). Obesity is a significant public health problem (2,3). According to the data of the World Health Organization, there are around 600 million obese people worldwide (2,3). Each year around 2.8 million people die as a result of being obese (4). The etiopathogenesis of obesity is multifactorial (2).

Primary obesity is a consequence of an

energy imbalance, that is, energy intake which exceeds energy expenditure (2,5). Secondary obesity is rare, and it occurs as a consequence of endocrine and genetic disorders, lesions of the central nervous system and iatrogenesis (1). Obesity, especially abdominal, is associated with metabolic-hormonal complications, diseases of organ systems, malignant diseases, mechanical and psychosocial complications (1). Obesity diagnostics consists of anamnesis (including lifestyle, knowledge and perception of obesity), physical examination, laboratory testing and the electrocardiogram (6). Obesity treatment

stil života, znanje i precepciju gojaznosti), fizikalni pregled, laboratorijsku obradu i elektrokardiogram (6). Terapija gojaznosti obuhvata dijetski režim ishrane, programiranu fizičku aktivnost, medikamentoznu terapiju, hirurško lečenje, biheviornalnu terapiju i psihološku podršku (2).

Veliki broj istraživanja ukazuje na sveprisutnije nepoznavanje osnovnih principa pravilne ishrane, pogrešnu identifikaciju telesne težine i nezdrav profil životnog stila. Ženski pol, starija životna dob i nizak stepen obrazovanja identifikovani su kao najkonstantiji sociodemografski etiološki faktori. Povezanost životnog stila i gojaznosti je dvosmerna, odnosno ne samo da sedentarni način života i nepravilna ishrana uzrokuju gojaznost, već ona rezultuje fizičkom neaktivnošću i ekscesivnim energetske unosom (7-9).

Ovo istraživanje je imalo za cilj da ispita uticaj sociodemografskih faktora i indeksa telesne mase na stil života, znanje i precepciju gojaznosti kod prekomerno uhranjenih i gojaznih osoba.

Metode

Ova studija preseka sprovedena je u Domu zdravlja Krupa na Uni (Republika Srpska, Bosna i Hercegovina) u periodu od 12 meseci, od 01.10.2018. do 01.10.2019. godine. Studijom je obuhvaćeno 96 prekomerno uhranjenih i gojaznih osoba koje su se sukcesivno javljale u ambulantu porodične medicine zbog pregleda ili administrativnih razloga. Istraživanje je sprovedeno u toku redovnog rada sa pacijentima.

Kriterijumi za uključivanje u istraživanje bili su: starost između 20 i 79 godina, završena osnovna škola, indeks telesne mase ≥ 25 kg/m². Iz studije su isključene osobe sa indeksom telesne mase < 25 kg/m², starosti < 20 i > 79 godina, kao i sve osobe sa psihotičnim poremećajem, malignim i uznapredovalim hroničnim oboljenjima (insuficijencija jetre, dekompenzacija srca i hronična bubrežna insuficijencija).

Podaci su prikupljeni fizikalnim pregledom, sociodemografskim upitnikom izrađenim za potrebe istraživanja i specifičnim upitnikom o stilu života, znanju i precepciji gojaznosti (engl. *Knowledge, attitude, and practice questionnaire*

about obesity, KAP). Fizikalnim pregledom je merena telesna težina i visina da bi se izračunao indeks telesne mase (ITM), a koji se dobija kao količnik telesne mase, izražene u kilogramima, i kvadrata visine, izražene u metrima. Telesna visina merena je pomičnim visinometrom sa gradacijom od 1cm. Prilikom merenja ispitanici su stajali na ravnoj podlozi, imali su sastavljene pete, ispravljen kičmeni stub i glavu u položaju „Frankfurtske horizontale“ (vodoravna linija od donje ivice leve orbite do gornje ivice levog spoljašnjeg slušnog kanala). Telesna težina merena je pomoću medicinske decimalne vage. Prilikom merenja učesnici istraživanja su bili bosi, obučeni samo u donji veš. Prema ITM razlikovali smo ispitanike sa: prekomernom uhranjenošću (BMI = 25,0 – 29,99 kg/m²), gojaznošću I stepena (BMI = 30,0 – 34,99 kg/m²), gojaznošću II stepena (BMI = 35,0 – 39,99 kg/m²) i gojaznošću III stepena (BMI ≥ 40 kg/m²) (10). Opštim upitnikom prikupljeni su sociodemografski podaci (pol, uzrast, stepen obrazovanja).

Upitnik o stilu života, znanju i precepciji gojaznosti sastoji se od 42 pitanja podeljenih u tri domena: 14 pitanja o znanju (poznavanje osnova pravilne ishrane, komplikacija gojaznosti i terapije gojaznosti), 15 pitanja o precepciji (precepcija telesne težine i motivacija za terapiju gojaznosti) i 13 pitanja o stilu života (prehrambene navike i nivo fizičke aktivnosti u svakodnevnom životu) (8). Za svako pitanje ispitanici su imali pet ponuđenih odgovora (upitnik je dizajniran po principu petostepene Likertove skale) (8). Najbolji mogući odgovor dobijao je ocenu 5, a pogrešan ocenu 1 (8). Za svakog ispitanika izračunat je zbir ocena za svaki domen upitnika. Upitnik ima zadovoljavajuću validnost i unutrašnju konzistentnost (koeficijent pouzdanosti Kronbah alfa za svaki domen iznosi 0,75, 0,75, i 0,63) (11). U statističkoj analizi podataka korišćen je hi-kvadrat (χ^2) test i studentov t-test.

Rezultati

Istraživanje je obuhvatilo 96 ispitanika, od kojih su 54,2% činili muškarci, a 45,8% žene (tabela 1). Najveći broj ispitanika (63,5%) bili su uzrasta 40-59 godina. Prosečna starost ispitivane populacije je bila 56,0 \pm 3,2 godine.

includes dietary regimen, programmed physical activity, pharmacological treatment, surgical treatment, behavioral therapy and psychological support (2).

A large number of studies point to the ubiquitous lack of understanding of the basic principles of good nutrition, inaccurate body mass index values and unhealthy lifestyle. Female gender, older age and lower level of education have been identified as the constant sociodemographic and etiological factors. The relationship between lifestyle and obesity is a two-way relationship. It means that sedentary lifestyle and unhealthy diet cause obesity, as well as that obesity results in physical inactivity and excessive energy intake (7,9).

The aim of this research was to examine the influence of sociodemographic factors and the body mass index on lifestyle, knowledge and perception of obesity in overweight and obese people.

Methods

A cross-sectional study was conducted at the Health Center "Krupa on the Una River" (The Republic of Srpska, Bosnia and Herzegovina) during the period of twelve months, between October 1st, 2018 and October 1st, 2019. The study included 96 overweight and obese people, who visited their family doctor's office in order to be examined or due to administrative reasons. The research study was conducted during the regular work with patients.

The criteria for the inclusion in the study were the following: age between 20 and 79 years, at least 8 grades of primary education, the body mass index $> 25 \text{ kg/m}^2$. All examinees with the body mass index $< 25 \text{ kg/m}^2$, younger than 20 and older than 79 were excluded from the study, as well as all persons with the psychotic disorder, malignant and advanced chronic diseases (liver failure, cardiac decompensation and chronic renal insufficiency).

Data were collected during the physical examination, using the sociodemographic questionnaire made for the needs of this research and the specific questionnaire assessing knowledge, attitude and practices about obesity. Body weight and height were measured during the physical examination,

aimed at calculating the body mass index, whose formula is weight in kilograms divided by height in meters squared. Height was measured in centimetres with a sliding stadiometer. The participants stood on a horizontal platform with their heels together, stretched their head and back upwards in the position of the "Frankfort horizontal" (horizontal line from the lowest point of the margin of the left orbit to the upper margin of the external opening of the left ear). Weight was measured in decimals using medical weighing scales. During this measurement, the research participants were barefoot, wearing only their underwear. According to the BMI, the participants were: overweight (BMI = 25-29.99 kg/m^2), obese class I (BMI = 30.0-34.99 kg/m^2), obese class II (BMI = 35.0-39.99 kg/m^2), and obese class III (BMI $> 40 \text{ kg/m}^2$) (10). Sociodemographic data were collected with the help of the general questionnaire (gender, age, level of education).

The questionnaire about the lifestyle, knowledge and perception of obesity consists of 42 questions divided into three domains: 14 questions about knowledge (knowledge about the basic principles of a healthy diet, obesity complications, obesity treatment), 15 questions about perception (perception of weight and motivation for obesity treatment), and 13 questions about lifestyle (dietary regimen and the level of daily physical activity) (8). There were five options for each question (the questionnaire was designed according to a five-point Likert scale) (8). The best possible answer got the mark 5, while the incorrect answer got the mark 1 (8). The sum total for each domain of the questionnaire was calculated for each respondent. The questionnaire has satisfactory validity and internal consistency (confidence coefficient - Cronbach's alpha for each domain amounts to 0.75, 0.75 and 0.63) (11). A chi-square test and student's t-test were used in the statistical analysis of data.

Results

The research included 96 participants, that is, 54.2% of men and 45.8% of women (Table 1). The largest number of participants (63.5%) was aged 40-59 years. The mean age of the examined population was 56.0 ± 3.2 years. Women were

Tabela 1. Distribucija ispitanika prema polu, uzrastu i stepenu obrazovanja

Uzrast (godine)/ Age (years)	Muškarci (Men) Broj (%) / No (%)	Žene (Women) Broj (%) / No (%)	Osnovna škola / (Primary school) Broj (%) / No (%)	Srednja škola / (High school) Broj (%) / No (%)	Fakultet/ College Broj (%) / No (%)	Ukupno/ Total
20-59	45 (46.9)	21 (21.8)	2 (2.1)	59 (61.5)	5 (5.2)	66 (68.7)
60-79	7 (7.3)	23 (24.0)	20 (20.8)	10 (10.4)	0 (0.0)	30 (31.3)
Ukupno/ Total	52 (54.2)	44 (45.8)	22 (22.9)	69 (71.9)	5 (5.2)	96 (100)
p vrednost/ p value	> 0.05		< 0.05			

*p vrednost prema hi kvadrat testu

Žene su bile značajno starije od muškaraca. Najveći broj ispitanika (63,5%) je imalo srednje, 31,3% osnovno, a najmanje (5,2%) visoko obrazovanje. Ispitanici životne dobi 60-79 godina imali su značajno niži stepen obrazovanja.

Prekomerno uhranjenih je bilo 68,8% ispitanika, a gojaznih 31,2% (gojaznost I stepena imalo je 29,2%, gojaznost II stepena 1% i gojaznost III stepena 1% ispitanika) (tabela 2).

Definiciju i značaj ITM i potencijalnu opasnost od abdominalne gojaznosti razumelo je 2,1% ispitanika (tabela 3). Veći deo ispitanika sa prekomernom telesnom težinom i gojaznošću smatrao je da postoji veza gojaznosti sa kardiovaskularnim bolestima (72,9%) i dijabetesom (58,3%), ali ne i sa osteoartritisom (5,2%). Svega 8,3% ispitanika je smatralo da je preskakanje obroka štetno. Učesnici u istraživanju su donekle poznavali značaj prekomerne upotrebe šećera (70,8%) i rafinisane hrane (39,6%) za nastanak gojaznosti, dok je svest o negativom uticaju zaslađenih

napitaka (11,4%) i pržene hrane (19,8%) značajno zaostajala. Samo mali procenat ispitanika (14,6%) je smatrao da postoji veza između stresa i gojaznosti, kao i da je moguće značajno redukovati telesnu težinu bez upotrebe lekova (11,4%) i suplemenata (13,5%). Svega 11,4% ispitanika je bilo mišljenja da su redovne aerobne vežbe značajne za gubitak kilograma.

Gojaznim se smatralo 46,9% ispitanika, dok je njih 58,3% postojeću telesnu težinu videlo kao potencijalno štetnu po zdravlje (tabela 4). Probleme sa održavanjem konstantne telesne težine imalo je 22,9% učesnika u istraživanju. Samo 16,7% ispitanika je znalo da se u terapiji gojaznosti preporučuju mali i česti obroci, a 24,0% redovan doručak. Za redukciju telesne težine bilo je motivisano 66,7% ispitanika. Učesnici istraživanja su smatrali da u ishrani mogu redukovati slatkiše (61,5%), prženu hranu (58,3%) i grickalice (72,9%), povećati intenzitet fizičke aktivnosti (36,5%), obim kućnih poslova (57,3), pešačenje (77,1%) i korištenje stepenica (44,8%). Postojećim obimom fizičke aktivnosti

Tabela 2. Stepen uhranjenosti ispitanika (izražen u kg/m²)

Stepen uhranjenosti/ Nutritional status	Broj (%) / No (%)	Ukupno/ Total
Prekomerna uhranjenost (BMI 25.0 - 29.99) / Overweight (BMI 25.0 - 29.99)	66 (68.8%)	66 (68.8%)
Gojaznost I stepena (BMI 30.0 - 34.99) / I degree obesity (BMI 30.0 - 34.99)	28 (29.2%)	
Gojaznost II stepena (BMI 35.0 - 39.9) / II degree obesity (BMI 35.0 - 39.99)	1 (1.0%)	30 (31.2%)
Gojaznost III stepena (BMI ≥ 40) / III degree obesity (BMI ≥ 40)	1 (1.0%)	

*p vrednost prema hi kvadrat testu <0.05

Table 1. Distribution of participants by gender, age and level of education

Uzrast (godine)/ Age (years)	Muškarci (Men) Broj (%) / No (%)	Žene (Women) Broj (%) / No (%)	Osnovna škola / (Primary school) Broj (%) / No (%)	Srednja škola / (High school) Broj (%) / No (%)	Fakultet/ College Broj (%) / No (%)	Ukupno/ Total
20-59	45 (46.9)	21 (21.8)	2 (2.1)	59 (61.5)	5 (5.2)	66 (68.7)
60-79	7 (7.3)	23 (24.0)	20 (20.8)	10 (10.4)	0 (0.0)	30 (31.3)
Ukupno/ Total	52 (54.2)	44 (45.8)	22 (22.9)	69 (71.9)	5 (5.2)	96 (100)
p vrednost/ p value	> 0.05		< 0.05			

*p value according to chi square test

significantly older than men. The largest number of respondents (63.5%) had some form of secondary education, 31.3% primary education, and 5.2% university education. The respondents in the age group 60-79 years had a significantly lower level of education.

68.8% of participants were overweight, while 31.2% of them were obese (29.2% had class I obesity, 1% had class II obesity and 1% had class III obesity) (Table 2).

2.1% of participants understood the definition and significance of the BMI and the potential danger of abdominal obesity (Table 3). A larger number of overweight and obese respondents realized the connection between obesity and cardiovascular diseases (72.9%), between obesity and diabetes (58.3%), but they did not realize the connection between obesity and osteoarthritis (5.2%). Only 8.3% of respondents thought that skipping meals was harmful. The research participants realized, to a certain extent, the significance of excessive sugar consumption (70.8%) and refined foods

intake for the appearance of obesity, whereas the awareness of the negative influence of sugar-sweetened beverages (11.4%) and fried food (19.8%) lagged behind. Only a little percentage of respondents (14.6%) thought that there was a connection between stress and obesity, as well as that body weight could be significantly reduced without drugs (11.4%) and supplements (13.5%). Only 11.4% of respondents thought that regular aerobic exercise was an important part of weight loss.

46.9% of respondents were deemed to be obese, while 58.3% of them thought that the present body weight was potentially harmful to their health (Table 4). 22.9% of research participants had problems with maintaining the constant body weight. Only 16.7% of respondents knew that small and frequent meals were recommended in obesity treatment, while 24.0% of them knew that regular breakfast was recommended, as well. 66.7% of respondents were motivated to lose weight. The research participants thought that they could reduce

Table 2. Participants nutritional status (kg/m²)

Stepen uhranjenosti/ Nutritional status	Broj (%) / No (%)	Ukupno/ Total
Prekomerna uhranjenost (BMI 25.0 - 29.99) / Overweight (BMI 25.0 - 29.99)	66 (68.8%)	66 (68.8%)
Gojaznost I stepena (BMI 30.0 - 34.99) / I degree obesity (BMI 30.0 - 34.99)	28 (29.2%)	
Gojaznost II stepena (BMI 35.0 - 39.9) / II degree obesity (BMI 35.0 - 39.99)	1 (1.0%)	30 (31.2%)
Gojaznost III stepena (BMI ≥ 40) / III degree obesity (BMI ≥ 40)	1 (1.0%)	

p value according to chi square test <0.05

bilo je zadovoljno 27,1% ispitanika. Telesna težina je bila uzrok depresije kod 56,2% ispitanika.

Na tabeli 5 prikazan je stil života ispitanika. Značajan broj ispitanika je naveo da uvek jede slatkiše nakon obroka (62,5%), da stavlja u kafu dodatni šećer (46,9%), više od tri puta sedmično

pije zaslađene napitke (65,6%) i konzumira prženu hranu (86,5%) i pojede jedno pakovanje grickalica u toku dana (61,5%). S druge strane voće su konzumirali veoma retko (jednom u petnaest dana, 60,4%). Većinom su imali tri glavna obroka i dve užine (59,4%), ali i dodatne obroke kada su pod stresom (68,8%).

Tabela 3. Znanje ispitanika o gojaznosti (N=96)

Znanje/ <i>Knowledge</i>	Tačan odgovor/ <i>Correct answer</i>	Verovatno tačan odgovor/ <i>Probably the correct answer</i>	Netačan odgovor/ <i>Incorrect answer</i>	Verovatno netačan odgovor/ <i>Probably incorrect answer</i>	Ne znam/ <i>I do not know</i>
Poznavanje indeksa telesne mase/ <i>Knowledge of body mass index</i>	2 (2.1%)	2 (2.1%)	4 (4.2%)	14 (14.6%)	74 (77.0%)
Posledice abdominalne gojaznosti/ <i>Consequences of abdominal obesity</i>	2 (2.1 %)	2 (2.1%)	10 (10.4%)	12 (12.5%)	70 (72.9%)
Gojaznost doprinosi razvoju kardiovaskularnih bolesti/ <i>Obesity predisposes to cardiovascular disease</i>	70 (72.9%)	16 (16.7%)	3 (3.1%)	2 (2.1%)	5 (5.2%)
Gojaznost doprinosi razvoju dijabetesa/ <i>Obesity predisposes to diabetes</i>	56 (58.3%)	9 (9.4%)	16 (16.7%)	6 (6.2%)	9 (9.4%)
Gojaznost doprinosi razvoju osteoartritisa/ <i>Obesity predisposes to osteoarthritis</i>	5 (5.2%)	11 (11.4%)	19 (19.8%)	9 (9.4%)	52 (54.2%)
Preskakanje obroka je štetno za zdravlje/ <i>Skipping meals is bad for health</i>	8 (8.3%)	7 (7.3%)	45 (46.9%)	12 (12.5%)	24 (25.0%)
Prekomerna upotreba šećera dovodi do gojaznosti/ <i>Excessive use of sugar leads to obesity</i>	68 (70.8%)	9 (9.4%)	7 (7.3%)	4 (4.2%)	8 (8.3%)
Konzumiranje zaslađenih napitaka dovodi do gojaznosti/ <i>Consuming sweetened drinks leads to obesity</i>	11 (11.4%)	7 (7.3%)	54 (56.3%)	2 (2.1%)	22 (22.9%)
Konzumiranje pržene hrane dovodi do gojaznosti/ <i>Consumption of fried foods leads to obesity</i>	19 (19.8%)	10 (10.4%)	41 (42.7%)	4 (4.2%)	22 (22.9%)
Konzumiranje rafinisane hrane dovodi do gojaznosti/ <i>Consuming refined foods leads to obesity</i>	38 (39.6%)	21 (21.9%)	12 (12.5%)	8 (8.3%)	17 (17.7%)
Konstantan stres dovodi do gojaznosti/ <i>Constant stress leads to obesity</i>	14 (14.6%)	12 (12.5%)	10 (10.4%)	16 (16.7%)	44 (45.8%)
Aerobne vežbe imaju značajnu ulogu u redukciji telesne težine/ <i>Aerobic exercise plays a significant role in weight reduction</i>	11 (11.4%)	14 (14.6%)	43 (44.8%)	16 (15.7%)	12 (12.5%)
Lekovi imaju značajnu ulogu u redukciji telesne težine/ <i>Drugs play a significant role in weight reduction</i>	13 (13.5%)	6 (6.2%)	23 (24.0%)	3 (3.1%)	51 (53.1%)
Redukcija telesne težine zahteva upotrebu suplemenata/ <i>Weight reduction requires the use of supplements</i>	11 (11.4%)	9 (9.4%)	24 (25.0%)	2 (2.1%)	60 (52.1%)

sweets (61.5%), fried food (58.3%) and snacks (72.9%), increase the intensity of physical activity (36.5%), the bulk of house chores (57.3%), walking (77.1%) and using stairs (44.8%). 27.1% of respondents were satisfied with the existing level of physical activity. Body

weight was a cause of depression in 56.2% of respondents.

Respondents' lifestyle is presented in Table 5. A significant number of respondents stated that they ate sweets after the meal (62.5%), put extra sugar in their coffee (46.9%), drank sugar-

Table 3. Knowledge regarding obesity among the participants (N=96)

Znanje/ Knowledge	Tačan odgovor/ Correct answer	Verovatno tačan odgovor/ Probably the correct answer	Netačan odgovor/ Incorrect answer	Verovatno netačan odgovor/ Probably incorrect answer	Ne znam/ I do not know
Poznavanje indeksa telesne mase/ Knowledge of body mass index	2 (2.1%)	2 (2.1%)	4 (4.2%)	14 (14.6%)	74 (77.0%)
Posledice abdominalne gojaznosti/ Consequences of abdominal obesity	2 (2.1 %)	2 (2.1%)	10 (10.4%)	12 (12.5%)	70 (72.9%)
Gojaznost doprinosi razvoju kardiovaskularnih bolesti/ Obesity predisposes to cardiovascular disease	70 (72.9%)	16 (16.7%)	3 (3.1%)	2 (2.1%)	5 (5.2%)
Gojaznost doprinosi razvoju dijabetesa/ Obesity predisposes to diabetes	56 (58.3%)	9 (9.4%)	16 (16.7%)	6 (6.2%)	9 (9.4%)
Gojaznost doprinosi razvoju osteoartritisa/ Obesity predisposes to osteoarthritis	5 (5.2%)	11 (11.4%)	19 (19.8%)	9 (9.4%)	52 (54.2%)
Preskakanje obroka je štetno za zdravlje/ Skipping meals is bad for health	8 (8.3%)	7 (7.3%)	45 (46.9%)	12 (12.5%)	24 (25.0%)
Prekomerna upotreba šećera dovodi do gojaznosti/ Excessive use of sugar leads to obesity	68 (70.8%)	9 (9.4%)	7 (7.3%)	4 (4.2%)	8 (8.3%)
Konzumiranje zaslađenih napitaka dovodi do gojaznosti/ Consuming sweetened drinks leads to obesity	11 (11.4%)	7 (7.3%)	54 (56.3%)	2 (2.1%)	22 (22.9%)
Konzumiranje pržene hrane dovodi do gojaznosti/ Consumption of fried foods leads to obesity	19 (19.8%)	10 (10.4%)	41 (42.7%)	4 (4.2%)	22 (22.9%)
Konzumiranje rafinisane hrane dovodi do gojaznosti/ Consuming refined foods leads to obesity	38 (39.6%)	21 (21.9%)	12 (12.5%)	8 (8.3%)	17 (17.7%)
Konstantan stres dovodi do gojaznosti/ Constant stress leads to obesity	14 (14.6%)	12 (12.5%)	10 (10.4%)	16 (16.7%)	44 (45.8%)
Aerobne vežbe imaju značajnu ulogu u redukciji telesne težine/ Aerobic exercise plays a significant role in weight reduction	11 (11.4%)	14 (14.6%)	43 (44.8%)	16 (15.7%)	12 (12.5%)
Lekovi imaju značajnu ulogu u redukciji telesne težine/ Drugs play a significant role in weight reduction	13 (13.5%)	6 (6.2%)	23 (24.0%)	3 (3.1%)	51 (53.1%)
Redukcija telesne težine zahteva upotrebu suplemenata/ Weight reduction requires the use of supplements	11 (11.4%)	9 (9.4%)	24 (25.0%)	2 (2.1%)	60 (52.1%)

Tabela 4. Percepcija gojaznosti ispitanika (N=96)

Percepcija/ <i>Attitude</i>	Definitivno/ <i>Definitely</i>	Verovatno/ <i>Probably</i>	Verovatno da/ <i>Probably yes</i>	Definitivno ne/ <i>Probably not</i>	Ne znam/ <i>I do not know</i>
Smatram se gojaznim/ <i>I consider myself obese</i>	45 (46.9%)	18 (18.8%)	15 (15.6%)	8 (8.3%)	10 (10.4%)
Moja težina je štetna za moje zdravlje/ <i>My weight is bad for my health</i>	56 (58.3%)	17(17.7%)	9 (9.4%)	7 (7.3%)	7 (7.3%)
Motivisan sam za gubitak kilograma/ <i>I am motivated to lose weight</i>	64 (66.7%)	6 (6.2%)	21 (21.9%)	2 (2.1%)	3 (3.1%)
Teško mi je održavati težinu stalnom/ <i>It's hard for me to keep my weight constant</i>	22 (22.9%)	6 (6.2%)	59 (61.5%)	5 (5.2%)	4 (4.2%)
Redovan doručak je važan deo ishrane/ <i>Regular breakfast is an important part of your diet</i>	23 (24.0%)	5 (5.2%)	63 (65.6%)	3 (3.1%)	2(2.1%)
Mali i česti obroci su važni za mršavljenje/ <i>Small and frequent meals are important for weight loss</i>	16 (16.7%)	12 (12.5%)	45 (46.9%)	8 (8.3%)	15 (15.6%)
Spreman sam da redukujem slatkiše u ishrani/ <i>I am ready to reduce sweets in my diet</i>	59 (61.5%)	18 (18.8%)	11 (11.4%)	3 (3.1%)	5 (5.2%)
Spreman sam da prestanem konzumirati prženu hranu/ <i>I am ready to stop consuming fried foods</i>	56 (58.3%)	14 (14.6%)	10 (10.4%)	12 (12.5%)	4 (4.2%)
Spremam sam da grickalice zamenem salatam/ <i>I am ready to replace the snacks with a salad</i>	70 (72.9%)	17 (17.7%)	3 (3.1%)	2 (2.1%)	4 (4.2%)
Zadovoljan sam nivoom fizičke aktivnosti/ <i>I am satisfied with the level of physical activity</i>	26 (27.1%)	13 (13.5%)	42 (43.8%)	7 (7.3%)	8 (8.3%)
Spreman sam da se više bavim sportom/ <i>I am ready to do more sports</i>	35 (36.5%)	26 (27.1%)	26 (27.1%)	6 (6.2%)	3 (3.1%)
Spreman sam da obavljam više kućnih poslova/ <i>I am ready to do more housework</i>	55 (57.3%)	17 (17.7%)	10 (10.4%)	7 (7.3%)	7 (7.3%)
Spreman sam da umesto lifta koristim stepenice/ <i>I am ready to use the stairs instead of the elevator</i>	43 (44.8%)	11 (11.4%)	31 (32.3%)	7 (7.3%)	4 (4.2%)
Spreman sam da hodam do obližnjih mesta/ <i>I am ready to walk to nearby places</i>	74 (77.1%)	4 (4.2%)	14 (14.6%)	3 (3.1%)	1 (1.0%)
Depresivan sam zbog svoje težine/ <i>I am depressed because of my weight</i>	54 (56.2%)	7 (7.3%)	22 (22.9%)	9 (9.4%)	4 (4.2%)

Table 4. Attitude regarding obesity among the participants (N=96)

Percepcija/ <i>Attitude</i>	Definitivno/ <i>Definitely</i>	Verovatno/ <i>Probably</i>	Verovatno da/ <i>Probably yes</i>	Definitivno ne/ <i>Probably not</i>	Ne znam/ <i>I do not know</i>
Smatram se gojaznim/ <i>I consider myself obese</i>	45 (46.9%)	18 (18.8%)	15 (15.6%)	8 (8.3%)	10 (10.4%)
Moja težina je štetna za moje zdravlje/ <i>My weight is bad for my health</i>	56 (58.3%)	17(17.7%)	9 (9.4%)	7 (7.3%)	7 (7.3%)
Motivisan sam za gubitak kilograma/ <i>I am motivated to lose weight</i>	64 (66.7%)	6 (6.2%)	21 (21.9%)	2 (2.1%)	3 (3.1%)
Teško mi je održavati težinu stalnom/ <i>It's hard for me to keep my weight constant</i>	22 (22.9%)	6 (6.2%)	59 (61.5%)	5 (5.2%)	4 (4.2%)
Redovan doručak je važan deo ishrane/<i>Regular breakfast is an important part of your diet</i>	23 (24.0%)	5 (5.2%)	63 (65.6%)	3 (3.1%)	2(2.1%)
Mali i česti obroci su važni za mršavljenje/<i>Small and frequent meals are important for weight loss</i>	16 (16.7%)	12 (12.5%)	45 (46.9%)	8 (8.3%)	15 (15.6%)
Spreman sam da redukujem slatkiše u ishrani/ <i>I am ready to reduce sweets in my diet</i>	59 (61.5%)	18 (18.8%)	11 (11.4%)	3 (3.1%)	5 (5.2%)
Spreman sam da prestanem konzumirati prženu hranu/ <i>I am ready to stop consuming fried foods</i>	56 (58.3%)	14 (14.6%)	10 (10.4%)	12 (12.5%)	4 (4.2%)
Spremam sam da grickalice zamenem salatom/ <i>I am ready to replace the snacks with a salad</i>	70 (72.9%)	17 (17.7%)	3 (3.1%)	2 (2.1%)	4 (4.2%)
Zadovoljan sam nivoom fizičke aktivnosti/ <i>I am satisfied with the level of physical activity</i>	26 (27.1%)	13 (13.5%)	42 (43.8%)	7 (7.3%)	8 (8.3%)
Spreman sam da se više bavim sportom/ <i>I am ready to do more sports</i>	35 (36.5%)	26 (27.1%)	26 (27.1%)	6 (6.2%)	3 (3.1%)
Spreman sam da obavljam više kućnih poslova/ <i>I am ready to do more housework</i>	55 (57.3%)	17 (17.7%)	10 (10.4%)	7 (7.3%)	7 (7.3%)
Spreman sam da umesto lifta koristim stepenice/ <i>I am ready to use the stairs instead of the elevator</i>	43 (44.8%)	11 (11.4%)	31 (32.3%)	7 (7.3%)	4 (4.2%)
Spreman sam da hodam do obližnjih mesta/ <i>I am ready to walk to nearby places</i>	74 (77.1%)	4 (4.2%)	14 (14.6%)	3 (3.1%)	1 (1.0%)
Depresivan sam zbog svoje težine/ <i>I am depressed because of my weight</i>	54 (56.2%)	7 (7.3%)	22 (22.9%)	9 (9.4%)	4 (4.2%)

Ponekad im je bila potrebna pomoć u obavljanju kućnih poslova (58,3%). Veoma retko su vežbali, jednom u petnaest dana (84,4%), kraće od 15 minuta (87,5%). Sa intenzivnim treningom su planirali početi u narednih 6 meseci (84,4%). Učesnici u istraživanju nisu razgovarali sa lekarom o terapiji gojaznosti (88,5%).

Ocena znanja i percepcije o gojaznosti je bila značajno ($p < 0,05$) bolja kod osoba sa višim ($61,0 \pm 1,0$ i $68,0 \pm 6,1$) nego sa nižim ($41,0 \pm 6,7$ i $59,0 \pm 2,1$) obrazovanjem. Osobe koje su bile gojazne značajno su češće imale nižu ocenu znanja ($36,0 \pm 3,4$) i percepciju ($56,0 \pm 3,1$)

o gojaznosti, nego osobe sa prekomernom telesnom težinom ($40,0 \pm 2,2$ i $62,0 \pm 1,7$) ($p < 0,05$). Nije postojala značajna razlika u znanju i percepciji gojaznosti u odnosu na uzrast i pol ispitanika ($p > 0,05$). Sociodemografski faktori nisu značajno uticali na životni stil ispitanika ($p > 0,05$).

Diskusija

U našoj studiji ispitanici sa prekomernom telesnom težinom i gojaznošću nisu imali adekvatno znanje o gojaznosti. Gotovo da nisu imali uvid u definiciju i značenje indeksa telesne mase, dok je poznavanje osnovnih principa

Tabela 5. Stil života ispitanika (N=96)

<i>Stil života/ Lifestyle</i>	<i>Uvek/ Always</i>	<i>Vrlo često/ Very often</i>	<i>Ponekad/ Sometimes</i>	<i>Retko/ Rarely</i>	<i>Nikada/ Never</i>
<i>U kafu ili čaj stavljam dodatni šećer/ I put extra sugar in coffee or tea</i>	45 (46.9%)	5 (5.2%)	38 (39.6%)	6 (6.2%)	2 (2.1%)
<i>Jedem slatkiše nakon obroka/ I eat sweets after meals</i>	60 (62.5%)	17 (17.7%)	16 (16.7%)	2 (2.1%)	1 (1.0%)
<i>Drugi mi pomažu u obavljanju kućnih poslova/ Others help me with houseworks</i>	4 (4.2%)	23 (24.0%)	56 (58.3%)	10 (10.4%)	3 (3.1%)
<i>Jedem više kad sam pod stresom/ I eat more when I am stressed</i>	66 (68.8%)	13 (13.5%)	9 (9.4%)	6 (6.2%)	2 (2.1%)
<i>Konzumiram napitke zaslađene šećerom/ I consume sweetened drinks</i>	63 (65.6%)	8 (8.3%)	13 (13.5%)	9 (9.4%)	5 (5.2%)
<i>Konzumiram prženu hranu/ I consume fried foods</i>	83 (86.5%)	5 (5.2%)	4 (4.2%)	3 (3.1%)	1 (1.0%)
<i>Koliko često imam tri glavna obroka i dve užine/ How often do I have three main meals and two snacks</i>	57 (59.4%)	20 (20.8%)	15 (15.6%)	2 (2.1%)	2 (2.1%)
<i>Savetujem se sa svojim lekarom o mršavljenju/ I consult with my doctor about losing weight</i>	1 (1.0%)	4 (4.2%)	4 (4.2%)	2 (2.1%)	85 (88.5%)
<i>Koliko često vežbam/ How often do I exercise</i>	5 (5.2%)	2 (2.1%)	5 (5.2%)	3 (3.1%)	81 (84.4%)
<i>Koliko dugo vežbam/ How long do I exercise</i>	3 (3.1%)	2 (2.1%)	4 (4.2%)	3 (3.1%)	84 (87.5%)
<i>Koliko često konzumiram voće / How often do I consume fruit</i>	11 (11.4%)	9 (9.4%)	12 (12.5%)	58 (60.4%)	6 (6.2%)
<i>Koliko često konzumiram grickalice/ How often do I consume snacks</i>	8 (8.3%)	11 (11.4%)	14 (14.6%)	59 (61.5%)	4 (4.2%)
<i>Redovno vežbam ili planiram početi za 6 meseci/ Exercise regularly or plan to start in 6 months</i>	3 (3.1%)	3 (3.1%)	7 (7.3%)	81 (84.4%)	2 (2.1%)

sweetened beverages more than three times a week (65.6%), ate fried food (86.5%), and ate one packet of snacks daily (61.5%). On the other hand, they ate fruit rarely (once in fifteen days, 60.4%). Most of them had three main meals and two light meals (59.4%), but also some additional meals when they were under stress (68.8%).

They sometimes needed help in doing the housework (58.3%). They exercised very rarely, once in fifteen days (84.4%), shorter than 15 minutes (87.5%). They planned to start the intense exercise program in the following 6 months (84.4%). The research participants

did not talk about obesity treatment with their doctor (88.5%).

The assessment of knowledge and perception of obesity was significantly better ($p < 0.05$) in persons with higher education (61.0 ± 1.0 and 68.0 ± 6.1) than in persons with lower education (41.0 ± 6.7 and 59.0 ± 2.1). Obese people had significantly more frequently a lower score regarding knowledge (36.0 ± 3.4) and perception (56.0 ± 3.1) of obesity than people who were overweight (40.0 ± 2.2 and 62.0 ± 1.7) ($p < 0.05$). There was no significant difference regarding knowledge and perception of obesity in relation to respondents' age and

Table 5. Participants lifestyle (N = 96)

<i>Stil života/ Lifestyle</i>	<i>Uvek/ Always</i>	<i>Vrlo često/ Very often</i>	<i>Ponekad/ Sometimes</i>	<i>Retko/ Rarely</i>	<i>Nikada/ Never</i>
<i>U kafu ili čaj stavljam dodatni šećer/ I put extra sugar in coffee or tea</i>	45 (46.9%)	5 (5.2%)	38 (39.6%)	6 (6.2%)	2 (2.1%)
<i>Jedem slatkiše nakon obroka/ I eat sweets after meals</i>	60 (62.5%)	17 (17.7%)	16 (16.7%)	2 (2.1%)	1 (1.0%)
<i>Drugi mi pomažu u obavljanju kućnih poslova/ Others help me with houseworks</i>	4 (4.2%)	23 (24.0%)	56 (58.3%)	10 (10.4%)	3 (3.1%)
<i>Jedem više kad sam pod stresom/ I eat more when I am stressed</i>	66 (68.8%)	13 (13.5%)	9 (9.4%)	6 (6.2%)	2 (2.1%)
<i>Konзумiram napitke zaslađene šećerom/ I consume sweetened drinks</i>	63 (65.6%)	8 (8.3%)	13 (13.5%)	9 (9.4%)	5 (5.2%)
<i>Konзумiram prženu hranu/ I consume fried foods</i>	83 (86.5%)	5 (5.2%)	4 (4.2%)	3 (3.1%)	1 (1.0%)
<i>Koliko često imam tri glavna obroka i dve užine/ How often do I have three main meals and two snacks</i>	57 (59.4%)	20 (20.8%)	15 (15.6%)	2 (2.1%)	2 (2.1%)
<i>Savetujem se sa svojim lekarom o mršavljenju/ I consult with my doctor about losing weight</i>	1 (1.0%)	4 (4.2%)	4 (4.2%)	2 (2.1%)	85 (88.5%)
<i>Koliko često vežbam/ How often do I exercise</i>	5 (5.2%)	2 (2.1%)	5 (5.2%)	3 (3.1%)	81 (84.4%)
<i>Koliko dugo vežbam/ wHow long do I exercise</i>	3 (3.1%)	2 (2.1%)	4 (4.2%)	3 (3.1%)	84 (87.5%)
<i>Koliko često konzumiram voće / How often do I consume fruit</i>	11 (11.4%)	9 (9.4%)	12 (12.5%)	58 (60.4%)	6 (6.2%)
<i>Koliko često konzumiram grickalice/ How often do I consume snacks</i>	8 (8.3%)	11 (11.4%)	14 (14.6%)	59 (61.5%)	4 (4.2%)
<i>Redovno vežbam ili planiram početi za 6 meseci/ Exercise regularly or plan to start in 6 months</i>	3 (3.1%)	3 (3.1%)	7 (7.3%)	81 (84.4%)	2 (2.1%)

Tabela 6. Životni stil, znanje i percepcija gojaznosti ispitanika u odnosu na različite sociodemografske karakteristike i indeks telesne mase

<i>Karakteristike/ Characteristics</i>	Ocena znanja o gojaznosti/ Knowledge score $\bar{X} \pm SD$	Ocena o percepciji gojaznosti/ Attitude score $\bar{X} \pm SD$	Ocena o životnom stilu/ Practice score $\bar{X} \pm SD$
Muškarci/ Men	41.0±2.0	62.0±1.8	27.0±1.4
Žene/ Women	43.0±1.7	60,0±2.4	28.0±1.7
p vrednost/ p value	>0.05	>0.05	>0.05
Uzrast 20-59 godina/ 20-59 years of age	43.0±8.8	59.0±4.1	27.0±3.2
Uzrast 60-79 godina/ 60-79 years of age	40.0±2.4	64.0±0.98	28.0±1.2
p vrednost/ p value	>0.05	>0.05	>0.05
Osnovna škola/ Primary school	41.0±6.7	59.0±2.1	27.0±0.9
Srednja škola i fakultet / High school and college	61.0±1.0	68.0±6.1	28.0±7.8
p vrednost/ p value	<0.05	<0.05	>0.05
Prekomerna uhranjenost/ Overweight	40.0±2.2	62.0±1.7	28.0±1.3
Gojaznost / Obesity	36.0±3.4	56.0±3.1	25.0±1.7
p vrednost/ p value	<0.05	<0.05	>0.05

p vrednost prema t-testu

zdrave ishrane i terapije gojaznosti bilo nisko. Znanje o komorbiditetima gojaznosti pokazalo se kao zadovoljavajuće. U istraživanju grupe američkih autora svega 14,5% pacijenata u primarnoj zdravstvenoj zaštiti je poznavalo kategorije uhranjenosti definisane ITM (12). Četvorogodišnja studija provedena u Zapadnoj Virđžiniji (Sjedinjene Američke Države) koja je obuhvatila 33 ruralne ambulante porodične medicine utvrdila je skromno povećanje znanja pacijenata o ITM uprkos intenzivnom radu lekara specijalista porodične medicine na prevenciji gojaznosti (13). Studije sprovedene u Gani i Bangladešu o stilu života, znanju i percepciji gojaznosti pacijenata obolelih od dijabetesa melitusa tipa 2, hospitalizovanih na Klinici za endokrinologiju, imale su slične rezultate kada je u pitanju poznavanje komorbiditeta gojaznosti i osnovnih principa zdrave ishrane (većina ispitanika je smatrala da bezalkoholna pića i brza hrana spadaju u zdravu hranu) (14,15). Navedene studije pokazale su

značajno bolje poznavanje terapije gojaznosti kod ispitanika (tj. većina ispitanika smatrala je da redukovanje ishrane ima presudnu ulogu u terapiji gojaznosti) (14,15). Činjenica da se radi o hospitalizovanim pacijentima koji su imali priliku za edukaciju o prevenciji i lečenju gojaznosti mogla bi objasniti navedene razlike (14,15).

U našem istraživanju osobe sa višim stepenom obrazovanja imale su značajno više skorove za znanje i percepciju o gojaznosti, a gojazne osobe značajno niže skorove za znanje i percepciju o gojaznosti. Studija grupe američkih autora o poznavanju komplikacija gojaznosti kod afroameričkog stanovništva verifikovala je značajno veće poznavanje komorbiditeta kod fakultetski obrazovanih učesnika istraživanja (16). Fakultetsko obrazovanje autori su povezali sa višim socioekonomskim statusom i boljim pristupom zdravstvenim informacijama (16). Istraživanje sprovedeno među prekomerno uhranjenim adolescentima u Americi naglašava

Table 6. Knowledge, attitude and practice score of the participants according to different socio demographic characteristics and body mass index

<i>Karakteristike/ Characteristics</i>	Ocena znanja o gojaznosti/ Knowledge score $\bar{X} \pm SD$	Ocena o percepciji gojaznosti/ Attitude score $\bar{X} \pm SD$	Ocena o životnom stilu/ Practice score $\bar{X} \pm SD$
Muškarci/ Men	41.0±2.0	62.0±1.8	27.0±1.4
Žene/ Women	43.0±1.7	60,0±2.4	28.0±1.7
p vrednost/ p value	>0.05	>0.05	>0.05
Uzrast 20-59 godina/ 20-59 years of age	43.0±8.8	59.0±4.1	27.0±3.2
Uzrast 60-79 godina/ 60-79 years of age	40.0±2.4	64.0±0.98	28.0±1.2
p vrednost/ p value	>0.05	>0.05	>0.05
Osnovna škola/ Primary school	41.0±6.7	59.0±2.1	27.0±0.9
Srednja škola i fakultet / High school and college	61.0±1.0	68.0±6.1	28.0±7.8
p vrednost/ p value	<0.05	<0.05	>0.05
Prekomerna uhranjenost/ Overweight	40.0±2.2	62.0±1.7	28.0±1.3
Gojaznost / Obesity	36.0±3.4	56.0±3.1	25.0±1.7
p vrednost/ p value	<0.05	<0.05	>0.05

p value according to t-test

gender ($p > 0.05$). Sociodemographic factors influenced significantly the respondents' lifestyle ($p > 0.05$).

Discussion

In our study, obese and overweight people did not have adequate knowledge of obesity. They almost did not have insight into the definition and meaning of the body mass index, while their understanding of basic principles of good nutrition and obesity treatment was low. It was found that knowledge about comorbidities of obesity was satisfactory.

In the research of the group of American authors, only 14.5% of patients in the primary health care knew the categories of obesity, defined by the BMI (12). It was found in a four-year study, which was conducted in West Virginia (United States of America) and which included 33 rural family medicine clinics, that patients' knowledge about BMI increased modestly, although primary care physicians worked on

preventing obesity. Studies conducted in Ghana and Bangladesh about lifestyle, knowledge and perception of obesity among patients with diabetes mellitus type 2, who were hospitalized in the Endocrinology Clinic, had similar results regarding knowledge about obesity comorbidities and basic principles of a healthy diet (most respondents thought that soft drinks and fast food were healthy) (14,15). The above mentioned studies showed a significantly better understanding of obesity treatment among respondents (most of the respondents thought that reducing the intake of food had a pivotal role in obesity treatment) (14,15). The stated difference could be explained by the fact that the hospitalized patients had an opportunity to be educated about the prevention and obesity treatment (14,15).

In our research, persons with a higher level of education had significantly higher scores regarding knowledge and perception of obesity, while obese persons had significantly

značaj sociokulturnih faktora u poznavanju gojaznosti (17).

U našem istraživanju, gotovo polovina učesnika bila je svesna svoje gojaznost, smatrali su da im gojaznost može ugroziti zdravlje i da se zbog gojaznosti osećaju depresivno. Među ispitanicima je postojala visoka motivacija za terapijom gojaznosti. Pogrešna percepcija telesne težine u istraživanju je bila povezana sa nižim stepenom obrazovanja i visokim ITM.

Desetogodišnja studija američkih autora o percepciji gojaznosti došla je do zaključka da je pogrešna percepcija gojaznosti češća kod pripadnika etničkih manjina, muškaraca i osoba nižeg obrazovnog statusa (14,18). Među afroameričkim ženama još uvek vlada percepcija da je gojaznost znak dobrog življenja (18,19). Stoga je i stepen obrazovanja kod pripadnika etničkih manjina snažnije povezan sa percepcijom gojaznosti kod osoba ženskog pola (18,19). Novije studije ukazuju na značajno pogoršanje percepcije gojaznosti među muškarcima (18,19). Statistički značajno povećanje gojaznosti među muškarcima u poslednjih 50 godina navodi se kao potencijalno objašnjenje (18,19). Longitudinalne studije u trajanju od deset godina utvrdile su da gojazne žene imaju za 38% veću mogućnost za nastanak depresije u odnosu na opštu populaciju (20). Pored endokrinoloških (poremećaj u funkcionisanju osovine hipotalamus-hipofizadubreg), sigurno je da i psihološki faktori (poremećaji u telesnoj estetici) doprinose nastanku depresije kod gojaznih osoba (20).

Većina učesnika u našem istraživanju imala je sedentarni način života i nepravilnu ishranu (ekscesivni energetske unos). Sociodemografski faktori i ITM nisu pokazali statistički značajan uticaj na stil života ispitanika.

Studije sprovedene u Gani i Bangladešu koje su ispitivale režim ishrane hospitalizovanih pacijenata obolelih od dijabetesa melitusa tipa 2 došle su do sličnih rezultata (većina ispitanika preferira prženu i brzu hranu) (14,15). Na sveprisutniji trend sedentarnog ponašanja ukazuje istraživanje sprovedeno na Tajvanu koje je utvrdilo da mlađe osobe provode 450 minuta dnevno u sedentarnim aktivnostima (gledanje televizora, korišćenje kompjutera, mobilnog telefona i sl.) (21). Studija o sedentarnom ponašanju gojazne dece i omladine u Srbiji

došla je do sličnih zaključaka, prosečno vreme uz kompjuter i televizor je bilo 4,9 sati (21).

Zaključak

Znanje i percepcija gojaznosti su značajno niži kod osoba nižeg stepena obrazovanja i gojaznih. Sociodemografske karakteristike i vrednost ITM ne pokazuju značajan uticaj na životni stil prekomerno uhranjenih i gojaznih osoba. Potrebno je intenzivirati zdravstveno vaspitni rad u ambulanti porodične medicine s ciljem edukacije (sa naglaskom na osobe sa nižim obrazovanjem i visokim ITM) i iznalaženja faktora koji bi aktivnije podstakli promenu životnog stila prekomerno uhranjenih i gojaznih osoba.

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lower scores regarding knowledge and perception of obesity. A study of the group of American authors about obesity complications among the African American population verified a significantly higher understanding of comorbidities among the participants with university education (16). The authors associated the university education with the higher socioeconomic status and better access to health information (16). The research was conducted among the overweight adolescents in America and it pointed to the significance of socio-cultural factors for understanding obesity (on the basis of simulation, it was shown that at the same level of socioeconomic status there was a significant difference depending on the ethnic affiliation) (17).

In our research, almost a half of the respondents were aware of their obesity. They realized that obesity could harm their health and that they were depressed due to obesity. The respondents were highly motivated to treat obesity. A wrong perception of body weight in the research was associated with the lower level of education and the high body mass index.

A ten-year study of American authors about the perception of obesity came to a conclusion that a wrong perception of obesity was more frequent among the members of ethnic minorities, men and people with a lower level of education (14,18). A perception of obesity as a sign of good health was still present among the African American women. Therefore, the level of education among the members of ethnic minorities was strongly associated with the perception of obesity among women (18,19). The recent studies have pointed to the significant worsening of the perception of obesity among men (18,19). It has been claimed that a statistically significant increase in obesity among men during the last 50 years could be a potential explanation (18,19). Longitudinal studies, lasting ten years, found that obese women had a 38% increased risk of depression in comparison to the general population (20). Beside the endocrinological factors (disorders of hypothalamic-pituitary-adrenal axis), psychological factors (body dysmorphic disorders) certainly contributed to depression in obese people (20).

Most of the respondents in our research

had a sedentary lifestyle and an unhealthy diet (excessive energy intake). Sociodemographic factors and the BMI did not show a statistically significant influence on respondents' lifestyle.

The studies, which were conducted in Ghana and Bangladesh and which examined dietary regimen of hospitalized patients with type 2 diabetes mellitus, came to similar results (most respondents preferred fried and fast food) (14,15). The research conducted in Taiwan, which found that young people spent 450 minutes daily engaged in sedentary activities (watching television, using the computer and mobile phone, etc.), pointed to the ubiquitous trend of sedentary behavior (21). A study about the sedentary behavior of obese children and adolescents in Serbia came to a similar conclusion. The average time spent in front of TV or computer was 4.9 hours (21).

Conclusion

Knowledge and perception of obesity are significantly lower in people with a lower level of education and in obese people. Sociodemographic characteristics and the body mass index value do not have the significant influence on lifestyle of overweight and obese people. It is necessary to intensify the health education work in the family medicine clinic aimed at educating (with the emphasis on people with the lower level of education and high body mass index) and finding factors, which would more actively support the change of lifestyle of overweight and obese people.

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