Valerij Dobrovolskij

THE PECULIARITIES OF NUTRITION AND LIFESTYLE OF THE STUDENTS OF LITHUANIAN UNIVERSITIES AND THE FACTORS DETERMINING THEM

Summary of doctoral dissertation
Biomedical Sciences, Public Health (09 B)

The Doctoral Dissertation was prepared at the Vilnius University in 2010–2014.

Scientific Supervisor:
prof. dr. Rimantas Stukas (Vilnius University, Biomedical Science, Public Health – 09 B)

The Doctoral Dissertation will be defended at the Board of Public Health of the Vilnius University:

Chairman:
prof. dr. Janina Tutkuvienė
(Vilnius University, Biomedical Science, Medicine – 06 B)
Members:
prof. dr. Jonas Algis Abaravičius
(Vilnius University, Biomedical Science, Public Health – 09 B)
doc. dr. Eugenijus Gefenas
(Vilnius University, Biomedical Science, Public Health – 09 B)
doc. dr. Birutė Strukčinskienė
(Klaipėda University, Biomedical Science, Public Health – 09 B)
dr. Jonas Bunikis
(European Commision, Brussels, European Research Council Executive Agency, Biomedical Science, Medicine – 06 B)

The Doctoral Dissertation will be defended at the public session of the Board of Public Health of the Vilnius University on 22 of December, 2014, 2.00 p.m. in the Grand Hall of Faculty of Medicine of Vilnius University. Address: M. K. Čiurlionio str. 21, LT–03101, Vilnius, Lithuania.

The summary of Doctoral Dissertation has been sent on 21 of November, 2014

The Doctoral Dissertation is available at the Library of Vilnius University. Address: Universiteto str. 3, LT–01122, Vilnius, Lithuania and on VU website www.vu.lt/lt/naujienos/ivykiu-kalendorius

Valerij Dobrovolskij

LIETUVOS AUKŠTŲJŲ UNIVERSITETINIŲ MOKYKLŲ STUDENTŲ MITYBOS IR GYVENSENOS YPATUMAI, JUOS LEMIANTYS VEIKSNIAI

Daktaro disertacijos santrauka
Biomedicinos mokslai, visuomenės sveikata (09B)

Disertacija rengta 2010–2014 m. Vilniaus universitete.

Mokslinis vadovas:

prof. dr. Rimantas Stukas (Vilniaus universitetas, biomedicinos mokslai, visuomenės sveikata – 09 B)

Disertacija ginama Vilniaus universiteto Visuomenės sveikatos mokslo krypties taryboje:

Pirmininkas:

prof. dr. Janina Tutkuvienė
(Vilniaus universitetas, biomedicinos mokslai, medicina – 06 B)

Nariai:

prof. dr. Jonas Algis Abaravičius
(Vilniaus universitetas, biomedicinos mokslai, visuomenės sveikata – 09 B)

doc. dr. Eugenijus Gefenas
(Vilniaus universitetas, biomedicinos mokslai, visuomenės sveikata – 09 B)

doc. dr. Birutė Strukčinskienė
(Klaipėdos universitetas, biomedicinos mokslai, visuomenės sveikata – 09 B)

dr. Jonas Bunikis
(Europos komisija, Briuselis, Europos mokslo tarybos vykdančioji Agentūra, biomedicinos mokslai, medicina – 06 B)

Disertacija bus ginama viešame Visuomenės sveikatos mokslo krypties tarybos posėdyje 2014 m. gruodžio 22 d. 14.00 val. Vilniaus universiteto Medicinos fakulteto Didžiojoje auditorijoje. Adresas: M. K. Čiurlionio g. 21, LT-03101 Vilnius, Lietuva.

Disertacijos santrauka išsiuntinėta 2014 m. lapkričio mėn. 21 d.

Disertaciją galima peržiūrėti Vilniaus universiteto bibliotekoje ir Vilniau. Adresas: Universiteto g. 3, LT-01122 Vilnius, Lietuva ir VU interneto svetainėje adresu: www.vu.lt/lt/naujienos/ivykiu-kalendorius

ABBREVIATIONS

df – degree of freedom

LYP – last year prevalence

LMP – last month prevalence)

LSD – lysergic acid diethylamide

LTP – life time prevalence

p – Statistical significance

CI – confidence interval

WHO – World Health Organization

OR – odds ratio

ORp – pooled odds ratio

ORa – adjusted odds ratio

χ^2 – chi–squared test

1. INTRODUCTION

1.1. Problem under research and its relevance

According to the World Health Organization (WHO) data, the cause of 80 percent of deaths in Europe was chronic non-infections. Those diseases directly relate to the habits of lifestyle – nutrition, physical activity and use of psychoactive substances. As a result of wrong lifestyle habits, the number of chronic diseases, such as cardiovascular diseases, increased blood pressure, diabetes of type II, stroke, cancer of some types, diseases of musculoskeletal system and even various disorders of mental health, might increase in future.

Healthy lifestyle is the way of life of an individual or of a group of individuals, the whole of daily habits, which spare and strengthen physical capacity: daily physical activities, followed by sleep, nutrition, work and rest regimes, avoidance of alcohol, drugs and smoking.

According on the WHO data, human health greatly depends on lifestyle and nutrition, however, during the recent years, the data of research involving nutritional habits of the population in Europe shows deterioration of the nutrition condition. Nutrition of the Lithuanian population is also improper. Data of scientific researches show that in Europe, most of population are insufficiently physically active. Only of one-third of the population can be characterised as sufficiently physically active. The same situation is in Lithuania. According to the data of the Report of 2012 of the European Monitoring Centre for Drugs and Drug Addiction, one out of four residents of Europe has used cannabis at least once in a lifetime. According to a study performed by the Drug, Tobacco and Alcohol Control Department in 2012, one out of ten residents of Lithuania tried at least one narcotic or psychotropic substance at least once in a lifetime. The data of the investigation of prevalence of psychoactive substances in Lithuania show that in 2012, over eight of ten of persons aged from 15 to 64 used alcohol during the last 12 months, and almost a half of the Lithuanian population, aged from 15 to 64, smoked during the last year.

The period of studies is associated with great mental and physical activeness, which should be compensated by complete nutrition. This period is when wrong habits of lifestyle are easily developed, which may have negative consequences in

future. The beginning of studies relates to a change of residential environment and new habits of lifestyle.

Though there is no lack of studies on students' nutrition, physical activeness and the use of psychoactive substances, but no complex researches of the Lithuanian university students investigating the specifics of nutrition, physical activeness, use of psychoactive substances, the knowledge on nutrition and their determining factors, have been performed so far. The most frequent are the studies on students' lifestyle on a university, a faculty or a study program level.

1.2. The aim and the objectives of the study

The aim of the study is to assess the peculiarities of nutrition and lifestyle of the students of the Lithuanian universities and the factors determining them.

Objectives of the study:
1. To establish and assess nutrition habits of the students
2. To establish and assess the specifics of physical activeness of the students
3. To establish and assess prevalence of psychoactive substances among the students
4. To establish and assess students' knowledge about nutrition
5. To find out the factors which determine students' nutrition, the use of psychoactive substances, physical activeness and knowledge about nutrition

1.3. Scientific novelty and practical value of the study

In the dissertation for the first time the nutrition peculiarities, physical activeness, prevalence of psychoactive substances among the students of the Lithuanian universities were analysed and comprehensively assessed by social–demographic characteristics. For the first time in Lithuania the knowledge of the students on nutrition was established and assessed, the factors determining students' nutrition habits, the use of psychoactive substances, physical activeness and knowledge about nutrition were found out.

The results of the dissertation are useful for health politicians and public health specialists in the development of national–strategic documents and measures which should improve the lifestyle of the students and of the entire population of Lithuania.

1.4. Defended statements

1. Nutrition of the students of the Lithuanian universities does not correspond to the healthy nutrition recommendations – the students do not follow dietary regime, eat too little fresh vegetables, cereal-based products, fish and fish products.
2. Use of psychoactive substances is very prevalent among the students – alcohol consumption prevalence is minimum 70 percent, smoking – minimum 30 percent, and minimum 30 percent of the students had used drugs and (or) psychotropic substances at least once in their lives.
3. Physical activeness of at least a half of the students is sufficient.
4. Over 60 percent of the students have insufficient knowledge about nutrition.

2. MATERIAL AND METHODS OF RESEARCH

2.1. Population under the research

Target population – the students of the Lithuanian universities.

According to the data of the Open Information Consultancy System (AIKOS), on 1 October 2011, 166 334 students studied in the universities of Lithuania; 164 905 (99.1 percent) of them studied in the State universities. The majority studied in Vilnius (51 percent), 28.5 percent in Kaunas, 9.3 percent in Klaipėda, 6 percent in Šiauliai, 0.7 percent in Alytus, 0.9 percent in Marijampolė, 1.3 percent in Panevėžys, 0.7 percent in Rietavas and 1.4 percent in Utena. 118975 students (71.5 percent) studied in universities; of those 96.6 percent (114936) studied in the State universities, and of those more than a half (56 percent) studied in Vilnius. Most of the students studied in VU (20 719). The students of three high schools were eliminated from the target population: Telšiai Bishop Vincentas Borisevičius Priest Seminary, Vilnius St. Jozeph Seminary and General Jonas Žemaitis Military Academy, since those high schools are specific – they are close.

Population of the research

Considering the fact that the majority of the students study in State universities and study in Vilnius, it has been decided that the *population of the research* are the students of Vilnius State university high schools, studying in the studies of basic (bachelor) and master studies.

According to the Vilnius University (VU) data, 3674 school – students that left school entered it in 2011; of those: 44 percent were from Vilnius, 12.7 percent from Kaunas, 8.5 percent from Panevėžys, seven percent from Šiauliai, 6.5 percent from Klaipėda, 5.4 percent from Alytus, 5.2 percent from Utena, 4.1 percent from Marijampolė, 3.9 percent from Telšiai and 2.2 percent from Tauragė county. It shows the youth from all counties of Lithuania study in VU. Under assumption that in other State university high schools in Vilnius are the youth from all counties of Lithuania studies, it is probable that the selected population represents the target population.

Survey sample

In calculating the sample, the variable with lowest frequency was selected – the use of cannabis during the last month, according to our assumptions, it is equal

to five percent. Believing that prevalence of cannabis will be 5 percent and wishing to establish it with the error +/- one percent, i.e., five percent +/- one percent, in other words, wishing to have the estimate from 4 to 6 percent and with 95 percent probability, we calculated the total number 1 775 of the research subjects, when the population of the research is 64 469 students.

It was planned to study students' nutrition habits, the use of psychoactive substances, physical activeness and the knowledge on nutrition relation with 8-10 independent variables. For this the method of logistic regression was selected. We make an assumption that the probable frequency of cases could be not lower than 5.0 percent. The number of basic variables in the final model is anticipated as 8–10. Based on Hosmer and Lemeshow (2000) recommendations, the number of positive cases of variable of each subject of research shall be not less than 10. Thus, acceptable sample of the research for such analysis should consist of 1 600–2 000 respondents.

Considering the probable percent of not answering and a part of unacceptable questionnaires, we increased the sample to 1 910.

Universities of Vilnius were selected as the population of the research, where 57.1 percent of the students of all Lithuanian high university schools study. The factual population of the research consisted of six universities in Vilnius, the students of which make 54.2 percent of the total number of students of the Lithuanian high university schools.

A random sample was formed. The distribution of the number of the selected respondents on Vilnius universities is not the same. The percent of students of the total number of students in high schools varies from 1.4 to 32 percent. The smallest selection unit was a group. The sample population was divided into 2 586 groups. Under assumption that a group may consist of 14 students in average, and 1 910 students have to be surveyed, it was calculated that 136 groups have to be surveyed. Using WinPepi 11.26 program a table of random numbers was made. The number of groups from each high school was selected taking into account the distribution of the students' number.

1 910 questionnaires were distributed and collected; 86 of them were filled in improperly, the 1 824 were used in the study.

2.2. Methods of the study

A questionnaire was developed for the performance of the research. Questionnaires created by other authors were used in the development of it – the Questionnaire of the Survey of Factual Nutrition and Nutrition and Lifestyle Habits of the Lithuanian Residents and the European Model Questionnaire of the European Monitoring Centre for Drugs and Drugs Addiction. Also additional questions on the aspects of nutrition were included into the Questionnaire: "Do you agree with the statement *'Eggs contain a lot of cholesterol*?"', "Do you agree with the statement *'It is healthier to use butter than vegetable oil for food preparation*?"', "Do you agree with the statement *'Animal-origin food products are the only source of protein*?"', "Do you agree with the statement *'If you want to eat healthily, you must eat meat twice a day*?"'

The Questionnaire consisted of questions on social demographic data (sex, age, occupation, residential environment and etc.), height and weight, dietary habits (food selection criteria, frequency of eating vegetables, cereal-based products, fish products and etc., regularity of meals frequency of use of food additives and etc.), attitude towards nutritional aspects (assessment of statements on consumption of vegetables and fruit five times per day; use for health of dietary fibre and etc.), physical activeness (what physical activities are the most typical in leisure time and etc.) and the use of alcohol, tobacco and drugs and psychotropic substances.

Grouping of variables

Students' age distribution was of normal character (the average – 20.8, the median – 20.5 and the mode – 20). For formation of the age groups we selected the 25th percentile (19 years old) and divided the students into two groups: younger students (18–19 years old) and older students (20 and over).

Students, depending on their study programs, and following the Resolution No 1840 of the Government of the Republic of Lithuania, dated 29 December 2010, "On Classification of Science Fields, Directions and Branches," and the Order No V-1457 of the Minister of Education and Science of the Republic of Lithuanian, dated 16 October 2012, were divided by the fields of science: humanities, social, physical, biomedicine and technology sciences. No students of agriculture sciences participated in the research.

Calculation of the nutrition and lifestyle parameters

For transformation of the variables (healthy diet, knowledge on nutrition and physical activeness) into the binary variable the mean of points was used.

Healthy diet

The respondents answering the questions on nutrition habits could get seven points if they marked the answer alternatives corresponding to recommendations of healthy diet. Depending on the awarded point, the diet was attributed to healthy and not healthy. The diet was attributed to healthy, if the respondent got from five to seven points, and to not healthy if they had from 0 to four points.

Knowledge on nutrition

The respondents assessing statements on nutrition could get up to ten points. Depending on the awarded points, the students were divided into two groups. We attributed students to the group of the sufficient knowledge on nutrition, if they got from seven to ten points, and to the group of the insufficient knowledge, if they had from 0 to six points.

Smoking

A student was attributed to the smokers group if he answered "Yes" to the question "Did you smoke during the last 30 days? "; otherwise he was attributed to the non-smokers group.

Alcohol consumption

A student was attributed to the alcohol users group if he answered "Yes" to the question "Did you drink any alcohol during the last 30 days?"; otherwise he was attributed to the non-drinkers group.

Use of drugs and psychotropic substances

A student was attributed to the users of drugs and psychotropic substances group, if he /she indicated that during the last 30 days he had used at least one of the listed substances (hashish, marihuana, "weed", ecstasy, amphetamine, cocaine, heroin, poppy extract, LSD, "mushrooms", magic mushrooms, hallucinogenic mushrooms, inhalants (glue, petrol, dissolvent, ether, aerosols, gas); otherwise he/she was attributed to the group of the non-users of drugs and psychotropic substances.

Physical activeness

Respondents answering the questions on their physical activeness could get up to three points. A student was attributed to the group of physically active, if he/she got three points, and to the group of insufficiently active, if he/she got from 0 to two points.

2.3. Survey procedure

Permit No 158200-02-456-131, dated 7 February 2012, was issued for the performance of the survey by the Vilnius Regional Biomedicine Research Ethics Committee.

Prior to the performance of the research and, aiming to reduce the influence of informational mistakes, the Questionnaire was tested and its reliability was established (one and the same group of 89 students was surveyed at particular time; then, after 14 days the same group was surveyed again using the same Questionnaire). In the assessment of the reliability of the Questionnaire the parameters of the reliability of the variables were calculated (kappa coefficient, intraclass correlation coefficient).

Questionnaire survey was performed in 2013. The questionnaires were filled in high schools, under agreement of the students to participate in the research. The students filed in the questionnaires during lectures, under approval of their lecturers.

2.4. Statistical data analysis

For statistical analysis the traditional methods of descriptive statistics were used. The means, the median, the standard deviation (SD) were calculated to define the continuous data. The frequency of categorical data was estimated in absolute numbers and percent; for the interval assessment the estimate of the sample, 95 percent confidence interval was calculated. For the analysis of the categorical data the χ^2 and Fisher's method were used. The data belonging to the range scale, were analysed by Mann and Whitney U and Kruskal and Wallis H tests.

For the common relation among the categorical variables the odds ratio and its 95 percent confidence interval were calculated. For development of the binary logistical regression model the direct way was chosen – the variables are selected, eliminated and changed by the researcher himself. The variables for the model were selected not just from the statistical, but also from the epidemiological point of view. For the assessment of findings on the relation of the independent variables with the dependant variable, the adjusted odds ratio was used. The suitability of the model was assessed by the maximum likelihood chi-square statistics, Cox & Snell determination coefficient, classification table. For diagnostics of logistical regression

Cook's distance, leverage were used. In order to assess multilinearity the variance inflation factor was calculated.

The level of statistical significance was chosen $\alpha = 0.05$; the results were assessed as statistically significant when $p \leq 0.05$.

For data processing and statistical analysis performance the statistical packages SPSS (v. 22.0) and WinPepi (v. 11.26) were used.

3. RESULTS OF THE RESEARCH

3.1. Characteristics of the respondents

1824 students were surveyed, of those 604 (33.1 percent) boys and 1220 (66.9 percent) girls. The average age of the students was 20.8 years. The majority of the respondents (74.9 percent) studied under the bachelor's programs, the studies of 78.9 percent were state-financed, the majority (75.7 percent) did not work. Other study, social and demographic characteristics of the respondents are presented in Table 1.

Table 1 Study, social and demographic **c**haracteristics of the respondents, boys and girls

Feature	Boys		Girls		Total	
	n	Percent	n	Percent	n	Percent
Total	604	33.1	1220	66.9	1824	100
HIGH SCHOOL						
Vilnius university	374	61.9	892	73.1	1266	69.4
Lithuanian University of Educational Sciences	31	5.1	95	7.8	126	6.9
Lithuanian Music and The-atre Academy	20	3.3	14	1.1	34	1.9
Mykolas Romeris University	44	7.3	100	8.2	144	7.9
Vilnius Gediminas Technical University	135	22.4	119	9.8	254	13.9
FIELD OF SCIENCE						
Humanities	55	9.1	208	17.0	263	14.4
Social sciences	198	32.8	532	43.6	730	40.0
Physical sciences	113	18.7	77	6.3	190	10.4
Biomedicine sciences	120	19.9	324	26,6	444	24.3
Technological sciences	118	19.5	79	6.5	197	10.8
STUDY STEP						
I step studies (bachelor)	472	78.1	894	73.3	1366	74.9
II step studies (master)	21	3.5	54	4.4	75	4.1
Integrated (the first and the second steps)	111	18.4	271	22.2	382	21.0

Feature	Boys		Girls		Total	
	n	Percent	n	Percent	n	Percent
TYPE OF STUDY FINANCING						
State- financed	475	79.2	953	78.8	1428	78.9
Not financed by the State	125	20.8	256	21.2	381	21.1
RESIDENTIAL ENVIRONMENT						
Hostel-accommodated	205	34.0	348	28.5	553	30.3
Live together with parents	216	35.8	417	34.2	633	34.7
Rented accommodation	133	22.1	320	26.2	453	24.8
Other	49	8.1	135	11.1	184	10.1
EMPLOYMENT						
Employed	147	24.5	294	24.1	441	24.3
Unemployed	452	75.5	924	75.9	1376	75.7
AGE						
18–19 years	147	24.4	312	25.6	459	25.2
20 and over	456	75.6	907	74.4	1363	74.8

3.2. Nutrition habits of the Lithuanian university students

3.2.1. Criteria for food stuff choosing

Assessing the nutrition habits of the Lithuanian high schools students, it has been established that the main criteria for food stuff choosing are the properties of taste (58.9 percent) and the price (15.7 percent).
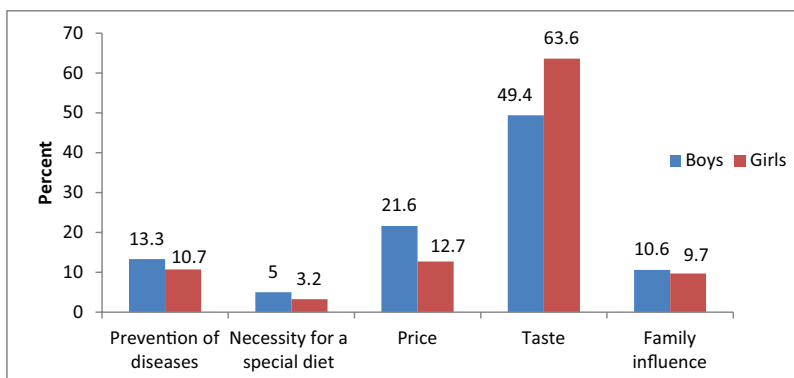
Fig. 1 Distribution of students (percent) according to the criteria for food stuff choosing, depending on the sex ($\chi^2 = 37.437$, df $= 4$; $p < 0.001$)

Analysing the food products choosing criteria by the sex of the respondents, it has been established that statistically significantly (χ^2 = 22.405, df = 1; p < 0.001) more boys (21.6 percent) than girls (12.7 percent) choose food products by price, when girls more often than boys choose them by taste (63.6 percent and 49.4 percent, respectively); the difference is statistically significant (χ^2 = 31.159, df = 1; p < 0.001) (Fig. 1).

Analysing the criteria for food products choosing by the age of the respondents, it has been established that more of the older students (12.9 percent) choose food products with the purpose of diseases prevention than the younger ones (7.8 percent); the difference is statistically significant (χ^2 = 8.185, df = 1; p = 0.004).

Analysing the criteria for food stuff choosing by the place of residence, it has been established that the students that rent accommodation choose food products with the purpose of diseases prevention (15.9 percent), by price – the students that live in a hostel, and the students that live with parents consider the influence of family members (17.6 percent); the difference is statistically significant (χ^2 = 121.390, df = 16; p < 0.001).

3.2.2. Specifics of food products consumption

It has been established that the students of the Lithuanian high schools insufficiently frequently eat fresh vegetables – only 19.8 percent of the students eat fresh vegetables (except for potatoes) daily or almost daily (6–7 times per week), 42.3 percent eat 3–5 times per week, and 35.1 percent – 1–2 times.

Analysing the frequency of consumption of fresh vegetables (except potatoes) depending on the sex, it has been established that statistically significantly more girls (21.2 percent) eat fresh vegetables daily or almost daily (χ^2 = 4.729, df = 1; p = 0.030) than boys (16.9 percent).

Analysing the frequency of consumption of fresh vegetables (except for potatoes) depending on the place of residence, it has been established that more of the students that live with parents (24.6 percent) eat fresh vegetables 6–7 times per week than the students that live in a hostel (13.2 percent); the difference is statistically significant (χ^2 = 24.666, df = 1; p < 0.001).

Analysing the consumption of boiled and steamed/casseroled vegetables it appeared that 18.5 percent of the students do not eat it at all, and only four percent of the students eat it 6–7 times per week.

Assessing the frequency of consumption of cereal-based products (bread, porridges and etc.), it has been established that only 38.6 percent of the students eat it daily, and only 7.7 percent eat cereal-based products some times per day, when 20.6 percent eat it 1–2 times per week (Fig. 2).
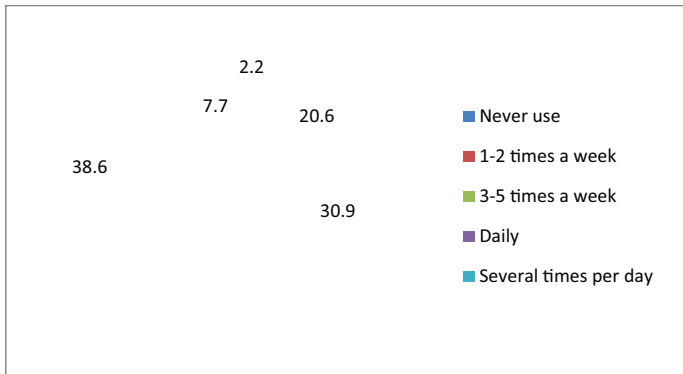
2.2
7.7   20.6   ■ Never use
                   ■ 1-2 times a week
38.6   ■ 3-5 times a week
         30.9   ■ Daily
                   ■ Several times per day

Fig. 2 Distribution of the students (percent) by the frequency of consumption of cereal-based products (bread, grain porridges and etc.)

It has been established that statistically significantly more boys (10.5 percent) than girls (6.4 percent) eat cereal-based products several times per day ($\chi^2 = 9.328$, df = 1, p = 0.002), and more girls (22.5 percent) than boys (16.9 percent) eat cereal-based products 1–2 times per week; the difference is statistically significant ($\chi^2 = 7.532$, df = 1, p = 0.006).

Analysing the frequency of consumption of cereal-based products according to the place of residence, it has been established that the students that live with parents statistically significantly more frequently eat cereal-based products than those that live in hostels ($\chi^2 = 23.675$, df = 4, p < 0.001), than those that rent accommodation ($\chi^2 = 27.747$, df = 4, p < 0.001) and then the ones that indicate another accommodation ($\chi^2 = 18.501$, df = 4, p = 0.003). 45.6 percent of the students that live with parents eat cereal-based products every day and 10.2 percent – several times per day.

Analysing the frequency of the consumption of fish and fish products by the Lithuanian students, it has been established that the majority of the students eat it once a month (53.5 percent), 1–2 times a week – 33.3 percent of the respondents, and 9.8 percent do not eat fish and fish products at all.

Comparing the frequency of consumption of fish and its products of the employed and unemployed students, it has been established that 4.5 percent of the employed students and 2.5 percent of the unemployed students eat fish and its products 3–5 times per week; the difference is statistically significant ($\chi^2 = 4.489$, df = 1, p = 0.034), and the unemployed students (55 percent) statistically significantly more than the working students (48.5 percent) eat fish and its products once a month ($\chi^2 = 5.662$, df = 1, p = 0.017) (Fig. 3).
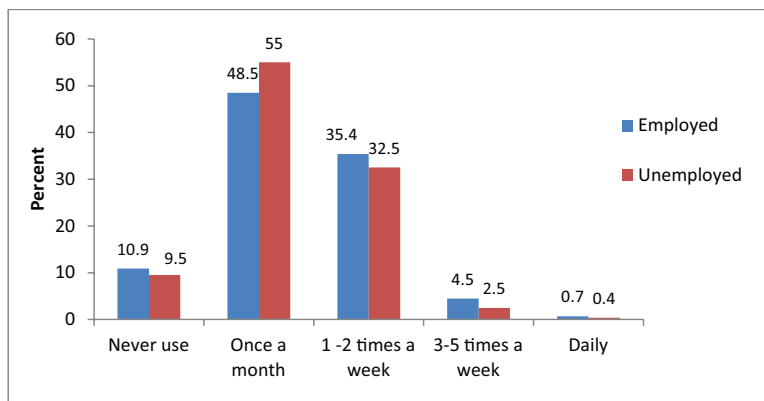
Fig. 3 Distribution of students (percent) by the frequency of consumption of fish and its products, depending on employment (Mann–Whitney U = 289481.500, p = 0.118)

Assessing the frequency of consumption of fish and its products by the residential environment, it has been established that those students that live with parents they eat fish and its products statistically significantly more frequently than the students that live in hostels ($\chi^2 = 50.194$, df = 4, p < 0.001). 42.6 percent of the students that live with parents and only 23.7 percent of those living in hostels eat fish and its products 1–2 times per week. The students that live with parents eat fish and its products more often than the students that rent accommodation; the difference is statistically significant ($\chi^2 = 16.370$, df = 4, p <0.001) (Fig. 4).

Investigating consumption of milk and its products it has been established that 31 percent of the Lithuanian high schools students eat and drink milk products daily, 5.3 percent never eat those products.

Analysing the frequency of consumption of milk and milk products according to residential environment of the students, it has been established that those
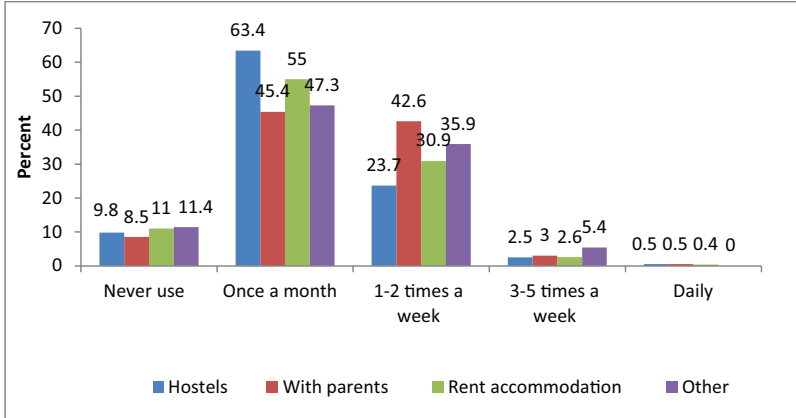
Fig. 4 Distribution of the students (percent) by the frequency of consumption of fish and fish products depending on the residential environment (Kruskal and Wallis $\chi^2 =$ 36.733, df = 3, p < 0.001)

students that live with parents statistically significantly more often drink milk and eat its products, if compared with those living in hostels ($\chi^2 = 30.103$, df = 3, p < 0.001) and the students that rent accommodation ($\chi^2 = 12.825$, df = 3, p < 0.001). 37.6 percent of the students that live with parents consume those products daily, 28.5 percent of the students that rent accommodation and only 24.3 percent of the students that live in hostels consume milk and its products daily.

Analysing the use of the salt the respondents were asked: "Do you salt ready – made food when eating? It has been established that the majority of the students (57.3 percent) add just a little salt, if food is not salted enough, but every tenth student (10.9 percent) adds salt to already prepared food almost always, without even tasting it.

Analysing the consumption of salt among the students according to their residential environment, it has been established that those students that live with parents statistically significantly use less salt than those living in hostels ($\chi^2 = 5.588$, df = 2, p = 0.018), than the students that rent accommodation ($\chi^2 = 10.241$, df = 2, p = 0.001), and those that indicated another residential environment ($\chi^2 = 9.088$, df = 3, p = 0.003). Never add salt to ready-made dishes 36.6 percent of the students that live with parents, 30.4 percent of the students that live in hostels, 29.1 percent of the students that rent accommodation and 26.1 percent of the students that indicated another residential place.

Comparing the consumption of salt by the students of different fields of sciences a statistically significant difference has been established among the groups. Students of biomedicine sciences use less salt than the other students: always add salt to ready-made dishes only 6.1 percent of biomedicine students, 8.1 percent of technologies students, 11.6 percent of physical sciences, 12.9 percent of social sciences, 14.5 percent of humanities students ($\chi^2 = 33.531$, df = 8, p < 0.001) (Fig. 5).
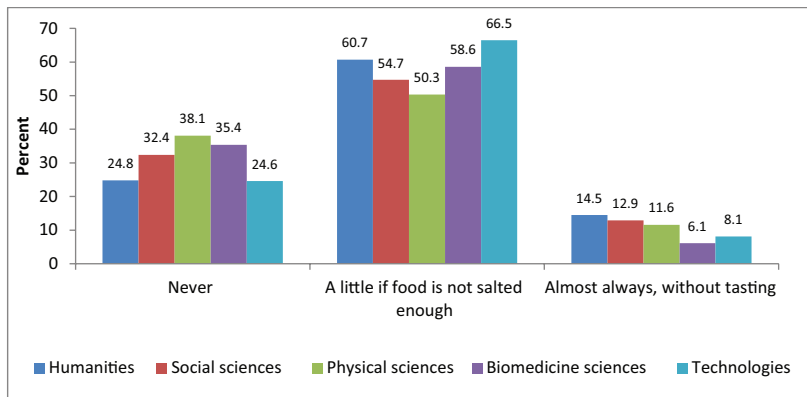

Fig. 5 Students' distribution (percent) according to the answers to the question: "Do you add salt when eating ready- made dishes" depending on the field of science (Kruskal and Wallis $\chi^2 = 18.486$, df = 4, p = 0.001)

Analysing the nutrition habits of the students it was attempted to find out what fat do they use for food preparation (baking, boiling, casseroling) – butter, margarine, vegetable oil or animal fat. It has been established that the majority of the students of the Lithuanian high schools (88.8 percent) use vegetable oil for food preparation, 9.4 percent use butter, 1.2 percent use margarine and 0.6 percent – animal fats.

3.2.3. Nutrition regime

Assessing the nutrition habits of the Lithuanian high schools students, it is important to analyse the nutrition regime. Trying to find out if the students eat at the same time, they were asked: "Do you always eat at the same time? " It has been established that the majority (90.1 percent) do not eat at the same time. More boys (13.1 percent) than girls (8.3 percent) always eat at the same time, and,

correspondingly, more girls (91.7 percent) than boys (86.9) do not eat at the same time; the difference is statistically significant ($\chi^2 = 10.546$, df = 1, p = 0.001). It has been established that statistically significantly more students that live with parents (11.4 percent), than the students that live in hostels (7.4 percent) eat at the same time ($\chi^2 = 5.325$, df = 1, p = 0.021).

Having performed the analysis of the answer to the question "How many times per day do you eat? " it appeared that the majority (54.4 percent) eat three times per day, every fifth student – only two times per day.

Assessing the frequency of meals depending on sex, it has been established that statistically significantly more boys (27.1 percent) than girls (22.8 percent) eat four and more times per day ($\chi^2 = 4.072$, df = 1, p = 0.044), more girls (21.5 percent) than boys (16.9 percent) eat twice a day; the difference is statistically significant ($\chi^2 = 5.267$, df = 1, p = 0.022) (Fig. 6).
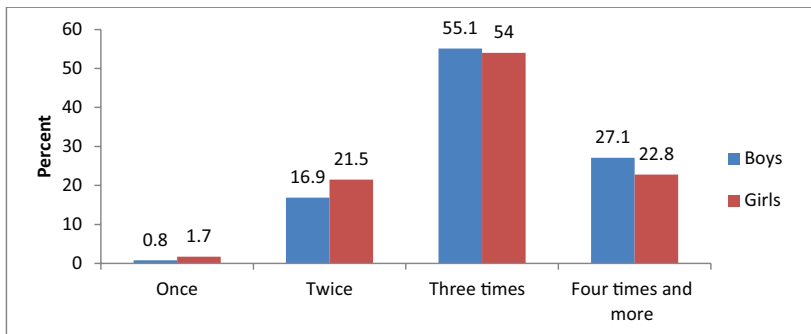

Fig. 6 Distribution of the students (percent) according to the answers to the question "How many times per day do you eat? ", depending on the sex (Mann–Whitney U = 335746, p = 0.003)

Assessing the frequency of meals per day depending on the age, it has been established that more (55.7 percent) older (20 and over) students than the younger ones (18–19 years old) (50.1 percent) eat three times per day; the difference is statistically significant ($\chi^2 = 4.358$, df = 1, p = 0.037).

Analysing the frequency of students' meals per day depending on the residential environment, a statistically significant difference has been established between the students that live with parents and the students that rent accommodation. More students that rent accommodation eat twice per day (24.2 percent), if compared

with the students that live with parents (16.5 percent); the difference is statistically significant (χ^2 = 9.987, df = 1, p = 0.002).

Analysing the students' nutrition regime, it has been established that the majority (97.6 percent) of the Lithuanian high school students eat additionally between the main meals. Assessing the answers to the question: "Do you eat additionally between the main meals?" it has been established that the majority (61.5 percent) of the students sometimes eat, 28.5 percent eat frequently and 7.6 percent always eat.

It has been established that the unemployed students more often eat additionally between the main meals (30.3 percent) than the working students (22.7 percent) (χ^2 = 9.479, df = 1, p = 0.002). Though employed students always eat additionally between the main meals more often (9.3 percent) than the unemployed students (7 percent), but the difference is not statistically significant (χ^2 = 2.553, df = 1, p = 0.110) (Fig. 7).
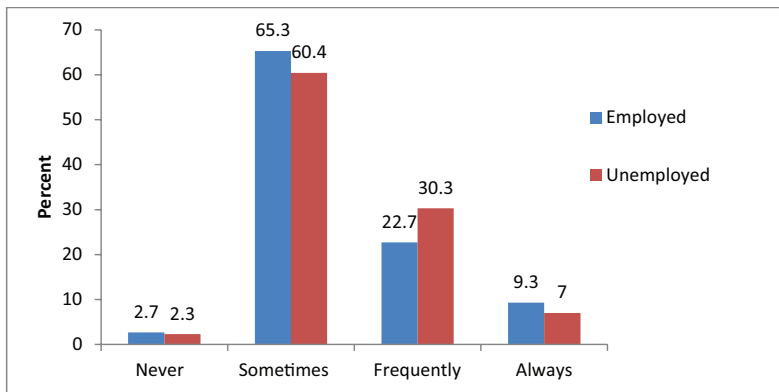

Fig. 7 Students' distribution (percent) by the answers to the question "Do you eat additionally between the main meals?" depending on employment (Mann–Whitney U = 290294.000, p = 0.125)

Comparing the frequency of additional meals between the main ones by different fields of sciences, a statistically significant difference among the groups was found. Always eat between the main meals statistically significantly more students of humanities (12.5 percent) than of physical sciences (5.8 percent) (χ^2 = 5.745, df = 1, p = 0.017), biomedicine sciences (5 percent) (χ^2 = 13.204, df = 1, p < 0.001) and technologies students (4.6 percent) (χ^2 = 8.643, df = 1, p = 0.003).

3.3. Prevalence of psychoactive substances use among students

The results of the research showed that during the last 12 months 92.4 percent of the respondents drank alcohol: 91.7 percent of the boys and 92.8 percent of the girls; the difference is not statistically significant ($\chi^2 = 0.655$, df = 1, p = 0.418). Analysing the prevalence of alcohol use it has been established that the consumption during the last 30 days – 84.9 percent (86.1 percent of boys and 84.3 percent of girls). The difference is not statistically significant ($\chi^2 = 0.992$, df = 1, p = 0.319).

Analysing the prevalence of alcohol by the age, it has been established that during the last 12 months 92.4 percent of the students aged 18–19 and 92.4 of the students aged 20 and over drank alcohol ($\chi^2 = 0.002$, df = 1, p = 0.962). During the last 30 days 85.1 percent of the students aged 18-19 and 84.8 of the students aged 20 and over drank alcohol ($\chi^2 = 0.031$, df = 1, p = 0.860).

The use of alcohol during the last 30 days is more prevalent among the students the studies of which are not financed by the State (88.2 percent), than among the students that are on the State-financed studies (84.1 percent); the difference is not statistically significant ($\chi^2 = 3.814$, df = 1, p = 0.051).

During the last month statistically significantly more students of social sciences (89 percent) than of physical (82.1 percent) ($\chi^2 = 6.644$, df = 1, p = 0.010), biomedicine (80.8 percent) ($\chi^2 = 15.367$, df = 1, p < 0.001) and humanities (79.7 percent) ($\chi^2 = 14.394$, df = 1, p < 0.001) drank alcohol. It has also been established that during the last month more students of technologies (88.3 percent) than of biomedicine ($\chi^2 = 5.374$, df = 1, p = 0.020) and humanities ($\chi^2 = 5.932$, df = 1, p = 0.015) used alcohol.

The results of the investigations showed that during the last 12 months 52.7 percent of all students of the Lithuanian high schools smoked; during the last 30 days smoked 40.2 percent. During the last 12 months there were slightly less smoking boys (52.2 percent) than girls (53 percent); the difference is not statistically significant ($\chi^2 = 0.126$; df = 1, p = 0.723), prevalence of smoking during the last month was higher among the boys (40.9 percent) than among the girls (39.9 percent); the difference is not statistically significant ($\chi^2 = 0.177$, df = 1, p = 0.674).

During the last month more smokers were among the students that are not State-financed (48.2 percent) than among the State-financed (38.1 percent); the difference is statistically significant ($\chi^2 = 12.641$, df = 1, p < 0.001).

Analysing prevalence of smoking according employments/unemployment of the students, it has been established that statistically significantly more employed students were smoking than the unemployed students (Fig. 8). During the last 12 month 59 percent of the smoking students were in the employed group and 50.7 percent in the group of unemployed (χ^2 = 9.076, df = 1, p = 0.003), and during the last month 45.7 percent of smoking students were in the employed group, and 38.4 percent in the group of unemployed students (χ^2 = 7.264, df = 1, p = 0.007).
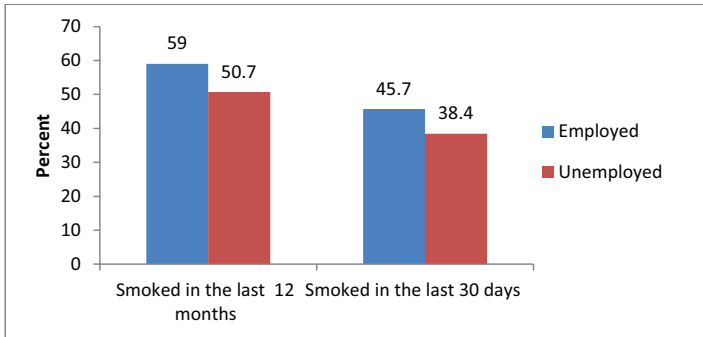

Fig. 8 Distribution of students (percent) by smoking during the last 12 months and during the last 30 days, depending on employment

Analysis of smoking prevalence according to the residential environment of the students, it has been established that during the last month more smoking students were among those that rented accommodation or indicated another place of residence, than among those that lived in hostels or with parents (Fig. 9).
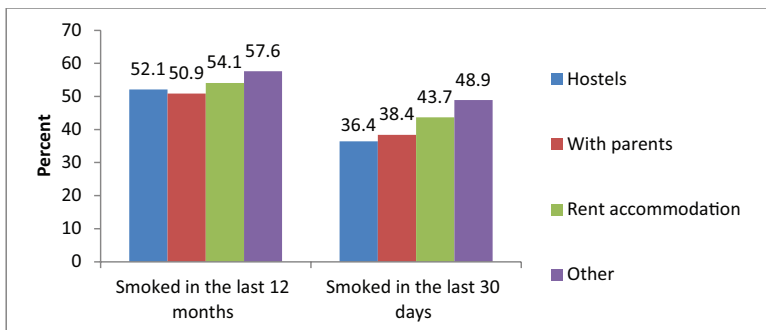

Fig. 9 Distribution of students (percent) by smoking during the last12 months and during the last 30 days, depending on the residential environment

It has been established that during the last month more smokers were among the students that live in rented residences (43.7 percent), than among those that lived in hostels (36.4 percent); the difference is statistically significant (χ^2 = 5.532, df = 1, p = 0.019). Smoking is more prevalent among the students that indicated another accommodation (48.9 percent), than among those that live with parents (38.4 percent); the difference is statistically significant (χ^2 = 6.540, df = 1, p = 0.011).

Analysing prevalence of smoking by the field of science, it has been established that during the last 12 months statistically significantly more smokers were among the students of social (57 percent) than among physical (48.9 percent) (χ^2 = 3.942, df = 1, p = 0.047) and biomedicine (46.6 percent) (χ^2 = 11.908, df = 1, p = 0.001) sciences. During the last month more smoking students were among the students of technologies (47.2 percent) than among the biomedicine (34.2 percent) (χ^2 =10.050, df = 1, p = 0.002) and physical (33.7 percent) (χ^2 = 7.575, df = 1, p = 0.006) sciences. Prevalence of smoking during the last month is higher among the students of social (43 percent) than among the biomedicine (34.2 percent) (χ^2 = 8.890, df = 1, p=0.003) and physical (33.7 percent) (χ^2 = 5.421, df = 1, p = 0.020) sciences. Prevalence of smoking during the last month is also statistically significantly higher among the students of humanities (41.8 percent) than among the students of biomedicine (34.2 percent) (χ^2 = 4.080, df = 1, p = 0.043) sciences.

The results of the research showed that 31 percent of the surveyed students answered that they had tried drugs and (or) psychotropic substances at least once
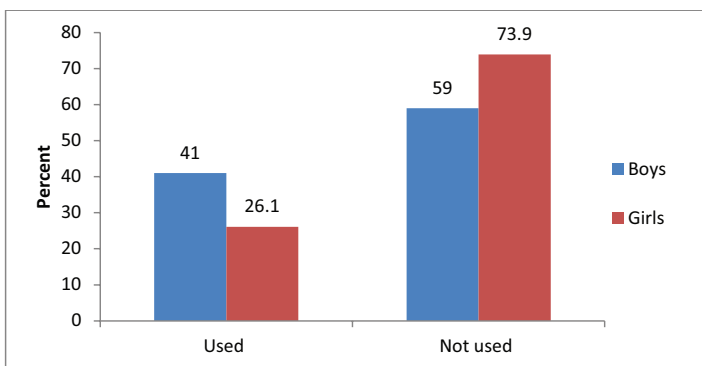

Fig. 10 Distribution of students by the answers to the question "Have you ever used drugs and (or) psychotropic substances at least once in your life?", depending on the sex

in their lives. More boys (41 percent) than girls (26.1 percent) had used drugs and (or) psychotropic substances at least once in their lives; the difference is statistically significant ($\chi^2 = 41.581$, df = 1, p < 0.001) (Fig. 10).

It has been established that statistically significantly more older (20 years and over) (32.5 percent) than younger (18–19 years old) (26.9 percent) students had used drugs and (or) psychotropic substances at least once in their lives ($\chi^2 = 4.900$, df = 1, p = 0.027).

Analysing prevalence of drugs and (or) psychotropic substances according to the fields of sciences, it has been established that statistically significantly more students of technologies (38.1 percent) than of biomedicine (30.0 percent) ($\chi^2 = 4.101$, df = 1, p = 0.043), social (30.1 percent) ($\chi^2 = 4.513$, df = 1, p = 0.034) and humanities (29.3 percent) ($\chi^2 = 3.936$, df **=** 1, p = 0.047) had used drugs and (or) psychotropic substances at least once in their lives.

The results of the research showed that the most prevalent drug among the students is cannabis (hashish or marihuana). Cannabis LTP, LYP and LMP parameters for the whole sample under research are as follows: LTP – 30.3 percent, LYP – 17.7 percent, LMP 6.8 percent cannabis prevalence parameters LTP, LYP and LMP of boys are higher than of girls; the difference is statistically significant (p < 0.05) (Fig. 11).
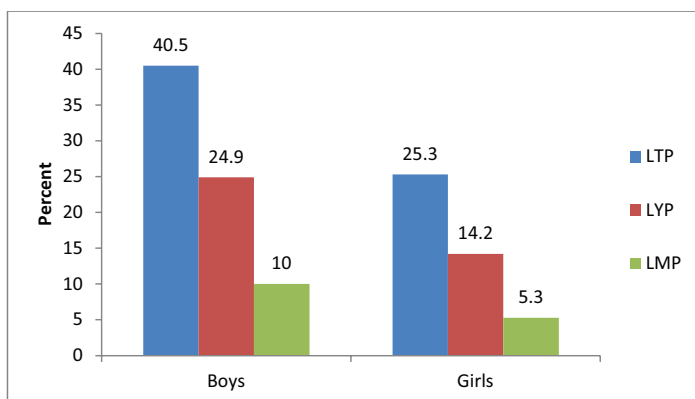
* LTP – life time prevalence ($\chi^2 = 44.453$, df = 1, p < 0.001)
  LYP – last year prevalence ($\chi^2 = 31.768$, df = 1, p < 0.001)
  LMP – last month prevalence ($\chi^2 = 14.167$, df = 1, p < 0.001)

Fig. 11 Distribution of students (percent) by use of cannabis, depending on the sex

The highest prevalence of cannabis (31.8 percent) at least once in life has been established in the group of the students 20 years and over old; the difference
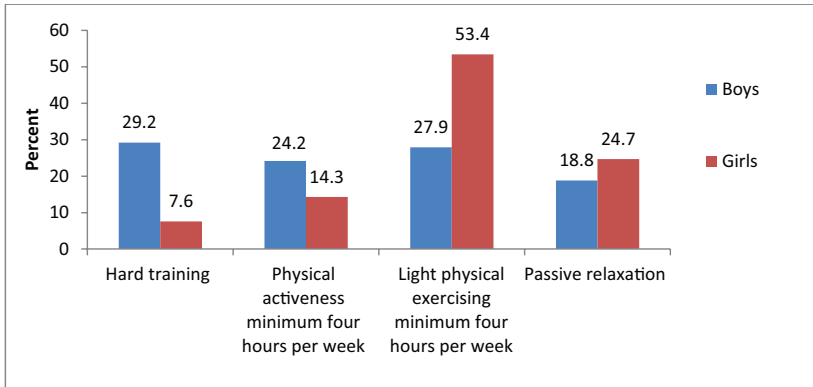
Fig. 12 Distribution of students (percent) by physical activeness typical for leisure time, depending on the sex (χ^2 =212.096, df = 3, p<0.001)

sitting position are statistically significantly more typical for girls (24.7 percent) than for boys (18.8 percent) (χ^2 = 7.988, df = 1, p = 0.005) (Fig. 12).

Physical activeness minimum four hours a week is more common for older students (18.6 percent) than to the younger ones (14.5 percent); the difference is statistically significant (χ^2 = 3.941, df = 1, p = 0.047). Hard exercising is more common among the students that are not State–financed (18 percent) than among the students that are State–financed (13.9 percent); the difference is statistically significant (χ^2 = 3.980, df = 1, p = 0.046).

For more than one-third of students of all fields of sciences light physical exercising minimum four hours a week is common in their leisure time, but more students of biomedicine sciences (51.5 percent) than of physical (31.9 percent) (χ^2 = 20.140, df = 1, p < 0.001) and social sciences (43.1 percent) indicated that (χ^2 = 7.797, df = 1, p = 0.005).

Assessing physical activeness of the students they were asked to indicate whether they exercised at least once a week (jogging, bicycling, exercising and etc.). It has been established that the majority (74 percent) of the students exercise during their leisure time. Analysing students' answers to the question "Do you exercise at least once a week?" by sex, it has been established that statistically significantly more boys (82.6 percent) than girls (69.7 percent) exercised in their leisure time (χ^2 = 35.085, df = 1, p < 0.001).

Analysing the answers of the students to the question "Do you exercise at least once a week during your leisure time?" by the residential environment, it has been

established that more students that live with parents (77.9 percent) than those living in hostels (70.9 percent) exercise during their leisure time; the difference is statistically significant (χ^2 = 7.562, df = 1, p = 0.006).

Analysing the answers of the students to the question "Do you exercise at least once a week during your leisure time?" by the field of science it has been established that statistically significantly more students of technologies (83.2 percent) than of the social sciences (71.4 percent) (χ^2 = 11.244, df = 1, p = 0.001) and humanities (66.0 percent) (χ^2 = 17,083, df = 1, p < 0.001) exercise in their leisure time.

Students that exercise at least once a week were asked to indicate the duration of their physical activity. The majority of the students (67.9 percent) are physically active more than one hour a week. It has been established that the duration of physical activities of 34.1 percent of the respondents is from one hour to three hours a week, of 33.8 percent of the respondents it exceeds three hours a week.

Analysing the duration of students' physical activeness by the sex, it has been established that duration of physical activeness of boys is longer than of girls. Almost every second boy (44.9 percent) indicated the duration of his physical activities as exceeding three hours per week; the same indicated 27.6 percent of girls; the difference is statistically significant (χ^2 = 44.162, df = 1; p < 0.001).

Analysing duration of students' physical activeness by the fields of sciences, it has been established that statistically significantly more students of physical sciences (38.6 percent) than of humanities (25.7 percent) indicate the duration of their physical activeness as exceeding three hours per week; the difference is statistically significant (χ^2 = 6.634, df = 1, p = 0.010). The duration of physical activeness from one hour to three hours per week statistically significantly more indicate the students of technologies (40.7 percent) than the students of social sciences (30.8 percent) (χ^2 = 5.682, df = 1, p = 0.017) and humanities (30.5 percent) (χ^2 = 4.047, df = 1, p = 0.044).

3.5. Factors determining students' nutrition, use of psychoactive substances, physical activeness and the knowledge about nutrition

Nutrition of the majority of the students – 1042 (59.4 percent) – is not healthy and it is healthy of 713 students (40.6 percent). The results of the study showed that living with parents increase the chance of healthy nutrition 2.3 times, if compared with the living in hostels (ORa = 2.30, 95 % PI 1.70–3.11, p < 0.001). The chance of

healthy nutrition increases 1.5 times for the students that have sufficient physical activeness, if compared with the students that are insufficiently physically active (ORa = 1.51, 95 % PI 1.17–1.96, p = 0.002). Sufficient knowledge about nutrition almost 1.5 time increase the chance of healthy nutrition (ORa = 1.49, 95 % PI 1.13–1.96, p = 0.004). No statistically significant relation between the sex, bad habits, nature of financing of studies and employment with healthy nutrition has been established.

It has been established that the knowledge about nutrition of the majority of the students – 1172 (64.6 percent) – is insufficient and it is sufficient of 642 students (35.4 percent). It has been established that girls have two times higher chance to have sufficient knowledge about nutrition than boys (ORa = 1.96, 95 % PI 1.43–2.69, p < 0.001). Healthy nutrition 1.5 times increases the chance to have sufficient knowledge about nutrition (ORa = 1.51, 95 % PI 1.15–1.98, p = 0.003). Another place of accommodation almost by 60 percent decreases the chance (ORa = 0.44, 95 % PI 0.26–0.75, p = 0.002). No statistically significant relation between bad habits, nature of financing of studies and employment with the students' knowledge on nutrition has been established.

Analysing physical activeness of the students it has been established that physical activeness of the majority of the students – 897 (65.4 percent) – was sufficient and it was insufficient of 475 students (34.6 percent). It has been established that the chance of sufficient physical activeness of boys is two times higher than of girls (ORa = 2.19, 95 % PI 1.62–2.97, p < 0.001). Students that have sufficient knowledge about nutrition have more than 70 percent increased chance of sufficient physical activeness, if compared to the students with insufficient knowledge about nutrition (ORa = 1.73, 95 % PI 1.30–2.31, p < 0.001). Healthy nutrition 1.5 times increases the chance of sufficient physical activeness (ORa = 1.51, 95 % PI 1.17–1.96, p = 0.002).

Smoking student is the student that indicated smoking during the last month. It has been established that 733 (40.2 percent) students smoked and 1090 (59.8 percent) did not smoke. It has been established that consumption of alcohol almost five times (ORa = 4.80, 95 % PI 3.0–7.68, p < 0.001), use of drugs 12.5 times increase the smoking chance (ORa = 12.54, 95 % PI 6.69–23.53, p < 0.001). Another accommodation place indicated by the students increases the smoking chance by 80 percent (ORa = 1.80, 95 % PI 1.13–2.86, p = 0.013).

Alcohol consuming student is the student that indicated alcohol drinking during the last month. It has been established that the majority – 1544 (84.6 percent)

students – use alcohol and 275 (15.1 percent) of students do not use it. It has been established that the use of drugs increases the chance of alcohol consumption 11 times (ORa= 11.13, 95 % 1.47–84.40, p = 0.020), the use of tobacco increases the alcohol consumption chance almost 5 times (ORa = 4.89, 95 % PI 3.06–7.83, p < 0.001).

A student using drugs and psychotropic substances is the student that indicated using any drug and (or) psychotropic substance during the last month. It has been established that the majority – 1689 (93 percent) students – do not use drugs and 127 (seven percent) students use drugs. It has been established that the probability of drugs use is two times higher for boys that for girls (ORa = 2.32, 95 % 1.31–4.11, p = 0.004). Alcohol consumption increases the probability of drugs use 12 times (ORa = 12.17, 95 % PI 1.42–104.42, p = 0.023), tobacco use – nine times (ORa = 9.62, 95 % PI 4.95–18.68, p < 0.001). Students that have several acquaintances using drugs have 11 times higher chance to use drugs than those students that have no acquaintances using drugs, and the students with the majority of their acquaintances using drugs have even 51 time higher chance.

4. CONCLUSIONS

1. The majority (90.1 percent) of the students do not follow nutrition regime, 97.6 percent of the students eat snacks. Only 19.8 percent of the students eat fresh vegetables sufficiently, cereal-based products – 46.3 percent, fish and fish products – 33.3 percent. 89.1 percent additionally salt ready-made products. The nutrition of the Lithuanian high school students does not correspond to the healthy nutrition recommendations.

2. Physical activeness of almost 2/3 of the students (65.4 percent) is sufficient. 74 percent of the students exercise during their leisure time; the duration of physical activeness of 67.9 percent of the students exceeds one hour per week. The leisure time of 44.9 percent of the students during the last month can be characterized by light physical exercising minimum four hours per week.

3. Prevalence of psychoactive substances among the students is high. During the last 30 days 84.9 percent of the students drank alcohol, 40.2 percent smoked. 31 percent of the students used drugs and (or) psychotropic substances at least once in their lives. The most prevalent is the use of cannabis – 6.8 percent of the students used it during the last 30 days.

4. Almost 2/3 of the students (64.6 percent) have insufficient knowledge about nutrition. More student girls, unemployed, non-smokers, sufficiently physically active and keeping healthy diets had sufficient knowledge on nutrition.

5. Healthy nutrition of the students is determined by residential environment, sufficient physical activeness and good knowledge about nutrition. The factors that determine students' knowledge about nutrition – the female sex, physical activeness, healthy diet and residential environment. Sufficient activeness is determined by the male sex, healthy diet and sufficient knowledge about nutrition. The use of drugs and psychotropic substances is determined by physical activeness and the fact that drugs are used by acquaintances of the students. The use of particular psychoactive substances is determined by the use of other psychoactive substances.

5. RECOMMENDATIONS

1. We recommend to the Municipal Public Health Offices to plan and implement measures which would enhance the lifestyle of students, paying attention to healthy diets, physical activeness and reducing the use of psychoactive substances.

2. We recommend to the Department of Drugs, Tobacco and Alcohol Control to foresee measures on reduction of the students' use of psychoactive substances and to implement them.

3. The results of the study are recommended for the use in the development of national strategic documents and measures aimed at improvement of health of both the students and of the entire population of Lithuania.

6. LIST OF PUBLICATIONS

1. Astrauskienė A., Dobrovolskij V., Stukas R. The Prevalence of Problem Drug Use in Lithuania. Medicina 2011; 47(6): 340–346.

2. Dobrovolskij V., Stukas R. Dietary habits among students. Visuomenės sveikata 2012; annex Nr. 1: 14–19.

3. Dobrovolskij V., Stukas R. The peculiarities of use of psychoactive substances among students in Lithuania high schools. Sveikatos mokslai 2014; 3 (94): 16–22.

7. PRESENTATIONS

1. Dobrovolskij V., Stukas R. „Eating habits of students in different countries (review of literature)". The international conference "Evolution medicine: new solutions for the old problems", 12–15 of June, 2012, Vilnius.

2. Dobrovolskij V., Astrauskienė A., Stukas R. "The prevalence and characteristics of problem drug use in Lithuania". 12th World Congress on Environmental Health "New Technologies, healthy Human Being and Environment", 22-27 of May, 2012, Vilnius.

3. Dobrovolskij V., Astrauskienė A., Stukas R. "Problem drug use in Lithuania". The 5th European Public Health Conference, 8-10 of November, 2012, Malta.

4. Dobrovolskij V., Astrauskienė A., Stukas R. "Problem drug use in Lithuania". 1st Arab World Conference on Public Health, 4–6 of March 2013, Dubai.

5. Dobrovolskij V., Astrauskienė A., Stukas R. "Problem drug use in Lithuania". The international conference "The values of harm reduction", 9–12 of June, 2013, Klaipėda.

6. Dobrovolskij V., Stukas R. "The peculiarities of use of psychoactive substances among students in Lithuanian high schools". The international conference „Evolutionary medicine: perspectives in understanding health and disease", 27–30 of May, 2014, Vilnius.

INFORMATION ABOUT AUTHOR

Valerij Dobrovolskij

Date of birth   29 of December, 1983

Contact e-mail   valerij.dobrovolskij@gmail.com

Education:

2002–2008   Vilnius University, Faculty of Medicine,
Bachelor degree in Public Health

2008-2010   Vilnius University, Faculty of Medicine,
Master degree in Public Health

From 2010   Vilnius University, Faculty of Medicine,
PhD student in Public Health Institute

Working Experience:

2008–2012   Drug Control Department under the Government of the
Republic of Lithuania (chief specialist)

From 2011   Vilnius University, Faculty of Medicine, Public Health
Institute (assistant)

From 2011   Drug, Tobacco and Alcohol Control Department
(deputy head)

LIETUVOS AUKŠTŲJŲ UNIVERSITETINIŲ MOKYKLŲ STUDENTŲ MITYBOS IR GYVENSENOS YPATUMAI, JUOS LEMIANTYS VEIKSNIAI

Reziumė

Tiriamoji problema ir jos aktualumas

PSO duomenimis, 2009 metais 80 proc. mirčių Europoje priežastis buvo lėtinės neinfekcinės ligos. Šios ligos tiesiogiai susijusios su gyvensenos įpročiais – mityba, fiziniu aktyvumu, psichoaktyviųjų medžiagų vartojimu. Dėl netinkamų gyvensenos įpročių ateityje gali padaugėti tokių lėtinių ligų kaip kraujagyslių sistemos ligos, padidėjęs kraujospūdis, antrojo tipo diabetas, insultas, kai kurių tipų vėžys, griaučių raumenų sistemos ligos ir net įvairūs psichikos sveikatos sutrikimai.

Sveika gyvensena – individo ar socialinės grupės gyvenimo būdas, fizinį pajėgumą, sveikatą palaikančių, tausojančių ir stiprinančių kasdienių įpročių visuma: kasdienis fizinis aktyvumas, miego, mitybos, darbo ir poilsio režimo laikymasis, svaigiųjų gėrimų, narkotikų, rūkalų nevartojimas ir kt.

PSO duomenimis, žmonių sveikata daug priklauso nuo gyvensenos ir mitybos, tačiau pastaraisiais dešimtmečiais Europos šalyse atliktų gyventojų mitybos tyrimų duomenys rodo blogėjančią gyventojų mitybos būklę. Lietuvos gyventojų mityba taip pat nėra tinkama. Mokslinių tyrimų duomenys rodo, kad Europoje dauguma jaunuolių ir suaugusiųjų yra nepakankamai fiziškai aktyvūs. Tik trečdalio gyventojų fizinis aktyvumas pakankamas. Tokia pati situacija susidarė ir Lietuvoje. Europos narkotikų ir narkomanijos stebėsenos centro 2012 metų metinės ataskaitos duomenimis, kas ketvirtas Europos gyventojas nors kartą gyvenime vartojo kanapes. Narkotikų, tabako ir alkoholio kontrolės departamento 2012 metais atlikto tyrimo duomenimis, kas dešimtas Lietuvos gyventojas nors kartą gyvenime buvo bandęs bent vieną narkotinę ar psichotropinę medžiagą. Psichoaktyviųjų medžiagų vartojimo paplitimo Lietuvoje tyrimo duomenys rodo, kad 2012 metais daugiau nei aštuoni iš dešimties 15–64 metų amžiaus asmenų per paskutinius 12 mėn. yra vartoję alkoholinius gėrimus ir beveik pusė 15–64 metų Lietuvos gyventojų per paskutinius metus rūkė.

Studijų laikotarpis siejamas su dideliu protiniu ir fiziniu aktyvumu, kuris turi būti kompensuojamas visaverte mityba. Tai laikotarpis, kuriuo lengvai įgyjami netinkami gyvensenos įpročiai, o šie gali turėti neigiamų padarinių ateityje. Studijų pradžia yra susijusi su gyvenamosios aplinkos pasikeitimu, naujais gyvensenos įpročiais.

Nors studentų mitybos, fizinio aktyvumo ir psichoaktyviųjų medžiagų vartojimo tyrimų nestinga, tačiau kompleksinių Lietuvos aukštųjų mokyklų studentų tyrimų, nagrinėjančių studentų mitybos ypatumus, fizinį aktyvumą, psichoaktyviųjų medžiagų vartojimą, žinias apie mitybą bei juos lemiančius veiksnius, Lietuvoje iki šiol neatlikta. Dažniausiai tiriami studentų gyvensenos įpročiai universiteto, fakulteto arba studijuojamos studijų programos lygmeniu.

Darbo tikslas ir uždaviniai

Darbo tikslas – įvertinti Lietuvos aukštųjų universitetinių mokyklų studentų mitybos ir gyvensenos ypatumus, juos lemiančius veiksnius.

Darbo uždaviniai:

1. Nustatyti ir įvertinti studentų mitybos įpročius.
2. Nustatyti ir įvertinti studentų fizinio aktyvumo ypatumus.
3. Nustatyti ir įvertinti psichoaktyviųjų medžiagų vartojimo paplitimą tarp studentų.
4. Nustatyti ir įvertinti studentų žinias apie mitybą.
5. Išsiaiškinti studentų mitybą, psichoaktyviųjų medžiagų vartojimą, fizinį aktyvumą ir žinias apie mitybą lemiančius veiksnius.

Darbo mokslinis naujumas ir praktinė reikšmė

Disertaciniame darbe pirmą kartą išanalizuoti ir kompleksiškai įvertinti pagal socialines demografines charakteristikas Lietuvos aukštųjų universitetinių mokyklų studentų mitybos ypatumai, fizinis aktyvumas, psichoaktyviųjų medžiagų vartojimo paplitimas. Pirmą kartą Lietuvoje buvo nustatytos ir įvertintos studentų žinios apie mitybą, išsiaiškinti studentų mitybos įpročius, psichoaktyviųjų medžiagų vartojimą, fizinį aktyvumą ir žinias apie mitybą lemiantys veiksniai.

Disertacinio darbo rezultatai naudingi sveikatos politikams ir visuomenės sveikatos specialistams, rengiant valstybinius strateginius dokumentus bei priemones, kurios padėtų pagerinti tiek studentų, tiek visų Lietuvos gyventojų gyvenseną ir sveikatą.

Tyrimo medžiaga ir metodai

Tikslinė populiacija – Lietuvos aukštųjų universitetinių mokyklų studentai. Atsižvelgiant į tai, kad didžioji dalis studentų studijuoja valstybiniuose universitetuose ir studijuoja Vilniuje, buvo nuspręsta, kad *tyrimo populiacija* – Vilniaus valstybinių

universitetinių aukštųjų mokyklų studentai, tyrimo metu studijuojantys aukštosiose mokyklose pagrindinėse (bakalauro) ir magistrantūros studijose.

Tyrimui atlikti buvo parengta anketa, kurios sudarymui panaudoti kitų autorių klausimynai – Lietuvos gyventojų faktiškos mitybos bei mitybos ir gyvensenos įpročių tyrimo klausimynas ir Europos narkotikų ir narkomanijos stebėsenos centro Europinio modelio klausimynas. Taip pat į anketą papildomai buvo įtraukti klausimai apie požiūrį į mitybos aspektus.

Tyrimui atlikti 2012 m. vasario 7 d. išduotas Vilniaus regioninio biomedicininių tyrimų etikos komiteto leidimas Nr. 158200-02-456-131.

Buvo išdalyta ir surinkta 1 910 anketų, iš jų 86 užpildytos netinkamai, likusios **1 824** buvo panaudotos tyrime.

Statistinei analizei atlikti naudoti tradiciniai aprašomosios statistikos metodai. Tolydžių duomenų charakteristikoms apibūdinti buvo skaičiuoti vidurkiai, mediana, standartinis nuokrypis (SN). Kategorinių duomenų dažnis vertintas absoliučiais skaičiais ir procentais, įverčio intervaliniam vertinimui apskaičiuotas 95 proc. pasikliautinasis intervalas. Kategorinių duomenų analizei panaudotas χ^2 ir Fisherio tikslusis metodas. Duomenys, priklausantys rangų skalei, analizuoti Manno ir Whitney U (Mann–Whitney U) bei Kruskalio ir Walliso H (Kruskal Wallis) testais.

Bendram ryšiui tarp kategorinių kintamųjų buvo apskaičiuotas šansų santykis ir jo 95 proc. pasikliautinasis intervalas. Dvinarės logistinės regresijos modeliui sudaryti pasirinktas tiesioginis būdas – kintamuosius atrenka, šalina ir keičia pats tyrėjas. Kintamieji į modelį atrinkti ne tik statistiniu, bet ir epidemiologiniu požiūriu. Išvadų apie nepriklausomų kintamųjų ryšio su priklausomu kintamuoju vertinimui naudotas pakoreguotas šansų santykis.

Statistinio reikšmingumo lygmuo buvo pasirinktas α = 0,05, rezultatai buvo vertinami kaip statistiškai reikšmingi, kai p ≤ 0,05.

Duomenų tvarkymui ir statistinei analizei atlikti naudoti statistiniai paketai SPSS (v. 22.0) ir WinPepi (v. 11.26).

Atlikus tyrimą ir išanalizavus gautus rezultatus, padarytos šios išvados:

1. Didžioji dalis (90,1 proc.) studentų nesilaiko mitybos režimo, 97,6 proc. studentų užkandžiauja. Pakankamai dažnai šviežių daržovių vartoja tik 19,8 proc., grūdinių produktų – 46,3 proc., žuvies ir žuvies produktų – 33,3 proc. studentų. 89,1 proc. papildomai sūdo pagamintus patiekalus.

Lietuvos aukštųjų mokyklų studentų mityba neatitinka sveikos mitybos re-komendacijų.

2. Beveik 2/3 studentų (65,4 proc.) fizinis aktyvumas pakankamas. 74 proc. studentų laisvalaikiu mankštinasi, 67,9 proc. studentų fizinio aktyvumo trukmė ilgesnė nei 1 valanda per savaitę. 44,9 proc. studentų laisvalaikiui per paskutinį mėnesį būdingi lengvi fiziniai pratimai mažiausiai 4 val. per savaitę.

3. Psichoaktyviųjų medžiagų vartojimo paplitimas tarp studentų didelis. Per paskutines 30 dienų alkoholį vartojo 84,9 proc., rūkė – 40,2 proc. studentų. 31 proc. studentų kada nors gyvenime vartojo narkotines ir (ar) psichotropines medžiagas. Labiausiai paplitęs kanapių vartojimas – per paskutines 30 dienų vartojo 6,8 proc. studentų.

4. Beveik 2/3 studentų (64,6 proc.) žinios apie mitybą nepakankamos. Daugiau merginų, nedirbančių, nerūkančių, pakankamai fiziškai aktyvių ir sveikai besimaitinančių studentų žinios apie mitybą buvo pakankamos.

5. Studentų sveiką mitybą lemia gyvenamoji aplinka, pakankamas fizinis aktyvumas ir geros žinios apie mitybą. Studentų žinias apie mitybą lemiantys veiksniai – moteriškoji lytis, fizinis aktyvumas, sveika mityba ir gyvenamoji aplinka. Pakankamą fizinį aktyvumą lemia vyriškoji lytis, sveika mityba ir pakankamos žinios apie mitybą. Narkotinių ir psichotropinių medžiagų vartojimą lemia fizinis aktyvumas ir tai, kad narkotikus vartoja studentų pažįstami asmenys. Vienų psichoaktyviųjų medžiagų vartojimą lemia kitų psichoaktyviųjų medžiagų vartojimas.

Rekomendacijos:

1. Rekomenduojame savivaldybių visuomenės sveikatos biurams planuoti ir įgyvendinti studentų gyvenseną stiprinančias priemones, skiriant dėmesį sveikai mitybai, fiziniam aktyvumui ir psichoaktyviųjų medžiagų vartojimo mažinimui.

2. Rekomenduojame Narkotikų, tabako ir alkoholio kontrolės departamentui numatyti studentų psichoaktyviųjų medžiagų vartojimo mažinimo priemones ir jas vykdyti.

3. Tyrimo rezultatus rekomenduojame naudoti rengiant valstybinius strateginius dokumentus bei priemones, kurios padėtų pagerinti tiek studentų, tiek visų Lietuvos gyventojų sveikatą.

INFORMACIJA APIE AUTORIŲ

Valerij Dobrovolskij

Gimimo data   1983 12 29

El. p. adresas   valerij.dobrovolskij@gmail.com

Išsilavinimas:

2002–2008   Vilniaus universitetas Medicinos fakultetas.
Visuomenės sveikatos bakalauro kvalifikacinis laipsnis.

2008–2010   Vilniaus universitetas Medicinos fakultetas.
Visuomenės sveikatos magistro kvalifikacinis laipsnis.

Nuo 2010   Vilniaus universitetas Medicinos fakultetas.
Visuomenės sveikatos doktorantas.

Darbo patirtis:

2008–2012   Narkotikų kontrolės departamentas prie Lietuvos
Respublikos Vyriausybės (vyriausiasis specialistas)

Nuo 2011   Vilniaus universitetas Medicinos fakultetas Visuomenės
sveikatos institutas (asistentas)

Nuo 2011   Narkotikų, tabako ir alkoholio kontrolės departamentas
(vedėjo pavaduotojas)