HYGIENIC DESCRIPTION OF LIFESTYLE FACTORS AMONG STUDENTS OF COLLEGES

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Assessment of lifestyle factors is a pressing issue with a high social and state value. Purpose of the study is to compare lifestyle factors of young men and young women who study at colleges. A cross-sectional sampling descriptive study was conducted in 2021–2022. 371 students from 2 colleges of various profiles aged 16 to 20 (25.4% of young men and 74.6% of young women) participated in the study. Socioeconomic indicators, regimen of nutrition, periodic consumption of basic products and dishes, taste preferences of students, compliance with sleep pattern, duration of self-preparation for lessons, physical exercises and sporting activities, creative hobbies and use of gadgets were examined. It has been established that the majority of young people live in favorable social conditions, over one-third of them stay away from their parents and other adult relatives. The majority of those interviewed estimate income of their families as an average, all families have at least one PC. The majority of students have eating disorders, peculiarities of dietary behavior, and violations of the regimen of the day such as insufficient sleep duration, high academic load, insufficient involvement in creative or social activity, low level of motor activity and walking, long-term use of PCs and other gadgets.

Keywords: lifestyle, nutrition, physical activity, young people, students, colleges

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Compliance with ethical standards: voluntary informed consent has been obtained from all those interviewed before the study.

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ГИГИЕНИЧЕСКАЯ ХАРАКТЕРИСТИКА ФАКТОРОВ ОБРАЗА ЖИЗНИ УЧАЩИХСЯ КОЛЛЕДЖЕЙ

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Оценка факторов образа жизни является актуальной проблемой, имеющей высокую общественную и государственную значимость. Цель исследования — проведение сравнительного анализа факторов образа жизни юношей и девушек, обучающихся в колледжах. В течение 2021–2022 гг. было проведено выборочное описательное одномоментное исследование методом анкетного опроса. В исследовании приняли участие 371 учащихся 2 колледжей разного профиля в возрасте от 16 до 20 лет, 25,4% юношей и 74,6% девушек. Изучены показатели социально-экономического статуса, режим питания, периодичность потребления основных продуктов и блюд, вкусовые предпочтения обучающихся, соблюдение режима сна, продолжительность самоподготовки к учебным занятиям, занятий физической культурой и спортом, творческими увлечениями, использования гаджетов. Установлено, что социальные условия проживания большей части молодых людей благополучные, более трети проживают отдельно от родителей и других взрослых родственников. Большинство респондентов оценивают доход семьи как средний, во всех семьях есть минимум один компьютер. У значительной части обучающихся выявлены нарушения режима питания, найдены особенности пищевого поведения, обнаружены нарушения режима дня: недостаточная продолжительность сна, высокая учебная нагрузка, недостаточная вовлеченность в творческую или общественную деятельность, низкий уровень двигательной активности и пеших прогулок, продолжительное использование компьютеров и других гаджетов.

Ключевые слова: образ жизни, питание, физическая активность, молодежь, учащиеся, колледжи

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Соблюдение этических стандартов: перед началом исследования получено добровольное информированное согласие от всех респондентов.

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Health is a natural condition of the body caused by normal functioning of all organs and systems. In accordance with literature and Rosstat, percentage of young people with the first group of health is steadily declining [1]. Scientists associate

the issue with changes in the lifestyle [2–3]. Hypodynamia, excessive energy value and imbalanced diet are pressing modern issues and primary sources of non-infectious diseases [4–6]. Thus, examining the lifestyle of students under modern

social and economic conditions is a pressing issue, the solution of which allows not just to assess the risk factors of losing health but also develop evidence-based measures to preserve and strengthen health of students and enhance the possibilities to obtain more qualitative professional education [7–9]. The purpose of the study is to perform a comparative analysis of lifestyle factors among young men and young women who study at colleges.

MATERIALS AND METHODS

Theoretical (literature analysis), empirical (surveying) and statistical methods are used to achieve the goal. From April 2021 to May 2022, a sampling observational descriptive crossover (one stage) study was performed on Google-forms platform using the survey method. The study object was represented by students from two colleges of Yekaterinburg. 371 students with 25.4% of young men and 74.6% young women aged 16 to 20 who provided an informed voluntary consent participated in the study. The subject of the study was represented by social and economic indicators (living conditions, education of parents, perception of income, availability of a car and PCs in a family) and lifestyle factors such as nutrition regimen, frequency of consumption of basic products, peculiarities of dietary behavior, sleeping pattern, duration of self-preparation for classes, periodicity and duration of walks and involvement in creative activity, physical activity, use of stationary and mobile electronic gadgets.

Questionnaire based on Health Behavior in School-Aged Children (HBSC, 2017), Health and Nutrition Intercultural Quality Life Research (Federal Research Center for Nutrition, Biotechnology and Safety of Food, 2018) and Nutrition Behavior Survey by Savchikova Yu. L. (2005) WHO international surveys were used to study a lifestyle. The data were analyzed using extensive values and their errors for qualitative attributes, mean values and errors for quantitative attributes. Extensive indicators were calculated according to the following formula: part of phenomenon (environment)/ whole phenomenon (environment) x 100%. The error was calculated by the following formula: $m = \sqrt{P^*(100 - P)/n} - 1$, where P is a value of the extensive indicator, n is a sampling size.

The statistical difference between the groups of comparison (young men and young women) was estimated using the Student's t-test for relative values: $t = (P_1 - P_2) / \sqrt{(m_1^2 + m_2^2)}$

The average value was estimated using the following formula: $Mcp. = \sum M_i / n$, where M_i means the value indicator for every sampling participant. The error of mean was calculated using the following formula: $m = \sigma / \sqrt{N}$, where N is a sampling size. The statistical value between the comparison groups was estimated by the Student's t-test for average values: $t = (Mcp_1 - m^2)^2 + (Mcp_1 - m^2)^2$

 Mcp_2) / $\sqrt{(m_1^2 + m_2^2)}$. The statistical significance of differences was assessed at the level of significance equal to $p \le 0.05$.

Statistical analysis was done using Microsoft Excel 2007 (USA).

RESULTS

According to the results, it has been found out that young men more commonly live with their mothers (59.6 \pm 5.1%), and less frequently with other relatives: father (34.0 \pm 4.9%), sister (23.4 \pm 4.4%), and brother (20.2 \pm 4.1%) (p < 0.05). They live separately from adult family members (19.1 \pm 4.1%), with a friend or girlfriend (18.1 \pm 4.0%) (p < 0.05). According to the survey, girls more commonly live with their mothers (52.3 \pm 3.0%) and other family members: father (30.3 \pm 2.8%), sister (23.1 \pm 2.5%), and brother (19.9 \pm 2.4%) (p < 0.05). As compared with young men, they live alone or with a boyfriend/ friend with the same frequency: $(13.7 \pm 2.1\%)$ µ $(26.0 \pm 2.6\%)$ respectively (p > 0.05). According to the survey, (56.38 \pm 5.1%) mothers and (28.7 \pm 4.7%) fathers (p < 0.05) of young men, and $(48.7 \pm 3\%)$ mothers and $(28.2 \pm 2.7\%)$ fathers (p < 0.05) of young women have higher education. (33.2 ± 4.9%) of mothers and (39.5 \pm 5.1%) of fathers (p > 0.05) of young men, and (33.6 \pm 2.5%) of mothers and (41.2 \pm 3.0%) of fathers (p > 0.05) of young women have secondary professional education.

The majority of surveyed (70.2 \pm 4.7%) young men and (83.8 ± 2.2%) young women believe that their families have the same income as others. (80.9 \pm 4.1%) of young men and (86.2 \pm 2.1%) young women have a room of their own (p > 0.05). Families of young men (41.5 \pm 5.1%) and young women (41.1 6 \pm 3.0%) (p > 0.05) have one computer. Two computers can be found in the families of (27.7 \pm 4.6%) young men and (41.2 \pm 3.0%) young women (p < 0.05); more than two computers are available in the families of (25.5 \pm 4.5%) young men and (17.3 \pm 2.3%) young women (p > 0.05). More than half of families have one car: the response was provided by (56.4 \pm 5.1%) young men and (52.4 \pm 3.0%) of young women (p > .05). (24.5 \pm 4.4%) of young men and (27.1 \pm 2.7%) of young girls have no car in their families. Within the last 12 months, families of young men went for holiday only once (23.4 \pm 4.4%), twice (13.8 \pm 3.6%), more than twice (20.2 \pm 4.1%), had no holiday at all (42.6 \pm 5.1%). Families of (33.9 \pm 2.8%) young women went for holiday once (p < 0.05), twice (12.6 ± 2.0%) (p > 0.05), more than twice (11.6 $\pm 1.9\%$) (p > 0.05), had no holiday at all (41.9 $\pm 3.0\%$) (p > 0.05).

According to the survey, it has been established that not all students follow the principles of rational nutrition. Many students skip a meal, which can later produce an unfavorable effect on the gastrointestinal tract. Most frequently both young men, and young women skip breakfast or dinner (fig. 1).

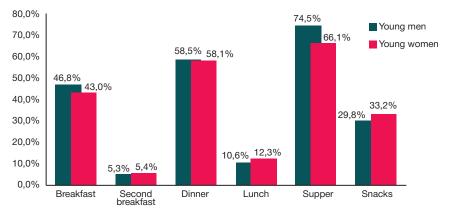


Fig. 1. Percentage of students who daily take main and additional meals

Table 1. Frequency of consuming food products and related dishes within the last month, $P \pm m$

Products and dishes	Gender	Over 5 times a day	3–4 times a day	1-2 times a day	4–6 times a day	2-3 times a day	1 time a day	1-2 times a day	never
Fruits	М	2.1 ± 1.5	1.1 ± 1.1	9.6 ± 3.0	19.1 ± 4.1	31.9 ± 4.8	20.2 ± 4.1	12.8 ± 3.4	3.2 ± 1.8
	F	0.4 ± 0.4	3.6 ± 1.1	13.4 ± 2.0	16.9 ± 2.3	23.1 ± 2.5	21.7 ± 2.5	18.8 ± 2.3	2.2 ± 0.9
Vegetables	М	1.1 ± 1.1	4.3 ± 2.1	16.0 ± 3.8	15.9 ± 3.8	35.1 ± 4.9	18.1 ± 4.0	8.5 ± 2.9	1.1 ± 1.1
	F	0.7 ± 0.5	5.8 ± 1.4	14.8 ± 2.1	20.9 ± 2.4	31.8 ± 2.8	14.8 ± 2.1	10.5 ± 1.8	0.7 ± 0.5
Milk and other dairy products	М	3.2 ± 1.8	8.5 ± 2.9	19.1 ± 4.1	17.1 ± 3.9	14.9 ± 3.7	14.9 ± 3.7	13.8 ± 3.6	8.5 ± 2.9
	F	1.8 ± 0.8	4.7 ± 1.3	15.2 ± 2.2	21.2 ± 2.5	19.9 ± 2.4	18.1 ± 2.3	9.7 ± 1.8	9.4 ± 1.8
Cottage cheese or cheese	М	1.1 ± 1.1	1.1 ± 1.1	11.7 ± 3.3	15.9 ± 3.8	24.5 ± 4.4	23.4 ± 4.4	16.0 ± 3.8	6.4 ± 2.5
	F	1.1 ± 0.6	1.4 ± 0.7	8.3 ± 1.7	15.8 ± 2.2	25.3 ± 2.6	23.1 ± 2.5	18.1 ± 2.3	6.9 ± 1.5
Cream cheese and sweet dairy-based desserts	М	1.1 ± 1.1	3.2 ± 1.8	4.3 ± 2.1	14.8 ± 3.7	19.1 ± 4.1	20.2 ± 4.1	28.7 ± 4.7*	8.5 ± 2.9
	F	2.2 ± 0.9	1.8 ± 0.8	5.8 ± 1.4	16.2 ± 2.2	24.2 ± 2.6	23.8 ± 2.6	17.3 ± 2.3*	8.7 ± 1.7
Meat, bakery	М	3.2 ± 1.8	7.4 ± 2.7	21.3 ± 4.2	25.5 ± 4.5	20.2 ± 4.1	13.8 ± 3.6	5.3 ± 2.3	3.2 ± 1.8
	F	0.7 ± 0.5	5.1 ± 1.3	20.6 ± 2.4	20.9 ± 2.4	24.9 ± 2,	16.6 ± 2.2	9.0 ± 1.7	2.2 ± 0.9
Sausages	М	1.1 ± 1.1	7.4 ± 2.7	13.8 ± 3.6	25.5 ± 4.5*	14.9 ± 3.7	19.1 ± 4.1	11.7 ± 3.3	6.4 ± 2.5
	F	1.1 ± 0.6	3.6 ± 1.1	10.5 ± 1.8	11.9 ± 1.9*	28.2 ± 2.7	20.6 ± 2.4	14.4 ± 2.1	9.7 ± 1.8
Fish and seafood	М	1.1 ± 1.1	3.2 ± 1.8	5.3 ± 2.3	10 ± 3.0	16.0 ± 3.8	19.1 ± 4.1 *	28.7 ± 4.7	17.0 ± 3.9
	F	0.7 ± 0.5	1.1 ± 0.6	3.6 ± 1.1	5.1 ± 1.3	17.0 ± 2.3	30.0 ± 2.8*	27.8 ± 2.7	14.8 ± 2.1
	М	2.1 ± 1.5	5.3 ± 2.3	12.8 ± 3.4	23.4 ± 4.4*	26.6 ± 4.6	14.9 ± 3.7*	12.8 ± 3.4	2.1 ± 1.5
Pasta	F	1.4 ± 0.7	2.5 ± 0.9	11.2 ± 1.9	13.3 ± 2.0*	29.6 ± 2.7	31.8 ± 2.8*	7.2 ± 1.6	2.9 ± 1.0
Cereals, porridge	М	3.2 ± 1.8	5.3 ± 2.3	8.5 ± 2.9	21.2 ± 4.2	24.5 ± 4.4	19.1 ± 4.1	10.6 ± 3.2	7.4 ± 2.7
	F	0.7 ± 0.5	2.5 ± 0.9	6.9 ± 1.5	5.5 ± 2.2	30.3 ± 2.8	21.7 ± 2.5	10.8 ± 1.9	11.6 ± 1.9
Potatoes	М	1.1 ± 1.1	4.3 ± 2.1	10.6 ± 3.2	20.2 ± 4.1	36.2 ± 5.1	18.1 ± 4.0	9.6 ± 3.0	0
	F	0.7 ± 0.5	3.2 ± 1.1	9.4 ± 1.8	13.3 ± 2.0	32.9 ± 2.8	24.5 ± 2.6	11.2 ± 1.9	4.7 ± 1.3
Soups	М	3.2 ± 1.8	1.1 ± 1.1	13.8 ± 3.6	14.8 ± 3.7	28.7 ± 4.7	26.6 ± 4.6	10.6 ± 3.2	1.1 ± 1.1
	F	0.4 ± 0.4	3.2 ± 1.1	7.6 ± 1.6	16.2 ± 2.2	26.4 ± 2.6	22.7 ± 2.5	15.9 ± 2.2	7.6 ± 1.6
Eggs and related dishes	М	2.1 ± 1.5	3.2 ± 1.8	5.3 ± 2.3	19.1 ± 4.1 *	25.5 ± 4.5	24.5 ± 4.4	16.0 ± 3.8	4.3 ± 2.1
	F	0.7 ± 0.5	1.8 ± 0.8	8.7 ± 1.7	9.3 ± 1.8*	26.0 ± 2.6	24.2 ± 2.6	19.9 ± 2.4	9.4 ± 1.8
Bread	М	6.4 ± 2.5	13.8 ± 3.6	22.3 ± 4.3	14.9 ± 3.7	14.9 ± 3.7	14.9 ± 3.7	8.5 ± 2.9	4.3 ± 2.1
	F	2.9 ± 1.0	6.9 ± 1.5	14.1 ± 2.1	18.7 ± 2.3	18.4 ± 2.3	20.9 ± 2.4	9.7 ± 1.8	8.3 ± 1.7
Pies, pizza and other pastry	М	0	5.3 ± 2.3	12.8 ± 3.4	13.8 ± 3.6	21.3 ± 4.2	20.2 ± 4.1	23.4 ± 4.4	3.2 ± 1.8
	F	1.4 ± 0.7	2.9 ± 10	7.6 ± 1.6	13.3 ± 2.0	23.5 ± 2.5	23.1 ± 2.5	20.2 ± 2.4	7.9 ± 1.6
Chips, croutons and other snacks	М	1.1 ± 1.1	2.1 ± 1.5	2.1 ± 1.5	8.5 ± 2.9	13.8 ± 3.6	35.1 ± 4.9*	19.1 ± 4.1 *	18.1 ± 4.0
	F	1.1 ± 0.6	2.2 ± 0.9	2.2 ± 0.9	8.3 ± 1.7	19.1 ± 2.4	22.7 ± 2.5*	30.0 ± 2.8*	14.4 ± 2.1
Candies, gingerbread and other confectionary products	М	3.2 ± 1.8	3.2 ± 1.8	7.4 ± 2.7	18.1 ± 4.0	21.3 ± 4.2	22.3 ± 4.3	14.9 ± 3.7	9.6 ± 3.0
	F	1.1 ± 0.6	3.6 ± 1.1	7.6 ± 1.6	12.2 ± 2.0	23.8 ± 2.6	22.0 ± 2.5	17.7 ± 2.3	11.9 ± 1.9
Candies, chocolate	М	2.1 ± 1.5	3.2 ± 1.8	6.4 ± 2.5	10.6 ± 3.2	21.3 ± 4.2	31.9 ± 4.8	17.0 ± 3.9	7.4 ± 2.7
	F	3.6 ± 1.1	3.6 ± 1.1	8.3 ± 1.7	15.8 ± 2.2	22.4 ± 2.5	23.5 ± 2.5	17.0 ± 2.3	5.8 ± 1.4
Hamburgers, French fries, nuggets	M	2.1 ± 1.5	0	1.1 ± 1.1	7.4 ± 2.7	11.7 ± 3.3	20.2 ± 4.1	34.0 ± 4.9	24.5 ± 4.4
	F	1.8 ± 0.8	1.4 ± 0.7	2.5 ± 0.9	4.3 ± 2.3	10.5 ± 1.8	22.4 ± 4.3	40.1 ± 2.9	17.0 ± 2.3
Carbonated soft drinks	М	1.1 ± 1.1	1.1 ± 1.1	5.3 ± 2.3	12.8 ± 3.7	18.1 ± 4.0	27.7 ± 4.6	22.3 ± 4.3	10.6 ± 3.2
	F	2.2 ± 0.9	2.5 ± 0.9	3.2 ± 1.1	7.9 ± 2.2	15.9 ± 2.2	23.5 ± 2.5	28.2 ± 2.7	16.6 ± 2.2
Fruit juices, dried fruit drinks, berry drink, etc.	M	2.1 ± 1.5	2.1 ± 1.5	11.7 ± 3.3*	14.8 ± 3.7	20.2 ± 4.1	21.3 ± 4.2	19.1 ± 4.1	6.4 ± 2.5
	F	2.9±1.0	3.0 ± 1.0	3.6 ± 1.1 *	11.1 ± 1.9	22.0 ± 2.5	30.3 ± 2.8	17.7 ± 2.3	9.4 ± 1.8

Note: indicators with statistically significant differences are shown in bold (ρ < 0.05).

ОРИГИНАЛЬНОЕ ИССЛЕДОВАНИЕ

Table 2. Peculiarities of dietary behavior in students, $P \pm m$

Peculiarities of dietary behavior	Young men (n=94)	Young women (n=277)	
It frequently happens that they eat an excessive amount of food and feel that they can't stop and control what they eat and in what amount	38.2 ± 5.0*	23.1 ± 2.5	
They often overeat until they experience discomfort due to fullness of the stomach	18.1 ± 4.0*	32.1 ± 2.8	
They eat even what they don't like eating without being hungry	22.3 ± 4.3	33.2 ± 2.8	
They feel guilty when they eat more than usual	19.1 ± 4.1 *	36.1 ± 2.9	
Haunted by obsessive thoughts about food or how not to overeat	7.4 ± 2.7*	27.1 ± 2.7	
Get distracted from troubles and conflicts while eating	12.7 ± 3.4*	31.1 ± 2.8	
They eat everything what's on their plate because they were taught to do so as children	18.1 ± 4.0	23.1 ± 2.5	
They were pampered with food in childhood when they were ill or experienced unpleasant events	45.7 ± 5.1 *	58.8 ± 3.0	
They were deprived of food in childhood as a punishment	8.5 ± 2.9	4.6 ± 1.3	

Note: indicators with statistically significant differences are shown in bold (ρ < 0.05).

Meanwhile, (86.1 \pm 3.6%) of young men and (87.7 \pm 2.0%) of young women can have supper less than 2 hours before sleep. Only (20.2 \pm 4.1%) of young men and (21.2 \pm 2.5%) of young women have breakfast together with their parents. (42.5 \pm .1%) of men and (38.2 \pm 2.9%) of women have lunch with their friends. Representatives of both genders frequently have supper alone. Only a half of families follow the necessary frequency of nutrition and take food at a certain time.

During analysis it has been found out that a significant part of students rarely includes fruits, vegetables, milk products, cereals, fish into the diet; they prefer sausage products and pasta (table 1). Young men prefer sandwiches (54.2 \pm 5.1%), fruits, berries or nuts (53.1 \pm 5.1%) as snacks. Young women prefer fruits, berries, nuts (53.1 \pm 3.0%), dairy beverages/ yogurt (18.7 \pm 2.3%). The majority of families have necessary food products for cooking. Young men stated that they always have bread and bakery products (85.1 \pm 3.7%), pasta (77.6 \pm 4.3%), milk and dairy products (72.3 \pm 4.6%), fresh fruits and vegetables (68.1 \pm 4.8%), meat and poultry (68.1 \pm 4.8%) at home. The most girls always have cereals (84.5 \pm 2.2%), bread and bakery products (84.1 \pm 2.2%), milk and dairy products (80.9 \pm 2.4%), pasta (81.9 \pm 2.3%), meat and poultry (74.0 \pm 2.6%), fresh fruits and vegetables (72.2 \pm 2.7%) at their disposal.

Only (23.1 \pm 4.5%) of young women and (38.2 \pm 5.0%) of young men (p<0.05) believe that they have proper nutrition. Less than a half of those requested believe that their weight is normal: $(45.5 \pm 3.0\%)$ of young women and $(45.8 \pm 5.7\%)$ of young men (p>0.05). Meanwhile, (32.5 \pm 2.8%) of young women and $(23.4 \pm 4.4\%)$ of young men think that their weight is above normal values (p>0.05); whereas (14.4 \pm 2.1%) of young women and $(23.4 \pm 4.4\%)$ young men think that their weight is above the normal values (p<0.05). Girls would like to reduce their weight more frequently than boys: (40.1 ± 2.9%) against (25.5 \pm 4.5%) (p<0.05). According to the study results, young women get more emotional about excessive weight, amount of consumed food, eat their feelings, suffer from a guilty conscience if they eat more that they should, but they overeat less frequently than men (table 2). According to a half of those interviewed, their relatives have excessive weight.

When analyzing the sleep pattern, it has been established that the majority of those surveyed sleep less than 7 hours a day: (54.3 \pm 5.1%) of young men and (49.5 \pm 3.0%) of young women. About one fourth of interviewed young men (20.2 \pm 4.1%) and one-third part of women (32.1 \pm 2.8%) are deprived of sleep on a daily basis (ρ < 0.05).

Over 70% of those requested estimate their academic achievements as satisfactory. However, $(34.1 \pm 4.9\%)$ of young

men and (44.7 \pm 3.0%) of young women report that it's hard for them to study (p < 0.05). Average duration of self-preparation for classes in a college constitutes 2.4 \pm 0.04 hours per day among young women and 3.3 \pm 0.02 hours a day among young men. Percentage of young men, self-preparation in whom exceeds the hygienic standard (3 hours) amounted to (27.7 \pm 46%) in young men and (48.4 \pm 3.0%) in young women (p < 0.05).

(29.7 \pm 4.7%) of young men and (48.7 \pm 3.0%) of young women (p < 0.05) are engaged in creative and social activity and have hobby. Young men do it 3.25 \pm 0.07 times a week in average, whereas young women are engaged in this activity 2.49 \pm 0.04 times a week (p < 0.05). Average duration of classes has no statistically significant differences and amounted to 1.6 \pm 0.03 hours in women and 1.5 \pm 0.06 hours in men (p > 0.05). While assessing the results of motor activity it has been found out that (50.0 \pm 5.2%) of young men and (33.9 \pm 2.8%) of young women (p < 0.05) are engaged in regular physical exercises (apart from lessons in a college). An average number of lessons was 3.3 \pm 0.07 times a week with an average duration of 1.8 \pm 0.03 hours in men, and 2.2 \pm 0.03 times a week with an average duration of 1.5 \pm 0.01 hours in women.

According to WHO, physical activity should be no less than 1 hour a day or 7 hours a week [10]. While practicing different types of physical activity, support of parents and friends is important. In young men, their best friend/relative (43.6 \pm 5.3%), or less frequently, parents — father (10.6 \pm 3.2%) and mother (16.0 \pm 3.8%) — go in for sports (ρ < 0.05). As far as young women go, their sister or brother (38.3 \pm 2.9%), best friend (37.5 \pm 2.9%), and less frequently, parents — father (15.5 \pm 2.2%), mother (18.8 \pm 2.3%) (ρ < 0.05) — go in for sports.

(54.3 \pm 5.1%) of young men and (48.7 \pm 3.0%) of young women walk every day, (17.0 \pm 3.9%) of young men and (19.1 \pm 2.4%) of young women walk 4–6 times a week, (13.8 \pm 3.6%) of young men and (22.7 \pm 2.5%) of young women walk 1–3 times a week, whereas (14.9 \pm 3.7%) of young men and (9.4 \pm 1.8%) of young women walk less frequently than once a week or do not go for a walk at all. The average duration of walking during a day accounts for 1.8 \pm 0.05 hours a day in young men, and 1.6 \pm 0.04 hours a day in young women (p > 0.05).

According to analysis of frequency and duration of use of gadgets, the screen time was significantly increased on weekends as compared with academic days. Girls use gadgets more frequently than boys both during academic days and on weekends with the average time of their using being longer on weekends than on academic days (5.3 \pm 0.1 hours a day against 4.8 \pm 0.07 hours a day). Young men use gadgets for 4.4 \pm 0.1 hours on academic days and for 5.0 \pm 0.1 hours on

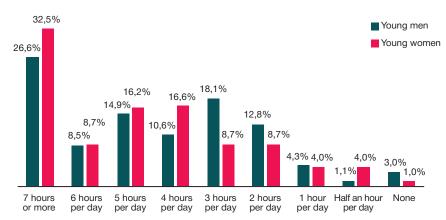


Fig. 2. Distribution of students by duration of using gadgets during non-study time on academic days

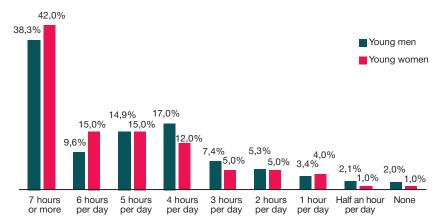


Fig. 3. Distribution of students by duration of using gadgets during non-study time on weekends

weekends. (87 \pm 3.7%) of young men and (89 \pm 2.1%) young women have the average screen time of over 170 minutes a day [9] (fig. 2, 3).

DISCUSSION OF RESULTS

Thus, the obtained results show there is a high prevalence of risk factors in a lifestyle of students from colleges: unbalanced and improper feeding, poor sleep, low physical activity, lack of walking in the open air, increased mental burden and high level of gadgetization.

A review of Russian and foreign scientific literature sources regarding examination and assessment of health-related behavior of adolescents and young people was performed [11–15]. Thus, obtained results are in accordance with the results of 'Hygienic description of medical and social factors and lifestyle of modern Moscow schoolchildren' research by Bokaryova NA et al. [15]. Issues of irregular and unbalanced nutrition are found in various age groups of students from colleges of Yekaterinburg and Moscow. Meat and dairy products, fresh vegetables and fruits are insufficiently presented in the diet intended for a growing body. Sleep deficit (less than 7 hours a day), long-term and regular use of gadgets by schoolchildren are noted in the study. Sports and dance sections are more frequently visited by schoolchildren than by college students (p < 0.05). Modern adolescents spend 5–6 hours a week on sections with a sports component; in our study, a similar level is established for young men, and it is less for young women. Our results comply with results of studies by Shubochkina El et al. conducted among the students of organizations of secondary vocational education in Moscow [16, 17].

In these studies, results regarding risk factors were similar with those obtained during our study: violation of diet, lack of

various food, imbalanced diet, low motor activity, which occurs more frequently in young women than in young men, sleep deficit associated with academic and other lessons.

In connection with the above, it is necessary to solve the tasks related to informing of and attraction of attention of adolescents and young people to the significance of proper organization of main components of a lifestyle, teaching them skills of rational organization of the daily routine, nutrition, daily activity, curricular and extracurricular activities. It is important to pay attention to compliance with hygienic requirements to schedule planning and conduction of lessons, organization of physical education and nutrition.

CONCLUSIONS

The majority of college students have favorable living conditions, and their parents have higher or specialized secondary education, whereas young people have a separate room and PC of their own. Many of those interviewed stay separately from their parents, on their own or with a boyfriend/girlfriend.

Many students have irrational and imbalanced nutrition skipping meals, most frequently breakfasts or dinners. Young people seldom consume fruits, vegetables, dairy products, cereals, fish, but rather frequently have sausage products and pasta. It has been found out that the majority of girls are worried about how they look and excessive weight as compared with young men.

While assessing the daily regimen the following results have been achieved. The majority of those interviewed sleep less than 7 hours a day, many of them get little sleep on a daily basis. One-third part of young men and half of women have difficulties with academic load. Girls are more frequently

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engaged in a creative activity and hobby. Young men do heavy physical activity more frequently than young women and have more and longer training sessions.

They are engaged in a greater amount of training sessions with a longer duration. Their peers (friends, brothers or sisters) or, much less frequently, their parents, set an example in exercises or sports. Only half of those interviewed walk every day. The average duration of walking is higher among young men. Over 90% of study participants use PCs and other

gadgets for 2 and more hours per day with their duration being significantly increased on weekends as compared with school days.

The study results confirm relevance and significance of monitoring of lifestyle among young men to preserve and improve their health. It is necessary to develop methods of prevention, introduce evidence-based medical and pedagogical programs related to formation of a healthy lifestyle and training of adolescents and young people.

References

- Open database: Who is certified [Internet]. Federal State Statistics Service. C 1999 — [cited November 11, 2022]. Available at: https://rosstat.gov.ru Russian.
- Kindzera AB. Physical activity and sleep as a component of a healthy lifestyle of schoolchildren. Aktual'nye nauchnye issledovaniya v sovremennom mire 2017; 7–3 (27): 48–52.
- Lipanova LL. Impact behavioral risk factors on the pupils health of general education schools. Ural'skiy meditsinskiy zhurnal. 2015; 4 (127): 68–72. Russian.
- Medina C, Jáuregui A, Campos-Nonato I, Barquera S. Prevalence and trends of physical activity in children and adolescents: results of the Ensanut 2012 and Ensanut MC 2016. SaludPublica Mex 2018; 60 (3): 263–71. DOI: 10.21149/8819.
- Inchley J, Currie D, Budisavljevic S, Torsheim T, Jastad A, Cosma A, Colette K, Ársæll M. Spotlight on adolescent health and well-being Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Vol. 1. Copenhagen: WHO Regional Office for Europe, 2020; 146 p. https://apps.who.int/iris/bitstream/handle/1 0665/332091/9789289055000-eng.pdf (15 May 2022).
- Inchley J, Currie D, Budisavljevic S, Torsheim T, Jastad A, Cosma A, Colette K, Ársæll M. Spotlight on adolescent health and well-being Findings from the 2017/2018 Health Behaviour in Schoolaged Children (HBSC) survey in Europe and Canada. International report. Vol. 2. Copenhagen: WHO Regional Office for Europe, 2020; 72 p. https://www.euro.who.int/en/publications/abstracts/spotlight-on-adolescent-health-and-well-being.-findings-from-the-20172018-health-behaviour-in-school-aged-children-hbsc-survey-in-europe-and-canada.-international-report.-volume-2.key-data (15 May 2022).
- Glybochko PV, Esaulenko IE, Popov VI, Petrova TN. Health of students of medical universities in Russia: problems and ways to solve them. Sechenovskiy Bulletin. 2017; 28(2): 4–9. Russian
- Guidelines on hygiene of children and adolescents, medical care for students in educational institutions: organization model, federal recommendations of medical care for students / edited by

- V. R. Kuchma, Corresponding Member of the Russian Academy of Sciences. Moscow: FSAU NTSZD of the Ministry of Health of Russia, 2016; 610 p. Russian
- Hygienic standards and requirements for ensuring the safety and (or) harmlessness of environmental factors for humans SanRaN 1.2.3685–21. Resolution of the Chief State Sanitary Doctor of the Russian Federation No. 2 of 28.01.2021. Russian.
- World Health Organization. WHO guidelines on physical activity and sedentary behavior: at a glance Geneva: World Health Organization; 2020. 24 p. https://www.who.int/publications/i/ item/9789240014886 (15 May 2022).
- Borschenskaya TI, Batsukova NL, Sazanovets AV. Hygienic assessment of the impact of learning conditions on the health status of medical students. Health and environment. 2016; 26: 71–73. Russian.
- Luchkevich VS, Samodova IL, Figurovsky AP, Alikbaev TZ. Medico-social and hygienic features of the educational process and learning conditions for students in the junior courses of a medical university. Bulletin of the North-Western State Medical University I. I. Mechnikov. 2014; 6 (1): 98–103. Russian.
- Ushakov IB, Melikhova EP, Libina II, Gubina OI. Hygienic and psychophysiological features of the formation of health among students. Hygiene and sanitation. 2018; 97 (8): 756–761. Russian.
- Keberle SP. Assessment of the health status of students in modern learning conditions. International Student Scientific Bulletin. 2019;
 (1): 22. Russian.
- 15. Bokareva NA, Skoblina NA, Milushkina OYu, Besstrashnaya NA, Sapunova NO. Hygienic characteristics of medical and social factors and lifestyle of modern Moscow schoolchildren. Journal of Public Health and Habitat. 2015; (5): 33–36. Russian.
- 16. Shubochkina EI, Ibragimova EM, İvanovaVYu, Blinova EG, Novikova II. Results of multicenter studies of the quality and lifestyle of young men studying in colleges. Journal of Public Health and Habitat. 2016; (8): 44–46. Russian.
- Shubochkina El, Ibragimova VYu. Assessing the quality and lifestyle of college students: leading risk factors. Bulletin of the National Medical and Surgical Center. 2015; (10): 86–89. Russian.

Литература

- Открытая база данных: Кто сертифицирован [Интернет]. Федеральная служба государственной статистики. С 1999— [цитируется 11 ноября 2022 года]. Доступно по адресу: https://rosstat.gov.ru/
- 2. Киндзера А. Б. Физическая активность и сон как составляющие здорового образа жизни школьников. Актуальные научные исследования в современном мире. 2017; 7–3 (27): 48–52.
- Липанова Л. Л. Поведенческие факторы риска и их влияние на здоровье подростков, обучающихся в общеобразовательных школах. Уральский медицинский журнал. 2015; 4 (127): 68–72.
- Medina C, Jáuregui A, Campos-Nonato I, Barquera S. Prevalence and trends of physical activity in children and adolescents: results of the Ensanut 2012 and Ensanut MC 2016. Salud Publica Mex 2018; 60 (3): 263–71. DOI: 10.21149/8819.
- Inchley J, Currie D, Budisavljevic S, Torsheim T, Jastad A, Cosma A, Colette K, Ársæll M. Spotlight on adolescent health

- and well-being Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Vol. 1. Copenhagen: WHO Regional Office for Europe, 2020; 146 p. https://apps.who.int/iris/bitstream/handle/10665/332091/9789289055000-eng.pdf (15 May 2022).
- Inchley J, Currie D, Budisavljevic S, Torsheim T, Jastad A, Cosma A, Colette K, Ársæll M. Spotlight on adolescent health and well-being Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Vol. 2. Copenhagen: WHO Regional Office for Europe, 2020; 72 p. https://www.euro.who.int/en/publications/abstracts/spotlight-on-adolescent-health-and-well-being-findings-from-the-20172018-health-behaviour-in-school-aged-children-hbsc-survey-in-europe-and-canada.-international-report.-volume-2.-key-data (15 May 2022).
- 7. Глыбочко П. В., Есауленко И. Э., Попов В. И., Петрова Т. Н. Здоровье студентов медицинских вузов России:

- проблемы и пути их решения. Сеченовский вестник. 2017; 28(2): 4-11.
- Руководство по гигиене детей и подростков, медицинскому обеспечению обучающихся в образовательных организациях: модель организации, федеральные рекомендации оказания медицинской помощи обучающимся / под ред. члена-корр. РАН В. Р. Кучмы. М.: ФГАУ «НЦЗД» Минздрава России, 2016; 610 с.
- 9. СанПиН 1.2.3685–21 Гигиенические нормативы и требования к обеспечению безопасности и (или) безвредности для человека факторов среды обитания. Утв. Постановлением Главного государственного санитарного врача РФ № 2 от 28.01.2021.
- World Health Organization. WHO guidelines on physical activity and sedentary behavior: at a glance Geneva: World Health Organization, 2020; 24 p. https://www.who.int/publications/i/ item/9789240014886 (11November 2022).
- 11. Борщенская Т. И., Бацукова Н. Л., Сазановец А. В. Гигиеническая оценка влияния условий обучения на состояние здоровья студентов-медиков. Здоровье и окружающая среда. Минск: РНМБ, 2016; 26: 71–73.
- Лучкевич В. С., Самодова И. Л., Фигуровский А. П., Аликбаев Т. З. Медико-социальные и гигиенические особенности образовательного процесса и условий

- обучения студентов на младших курсах медицинского вуза. Вестник Северо-Западного государственного медицинского университета им. И. И. Мечникова. 2014; 6 (1): 98–103.
- 13. Ушаков И. Б., Мелихова Е. П., Либина И. И., Губина О. И. Гигиенические и психофизиологические особенности формирования здоровья у студентов. Гигиена и санитария. 2018; 97 (8): 756–761.
- Кеберле С. П. Оценка состояния здоровья студентов в современных условиях обучения. Международный студенческий научный вестник. 2019; (1): 22.
- 15. Бокарева Н. А., Скоблина Н. А., Милушкина О. Ю., Бесстрашная Н. А., Сапунова Н. О. Гигиеническая характеристика медико-социальных факторов и образа жизни современных московских школьников. Журнал здоровье населения и среда обитания. 2015; (5): 33–36.
- 16. Шубочкина Е. И., Ибрагимова Е. М., Иванова В. Ю., Блинова Е. Г., Новикова И. И. Результаты многоцентровых исследований качества и образа жизни юношей, обучающихся в колледжах. Журнал здоровье населения и среда обитания. 2016; (8): 44–46.
- Шубочкина Е. И., Ибрагимова В. Ю. Оценка качества и образа жизни подростков, обучающихся в колледжах: ведущие факторы риска. Вестник национального медико-хирургического центра. 2015; (10): 86–89.