

PUBLIC HEALTH

Peculiarities of medical students' nutrition

Lina Škėmienė, Rūta Ustinavičienė, Loreta Piešinė, Ričardas Radišauskas

Department of Environmental and Occupational Medicine, Kaunas University of Medicine, Lithuania

Key words: medical students; nutrition; proteins; fats; carbohydrates; nutrition habits; nutrition regimen.

Summary. The aim of the study was to investigate the peculiarities of medical students' nutrition, to compare the dietary habits between first-year and third-year students, to compare male and female students' nutrition, and to evaluate the tendencies of its change.

Material and methods. An anonymous survey using a specially designed questionnaire was carried out on 349 first- and third-year students of the Faculties of Medicine and Pharmacy at Kaunas University of Medicine. Students' factual nutrition was evaluated by the number of meals per day, the time of eating, and the frequency of consumption of food products. The findings of the questionnaire-based study were stored in a database and analyzed using Excel software. Statistical relationships were determined using EPI Info software by applying the nonparametric χ^2 criterion. Statistical significance was determined using Student's criterion.

Results. The nutrition of first- and third-year students is irregular and differs in the time and number of meals. Only 20% of students daily ate 400 g of fruit and vegetables as recommended by the World Health Organization. Medical students, especially males, used excessive amounts of animal fat. Every seventh student consumed too salty food. Medical students consumed insufficient amounts of bread, potatoes, cereals, and other products that constitute the basis of the pyramid of healthy nutrition. Twenty-three percent of males and nearly as many females used alcohol once per week. Nearly one-half of students did not exercise at all, and 9.1% of third-year female and 14.5% of third-year male students were overweight.

Conclusions. The majority of students did not follow the dietary regimen and consumed the majority of food products during the second half of the day. Students' nutrition was not balanced – medical students consumed too much fat, especially those of animal origin. Students consumed insufficient amounts of vegetable fats and fish products, fruit and vegetables, and thus their food may lack soluble dietary fibers and vitamins. First-year and third-year female students used vegetable oils more frequently, used more vegetables, and complied with dietary regimen more often than male students. The nutrition of first- and third-year students does not differ statistically significantly. Alternative types of nutrition (vegetarian nutrition and various diets) are not popular among medical students.

Introduction

Healthy nutrition is one of the main health-protecting lifestyle factors and elements of disease prevention. The majority of European countries, including Lithuania, are preparing national strategies for food safety and improvement of quality and population's nutrition, where people's health is given the priority.

Scientifically based education of the society about healthy nutrition is an important means of the implementation of this strategy (1). Following the resolution of the Government of the Republic of Lithuania, a plan for the State Food and Nutrition Strategy and its implementation measures for 2003–2010 was prepared and approved on October 23, 2003 (The resolution of the

Government of the Republic of Lithuania No. 1325) (2). Healthy and full-value nutrition influences a person's physical and mental development, working capacity, and life expectancy. Healthy nutrition is the basis of health. According to the findings of various scientists, dietary habits determine our health status by 25–30% (1, 2). It is especially relevant to ensure that medical students know and value that. They are future medical specialists who will advise patients on how and what they should eat in order to avoid various chronic noninfectious diseases, will increase the knowledge level in the population, and will promote interest in the influence of lifestyle and nutrition on health status.

The aim of the study was to investigate the peculiarities of medical students' nutrition, to compare the dietary habits between first-year and third-year students, to compare male and female students' nutrition, and to evaluate the tendencies of its change.

Material and methods

The study on medical students' nutrition was performed during September–November 2005. An anonymous survey of 335 first- and third-year students (237 females and 98 males) using a specially designed questionnaire was conducted in the Faculties of Medicine and Pharmacy at Kaunas University of Medicine. Students' nutrition was evaluated by the students' responses about the number of meals per day, the time of eating, and the frequency of consumption of food products (how frequently during the day they consumed bread, vegetables, fish, *etc.*). We also studied students' evaluation of vegetarianism and diets. In addition, students in the questionnaires indicated how frequently they consumed soft drinks with sweeteners and alcohol.

The findings of the questionnaire-based study were stored in a database and analyzed using Excel software. Statistical relationships were determined using EPI Info software by applying the nonparametric χ^2 criterion. Statistical significance was determined using Student's criterion.

Results

The nutrition of medical students is not healthy, and first- and third-year students do not eat regularly. Forty percent of first-year female students and 54.7% of male students did not comply with the dietary regimen. Less than one-third (29.5%) of third-year female students and 46.3% of male students did not eat regularly either. The number of meals and the time of eating differed. Only 31.0% of first-year students (32.2% of females and 29.8% of males) ate 4 times

per day. Every third first-year student and every second third-year student ate twice a day. Only 1.7% of first-year female students and 1.8% of third-year female students ate once a day. No male students ate once per day. The time of supper differed as well. Male students tended to have their last meal for the day later than females. There was a statistically significant difference in the evaluation of dietary regimen between males and females. More than half (51.0%) of first- and third-year male students indicated that they did not follow the dietary regimen, whereas the respective percentage of first- and third-year female students was 34.6% ($\chi^2=0.047$; $df=3$; $P<0.05$).

More than half (50.4%) of first-year female students and 36.8% of first-year male students stated that they ate moderately and without haste. The remaining ate in a hurry and frequently overate. The responses of third-year students were similar – 52.5% of females and 37.0% of males ate in moderation.

The majority (83.5%) of first-year female students and 64.9% males stated that their body weight was normal. Only 4.3% of first-year female students and 15.8% of first-year male students were overweight.

More than half (52.1%) of first-year female students and 43.9% of their male peers indicated that they did not exercise at all, and the respective percentages among third-year female and male students were 41.0% and 24.4%. Only 1.7% of first-year female students and 3.5% of their male peers were seriously engaged in sports (were members of sports teams), and the respective percentages among third-year female and male students were 2.5% and 9.8%. There was no statistically significant difference in physical activity between males and females. Nearly one-third (30.1%) of first- and third-year female students and 35.7% of males stated that they exercised two days per week ($P>0.05$). Less than a quarter (21.2%) of first- and third-year female students and 22.4% of males stated that they exercised three or four days per week ($P>0.05$).

The results of the survey showed that 93.0% of first-year female students and 96.5% of their male peers were not vegetarians. The majority of third-year students (86.1% of females and 95.1% of males) ate food of both animal and plant origin. Table 1 shows the distribution of first- and third-year students according to type of vegetarians to which first- and third-year students attributed themselves. About 33% of first-year students and 34.1% of third-year students thought that the effect of vegetarianism on the organism was questionable. More than one-third (36.8%)

Table 1. The distribution of first- and third-year students in relation to the type of nutrition

Category	Female students		Male students	
	First-year	Third-year	First-year	Third-year
Not vegetarian	107 (93.0 %)	105 (86.0 %)	55 (96.5 %)	39 (95.1 %)
I am lactovegetarian	0	3 (2.5 %)	0	1 (2.45 %)
I am ovolactovegetarian	3 (2.6 %)	1 (0.8 %)	0	0
I am semivegetarian	4 (3.5 %)	13 (10.7 %)	1 (1.75 %)	1 (2.45 %)
I am vegan	1 (0.9 %)	0	1 (1.75 %)	0
Total	115 (100 %)	122 (100 %)	57 (100 %)	41 (100 %)

of first-year students and 39.6% of third-year students thought that vegetarian nutrition was beneficial in the presence of certain disorders. Approximately 8.6% of first-year students and 14.0% of third-year students thought that vegetarian nutrition was harmful to the organism.

Only 13.0% of first-year female students and 7.0% of their male peers stated that their income did not allow them to eat what they wanted. The respective percentages among third-year female and male students were 7.4% and 14.6%. Every second student stated that they were able to choose the food products they wanted.

Only 50.4% of first-year female students and 43.9% of their male peers stated that they every day ate bread, cereals, noodles, and potatoes. The respective percentages of third-year female and male students were 50.8% and 48.8%.

The majority of students (59.1% of first-year female students and 52.6% of first-year male students) consumed up to 100–300 g of vegetables daily. Only 16.5% of first-year female students and 10.5% of their male peers consumed more than 400 g of fresh fruit and vegetables every day. Similar findings were obtained among third-year students – only 14.8% of females and 4.9% of males consumed at least 400 g of fruit and vegetables as recommended by the World health Organization (WHO).

There was a significant difference in the consumption of fruit and vegetables between males and females. Nearly a quarter (21.5%) of first- and third-year female students and 35.7% of their male peers stated that they rarely consumed fruit or vegetables ($P<0.05$). Females consumed 400 g or more of fruit or vegetables more frequently, compared to males (15.6% of first- and third-year female students, compared to 8.2% of first- and third-year male students) ($P<0.05$).

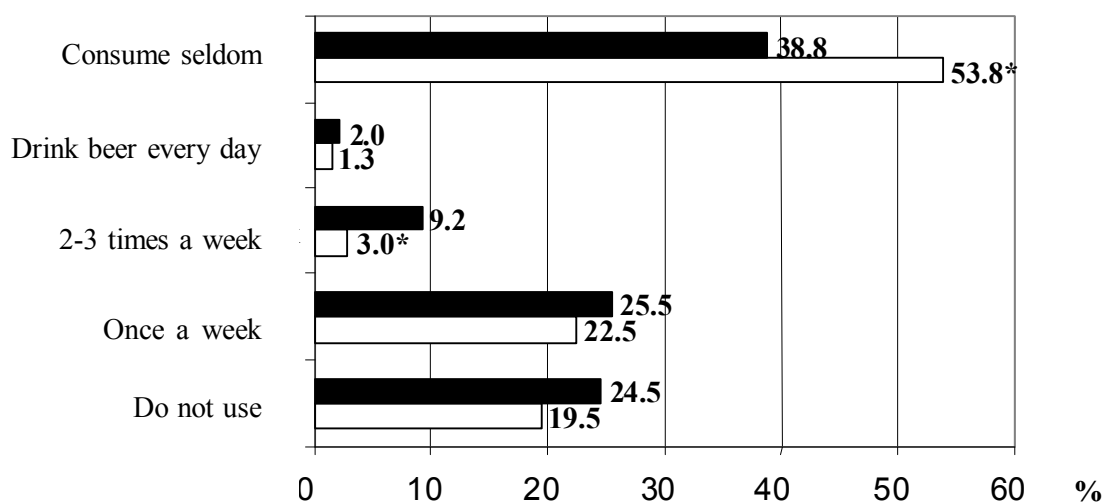
First-year female students used vegetable fats more frequently than males (accordingly, 72.2% and 56.3%, $P<0.05$). The respective percentages for third-year female and male students were 62.3% and 53.7%, $P<0.05$.

We determined a statistically significant association only between the consumption of vegetable fats and sex ($\chi^2=17.77$; $df=2$; $P=0.001$). Females consumed only vegetable fats more frequently than males (17.5% of first- and third-year female students and 7.1% of first- and third-year male students). Nearly one-fifth of first-year female students (15.7%) and 10.5% of their male peers consumed exclusively fats of plant origin ($P>0.05$), whereas the respective percentages among third-year females and males were 18.9% and 2.4% ($P<0.05$).

More than half (55.7%) of first-year female students and 54.4% of their male peers consumed fish or

Table 2. Fish consumption among first- and third-year students

Category	First-year students		Third-year students	
	female	male	female	male
Do not eat	40 (34,8 %)	18 (31,6 %)	22 (18,2 %)	11 (26,8 %)
One time a week	64 (55,6 %)	31 (54,4 %)	77 (63,6 %)	26 (63,4 %)
2-3 times a week	10 (8,7 %)	8 (14,0 %)	16 (13,2 %)	3 (7,3 %)
Almost everyday, >4 times a week	1 (0,9 %)	0	6 (5,0 %)	1 (2,5 %)



Pav. The consumption of alcoholic beverages among students

$$\chi^2=10.24, p=0.04.$$

* $p<0.05$ comparing males and females.

fish products once a week; the percentages among third-year females and males were 63.1% and 63.4%, respectively. The frequency of consumption of fish and fish products is presented in Table 2.

Only every tenth first- and third-year female student and every fifth male consumed soft drinks with sweeteners. Less than half (44.4%) of first- and third-year female students and 35.7% of their male peers consumed soft drinks with sweeteners occasionally. More than one-third (37.1%) of first- and third-year female students and every fifth male student did not consume soft drinks with sweeteners at all. Three percent of first- and third-year female students and 9.2% of males consumed alcohol 2–3 times per week. The consumption of alcohol among medical students is presented in Fig.

There were no statistically significant differences in the consumption of salt between males and females. The majority (70.5%) of first- and third-year female students and 76.5% of first- and third-year male students stated that they consumed moderate amounts of salt. More than 13% of first- and third-year female students and 10.2% of their male peers stated that they ate salty food; 16.5% of first- and third-year female students and 13.3% of their male peers stated that they did not use additional salt in their food.

A part of students prepared their food at home. Nearly a quarter (23.8%) of first- and third-year female students and 14.3% of their male peers ($P<0.05$) ate homemade food only once a week.

Medical students were interested in the influence of diets on health status. More than one-third (39.3%) of first- and third-year female students and 21.4% of their male peers stated that they had been on a diet. Thus, females were on a diet more frequently, compared to males ($P<0.05$).

Students performed a self-evaluation of their dietary habits. More than a quarter (28.1%) of first-year female students and 22.8% of their male peers evaluated their nutrition as unhealthy and containing much “fast” fatty food. The percentages for third-year female and male students were 17.2% and 29.3%, respectively ($P<0.05$). A part of students would like to change their dietary habits; 16.7% of first-year female students and 23.1% of third-year female students ($P<0.05$) stated that they would not do that. The respective percentages for first- and third-year male students were 22.1% and 26.4% ($P>0.05$). Forty-nine percent of first-year female students and 34.9% of their male peers stated that during their studies they would like to get more information on healthy nutrition; the respective percentages of third-year female and male students were 45.1% and 24.4%. Females were more interested in studies of healthy nutrition than males ($P<0.05$).

Students additionally consumed dietary supplements and vitamins. More than half (67.5%) of first-year female students and 52.6% of their male peers additionally consumed vitamins; the respective percentages of third-year female and male students were

72.9% and 46.3% ($P < 0.05$). Only 4.4% of first-year female students and 3.5% of their male peers and 3.3% and 7.3% of third-year female and male students, respectively, consumed dietary supplements ($P < 0.05$). Nearly a quarter (22.8%) of first-year female students and 40.4% of their male peers and, accordingly, 21.3% and 41.5% of third-year female and male students did not consume any supplements ($P < 0.05$).

The evaluation of students' attitude towards the importance of nutrition to human health showed that, according to the respondents, nearly 50% of human health is influenced by nutrition. Such opinion was stated by 60.5% of first-year female students and by 87.1% of third-year students; the respective percentages of first- and third-year male students were 51.2% and 71.1%. Nearly a quarter (23.7%) of first-year female students and 90.1% of third-year female students, as well as 36.6% and 89.0% of first- and third-year male students, respectively, thought that eating habits influenced their health status by 26–35% ($P < 0.05$).

Discussion

Studies in a higher educational institution significantly differ from learning at secondary school. Rapid pace of studies and life, financial problems, and related changes in nutrition influence students' health (3). Studies of medicine are especially intensive, and students simply lack time for eating, which results in disturbances in the nutrition regimen, *i.e.* the number of meals eaten per day and amount of food eaten during separate meals. It is very important to eat at the same time every day, since in this case at the time of eating the stomach secretes more gastric juice, appetite increases, and the food is more rapidly digested after the meal (4). Digestion is highly influenced by conditional-reflexive reactions, secretion of saliva, and habits of eating at the same time. More than one-third (34.6%) of first- and third-year female students and 51.1% of their male peers did not comply with dietary regimen at all. Irregular nutrition entails gastric diseases and various digestive disorders more often. An adult person needs 3–4 meals per day, and breakfast and lunch should contain more than two-thirds of the calories of the daily ration, and supper – less than one-third (4). According to the findings of our study, the majority of medical students had their supper between 20 PM and midnight. Supper should take place at around two hours before sleep, preferably before 20 PM.

In order to prevent weight gain, balance should be maintained between the energy obtained from food and that consumed during different activities. A modern person moves less and less during work and lei-

sure time and spends much time driving or sitting at the computer or TV. Housekeeping has also become easier, and thus energy consumption has decreased significantly. Studies showed that low physical activity is a risk factor for a number of diseases (ischemic heart disease, arterial hypertension, colon cancer, non-insulin-dependent diabetes mellitus, and, naturally, obesity) (1, 5). In 2003 in Arkansas (US), a national program was implemented aimed at the prevention of overweight in children. The American Academy of Pediatrics and the Medical Association recommend yearly evaluation of body mass index in children and its comparison with the parents' body mass index (BMI) as a way to fight overweight. The YRBS (Youth Risk Behavior Surveillance) inquiry of 2003 showed that 27.0% of students of higher educational institutions had overweight or were prone to obesity (6). The examination of 264 students in Semmelweis University, Budapest (Hungary), showed that overweight and abdominal obesity predominated among male students. The article indicated that overweight was greatly influenced by improper diet and lack of knowledge about healthy nutrition (7). The evaluation of first-year students showed that 4.3% of females and 15.8% of males were overweight, and the respective percentages among third-year females and males were 9.0% and 14.6%. Physical activity is especially important in controlling body weight, since excess energy is converted into fat and is stored in the body. The recommended duration of movement is at least 30 minutes daily to improve respiration and to stimulate perspiration. One can choose the most accessible and most pleasurable form of physical activity, such as walking, swimming, bicycling, or playing basketball or volleyball.

According to the findings of a study of college students, performed in the US, 35% of students had BMI exceeding 25. Less than half (46%) of students tried to correct their body weight; of these, 54% of females and 41% of males increased physical activity and were on a diet to control their weight (8). An interesting comparative study was performed on female students of Japan and Korea. Japanese students cared more about ideal BMI and followed the dietary regimen more frequently, compared to Korean female students (9). The evaluation of students' dietary habits by sex in the US showed that females cared more about their body weight and used physical exercise for body mass correction more frequently (10).

Nearly half of daily energy should be obtained from bread, cereals, noodles, or potatoes. Such nutrition was

observed in 50.4% of first-year female students and 43.9% of their male peers, as well as in 50.8% of third-year female students and 48.8% of their male peers. These food products contain very little fat and a lot of fiber. Especially much fiber is found in baked products made from coarse flour. Food with sufficient amounts of fiber stimulates intestinal peristalsis and prevents constipation, diverticulosis, and hemorrhoid. The results of scientific studies showed that dietary fiber protects from colon cancer. There is an erroneous belief that eating bread and potatoes may promote obesity more than eating other products. However, the energetic value of starches is lower than that of fats or alcohol (1, 11).

Only approximately 20% of students ate 400 g of fruit and vegetables daily, as recommended by the WHO. The rest of the subjects consumed significantly lesser amounts of fruit and vegetables. A study was performed on the relationship between fruit and vegetable consumption and health among medical students in Crete, Greece (12). The consumption of fruits and vegetables was directly associated with the assimilation of dietary fiber, calcium, magnesium, potassium, folic acid, and vitamins and inversely associated with saturation of *trans*-fatty acids and cholesterol. Soluble dietary fibers, pectins, found in apples, currants, gooseberries, and other fruits and berries have the cholesterol-lowering effect. The fruits and vegetables have antioxidants and polyphenols, which protect stomach epithelium from inflammation, induced by *Helicobacter pylori* infection, or the formation of endogenic carcinogens, nitrosamines, in the stomach (13). Potassium, magnesium, and calcium found in fruits and vegetables decrease the risk of arterial hypertension, and B-group vitamins, including vitamin B₆ and folic acid, protect the organism from anemia. Vitamin C improves assimilation of iron from plant products. The lack of antioxidants (carotenoids and vitamins C and E) in food is a risk factor for cardiovascular diseases and malignant tumors (1, 14).

Fatty meat and milk products contain a lot saturated fatty acids. These fatty acids increase blood cholesterol levels. Cholesterol starts to accumulate on blood vessel walls, which leads to the development of atherosclerosis that can manifest itself through ischemic heart disease or stroke (5, 14). The fat of sea fish (herring, tuna, mackerel, and salmon) and other sea animals contains omega-3 polyunsaturated fatty acids with long chain of carbon atoms (eicosapentaenoic and docosahexaenoic acids). These fatty acids lower blood triglyceride concentration, platelet aggregation, and blood coagulability and thus reduce the risk of throm-

boses. Polyunsaturated fatty acids are essential for the vital activity of the organism. The human body does not synthesize linolic and linolenic acids, and thus they must be obtained with food. Linolic acid is the main component of most vegetable oils (sunflower, soy, or corn). Omega-6 polyunsaturated fatty acids improve the assimilation of antioxidants (vitamin E and carotenoids) and lower LDL cholesterol levels in blood (14). Fats should not make up more than 30% of the energy of daily dietary ration, and vegetable fats should constitute the major part of total fats consumed. However, according to the findings of our study, 11.3% of first-year female students and 28.1% of their male peers, as well as 18% of third-year female students and 41.5% of their male peers consumed fats of animal origin. One-sixth of all polyunsaturated fatty acids should be omega-3 fatty acids found in fish fat. More than half (55.7%) of first-year female students and 54.4% of their male peers consumed fish products once a week. The respective percentages among third-year female and male students were 63.1% and 63.4%. As many as 34.8% of first-year female students and 31.6% of their male peers indicated that they did not consume fish products at all; the percentages among third-year females and males were 18.0% and 26.8%, respectively. Only 1.2% of first-year students and 2.1% of third-year students consumed fish products every day. Similar results were obtained during the investigation of students at Białystok University of Medicine in Poland. More than half of male and female students consumed fish once a week, and this tendency remained throughout the their studies (15).

According to the findings of our study, 22.5% of first- and third-year female students and 23.4% of their male peers consumed alcohol, mostly beer, once a week; 1.3% of first- and third-year female students and 2.1% of their male peers drank beer every day. More than 3% of first- and third-year female students and 9.2% of their male peers stated that they consumed alcohol two-three times per week. Upon entering the human organism, alcohol rapidly passes into the bloodstream and affects the central nervous system, especially the most important part of it – the cerebral cortex that is highly sensitive. In 1987, the International Center for Cancer Research announced that there is a direct relationship between alcohol consumption and the development oral, pharyngeal, laryngeal, esophageal, and liver cancer. The most recent scientific literature presents data indicating that beer consumption is a risk factor for colon cancer (16).

The total amount of salt in food per day, including salt obtained from smoked, salted, and canned products as well as from bread, should not exceed one teaspoonful (6 g), as recommended by the WHO. Our respondents (13.1% of first- and third-year female students and 10.2% of their male peers) indicated that they consumed salty food. Consumption of abundant amounts of salt promotes the development of arterial hypertension. The influence of salt on the development of arterial hypertension is indicated in a number of scientific studies (1, 17).

Vegetarianism in Lithuania, as in other countries, is gaining in popularity. Only 7% of the investigated students were ovo- or lactovegetarians. Only 1.8% of first-year male students were vegans. The majority of vegetarians do not eat only meat, but they do consume dairy products, fish, and eggs. Therefore, they will not lack proteins if they consume sufficient amounts of food. Meat is an important source of iron, zinc, and B group vitamins, and therefore vegetarians should think about alternative sources of these nutrients. The real vegetarians who eat only vegetable products do not get vitamin B₁₂, and thus they need to consume it additionally. They may also lack calcium that is mostly obtained from dairy products. Such people should eat sufficient amounts of legumes and nuts to avoid the lack of proteins in the diet (1, 17). The majority of medical students were not vegetarians. It is interesting to note that 10.7% of third-year female students and 3.5% of their male peers were semivegetarians. Ischemic heart disease is less common among vegetarians than among those who eat meat. Vegetarian diets usually contain significantly lesser amounts of fats, including saturated fats and cholesterol, compared to meat-containing diets. Vegetarian food contains a lot of nondigestible dietary fiber, which is another factor that decreases blood lipid levels. This was demonstrated in detailed studies performed in Philadelphia

Pharmacy College, where the influence of vegetarianism on the health of students of the Faculty of Pharmacy was investigated (18).

Only a small part of medical students used dietary supplements, and approximately 60–70% of all subjects used various vitamins. First- and third-year female students used dietary supplements more frequently. If a person eats various meals containing sufficient amounts of fresh fruit and vegetables and follows other rules of healthy nutrition, he/she obtains all the necessary nutrients. Thus, dietary supplements in such situation are unnecessary. So far, there is no scientifically proven evidence indicating that the usage of high doses of vitamins may help to preserve or improve human health (e.g. prevent cancer). Of course, additional usage of vitamins is necessary for the prevention of viral diseases in winter, when fruit and vegetables do not contain sufficient amounts of vitamins, as well as following high doses of antibiotics (1, 19).

Conclusions

1. The majority of the students did not follow the dietary regimen and consumed the majority of food products during the second half of the day.

2. Students' nutrition was not balanced – medical students consumed too much fat, especially those of animal origin. Students consumed insufficient amounts of vegetable fats and fish products, fruit and vegetables, and thus their food may lack soluble dietary fibers and vitamins.

3. First-year and third-year female students used vegetable oils more frequently, used more vegetables, complied more with dietary regimen than male students. The nutrition of first-year and third-year students does not differ statistically significantly.

Alternative types of nutrition (vegetarian nutrition and various diets) are not popular among medical students.

Studentų medikų mitybos ypatybės

Lina Škėmienė, Rūta Ustinavičienė, Loreta Piešinė, Ričardas Radišauskas

Kauno medicinos universiteto Aplinkos ir darbo medicinos katedra

Raktažodžiai: studentai medikai, mityba, baltymai, riebalai, angliavandeniai, mitybos įpročiai, mitybos režimas.

Santrauka. Darbo tikslas. Ištirti ir išanalizuoti studentų medikų mitybą. Palyginti pirmojo ir trečiojo kursų studentų mitybos ypatybes bei vaikinų ir merginų mitybos skirtumus.

Tyrimo medžiaga ir metodai. Anoniminės apklausos būdu pagal specialiai parengtą anketą apklausti 349 Kauno medicinos universiteto Medicinos ir Farmacijos fakultetų pirmojo ir trečiojo kurso studentai. Jų mityba analizuota pagal studentų valgymų per parą skaičių bei laiką pagal valgymo dažnumą.

Anketinio tyrimo duomenys sukaupiti duomenų bazėje ir analizuoti „Excel“ programa. Statistiniai ryšiai nustatyti „EPI Info“ programa naudojant neparametrinį chi kvadrato (χ^2) kriterijų. Statistinis reikšmingumas nustatytas taikant Stjudento (t) kriterijų.

Rezultatai. Pirmojo ir trečiojo kursų studentai valgo nereguliariai. Skiriasi valgymo laikas bei valgymų skaičius. Tik apie 20 proc. studentų kasdien suvalgo 400 g vaisių ir daržovių, kaip rekomenduoja Pasaulinė sveikatos organizacija (PSO). Studentai medikai, ypač vaikinai, vartoja per daug gyvulinės kilmės riebalų. Kas septintas studentas valgo per sūrų maistą. Studentai medikai nepakankamai valgo duonos, bulvių, kruopų ir kitų sveikos mitybos piramidės pagrindą sudarančių produktų. 23,0 proc. vaikinų ir beveik tiek pat merginų kartą per savaitę vartoja alkoholinius gėrimus. Beveik pusė studentų visiškai nesportuoja. 9,1 proc. trečiojo kurso merginų ir 14,5 proc. trečiojo kurso vaikinų turi antsvorį.

Išvados. Didžioji dalis studentų nesilaiko mitybos režimo, daugiausia suvalgo antroje dienos pusėje. Studentų mityba nesubalansuota: studentai medikai per daug vartoja riebalų, ypač gyvulinės kilmės. Per mažai vartoja augalinės kilmės riebalų, mažai valgo žuvies produktų, taip pat studentai per mažai suvartoja daržovių ir vaisių, todėl maiste gali trūkti tirpių maistinių skaidulų ir vitaminų. Pirmojo ir trečiojo kurso studentės medikės gerokai dažniau vartoja augalinės kilmės riebalus, daugiau suvartoja daržovių, labiau laikosi mitybos režimo negu vaikinai. Žymiai daugiau vaikinai vartoja alkoholinių gėrimų. Pirmojo ir trečiojo kurso studentų medikų mityba nesiskiria. Alternatyvūs mitybos tipai (vegetarizmas, dietos) tarp studentų medikų nepopuliarūs.

Adresas susirašinėti: L. Škėmienė, KMU Aplinkos ir darbo medicinos katedra, A. Mickevičiaus 9, 44307 Kaunas
El. paštas: lina.skemiene@med.kmu.lt

References

- Petkevičienė J. Sveikos mitybos gairės. (Guidelines for healthy nutrition). Kaunas: Sveikatingumo ir medicinos reklamos centras; 2000.
- Grabauskas V, Petkevičienė J, Kriaučionienė V, Klumbienė J. Lietuvos gyventojų sveikatos skirtumai: išsimokslinimas ir mitybos įpročiai. (Health inequalities in Lithuania: education and nutrition habits.) *Medicina* (Kaunas) 2004;40(9):875-83.
- Stukas R, Šurkienė G, Pazdrazdytė R. Studentų medikų mitybos ypatumai. (Nutrition peculiarities of medical students.) *Visuomenės sveikata* 2000;(1):56-64.
- Lažauskas R. Mityba ir sveikata. (Health and nutrition.) Kaunas: KMU leidykla; 2005.
- Lukoševičius L. Svarbiausi mitybos principai. (The main principles of nutrition.) Kaunas: Šeimos medicinos pagrindai; 2003.
- Centers for Disease Control and Prevention (CDC). Overweight among students in grades K-12-Arkansas, 2003-04 and 2004-05 school years. *MMWR Morb Mortal Wkly Rep* 2006;55(1):5-8.
- Antal M, Nagy K, Regoly-Merei A, Biro L, Szabo C, Rabin B. Assessment of cardiovascular risk factors among Hungarian University students in Budapest. *Ann Nutr Metab* 2005;50(2): 103-7.
- Lowry R, Galuska DA, Fulton JE, Wechsler H, Kann L, Collens JL. Physical activity, food choice and weight management goals and practices among US college students. *Am J Prev Med* 2000;18(1):18-27.
- Sakamaki R, Amamoto R, Mochida Y, Shinfuku N, Toyama K. A comparative study of food habits and body shape perception of university students in Japan and Korea. *Nutr J* 2005;4:31.
- Smith BL, Handley P, Eldredge DA. Sex differences in exercise motivation and body-image satisfaction among college students. *Percept Mot Skills* 1998;86(2):723-32.
- Mikalauskaitė D. Mityba. (Nutrition.) Vilnius: Mokslas; 1996.
- Žičkutė J, Strumylaitė L, Dregval L, Petrauskienė J, Dūdzevičius J, Stratilaitovas E. Daržovių bei vaisių vartojimas ir skrandžio vėžio rizika. (Vegetables and fruits and risk of stomach cancer.) *Medicina* (Kaunas) 2005;41(9):733-40.
- Bertsias G, Linardakis M, Mammias I, Kafatos A. Fruit and vegetables consumption in relation to health and diet of medical students in Crete, Greece. *Int J Vitam Nutr Res* 2005; 75(2):107-17.
- Ašmenskas J, Baubinas A, Obelenis V, Šimkūnienė B. Aplinkos medicina. (Environmental medicine.) Vilnius; 1997.
- Czapska D, Ostowska L, Stefanska E, Karczewski J. Chosen dietary habits in a cohort of students of the Medical University of Białystok. *Rocz Panstw Zakl Hig* 2005;56(2):149-55.
- Anderson JC, Alpern Z, Sethi G, Messina CR, Martin C, Hubbard PM, et al. Prevalence and risk of colorectal neoplasia in consumers of alcohol in a screening population. *Am J Gastroenterol* 2005;100(9):2049-55.
- Dunham L, Kollar LM. Vegetarian eating for children and adolescents. *J Pediatr Health Care* 2006;20(1):27-34.
- Spinler SA, de Denus S, Earl G, Cheng JW. Plasma cholesterol concentrations, dietary fat intake, and cholesterol intake in pharmacy students. *J Am Pharm Assoc (Wash DC)* 2003; 43(5):590-5.
- Wilson KM, Klein JD, Sesselberg TS, Yussman SM, Markow DB, Green AE, et al. Use of complementary medicine and dietary supplement among U.S. adolescents. *J Adolesc Health* 2006;38(4):385-94.

Received 11 May 2006, accepted 15 December 2006