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## Selected aspects of health behaviors among junior high school students

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### Summary

**Introduction and purpose of the work:** In the adolescent period, decisions made have a large influence on your future life. This applies, inter alia, to health behaviors that are also shaped during this period and may have an impact on further life. That is why it is so important for young people to take on good eating habits as well as lifestyle. The aim of the work was to learn about selected aspects of health behaviors in junior high school youth from rural and urban environments.

**Material and method:** The study covered 98 students attending the 3rd grade of junior high school. The research was carried out in January 2017 using the form of the author's

questionnaire as a research tool. The results were analyzed statistically, using Microsoft Office Excel 2010 and the IBM SPSS Statistics program.

**Results:** Among the junior high school students, the majority think that physical activity is the most important in a healthy lifestyle. The most common types of physical activity among junior high school students are volleyball, cycling, running, football. The most frequently indicated ways of spending free time are: using the Internet, meeting friends, active rest, reading books, watching TV.

**Conclusions:** Both junior high school students from the city and the village show knowledge about health behaviors, especially when it comes to physical activity and healthy eating but a large number of respondents do not eat meals at fixed times, sleep is also neglected. Among junior high school students from the city, there was a greater tendency to display adverse health behaviors - addictions, than in the village ones. There is a need to constantly disseminate pro-health education and to shape correct attitudes and behaviors of young people.

**Key words:** youth, healthy lifestyle, physical activity

## **Introduction**

The youthful period is the time when you want to try everything, and at the same time the time when the decisions you make have a very big impact on your future life. This applies, inter alia, to health behaviors that are particularly shaped during this period and can have a significant impact on further life. The most important element of shaping beneficial eating habits as well as lifestyle is health education and practical behavior.

Health behaviors have been the subject of theoretical considerations as well as research in various disciplines for many years. Due to often separate, specific for each field approach to the subject of research, there were various concepts of defining and sharing health behaviors [1]. Woynarowska, concentrating on the health sphere, describes health behaviors as activities that in the light of modern medical knowledge cause specific positive or negative health effects on people who pursue them [2]. According to Tobiasz-Adamczyk, health behaviors contain in its scope all habits, attitudes referring to health undertaken both by individuals and by whole social groups [3]. It can be said that health behaviors are broadly understood actions focused on health goals. If they have a positive effect on health, then they

are called pro-health (bio positive) behaviors, but if they lead to numerous disorders in normal human life, they are referred to as anti-health (bio negative) behaviors. Health-enhancing behaviors – bio positive, resulting in sustaining, consolidating health and fitness are: proper physical activity, reasonable nutrition, maintaining personal hygiene and environment, maintaining safety (eg sexual contact), using preventive examinations, acquisition and utilization of stress relieving skills and tensions, work on your own individuality. On the other hand, risky, unhealthy, problematic, anti-health, negative and harmful behaviors are: smoking, violence, aggression, consumption of alcohol and various psychoactive substances, too early sexual initiation, significant risk (extreme sports), risky driving (e.g. no use of seat belts while driving, etc.) [4]. There is no doubt that health is a priority value, the human capital that opens up the perception of achieving the designated life tasks and serves to meet the existing needs. However, it is worrying that a large part of the society recognizes its benefits and undertakes efforts to promote health, only in the situation of its loss. An important role in the process of shaping and protecting health is played by the human lifestyle, in particular the habitual model of dealing with one's own body. It may take the form of behaviors aimed at maintaining or restoring health as well as behaviors causing immediate or distant health detriment [5]. One of the most important elements of the proper physical, social, intellectual and emotional development of a child is physical activity. It significantly affects well-being, prevents diseases and promotes coping with stress. A chance to provide the youth with the proper level of activity are physical education exercise at school and various forms of physical activity outside the school [6]. Health-related behaviors also include healthy eating, which should contain all the most important nutrients: building and „energy regulating”. Providing the right amount of energy and nutrients is a prerequisite for proper growth and maturation, promotes good mood and disposition for learning. Nutrition is not only a biological need, but also an initial condition for achieving physical and spiritual condition, emotional peace and activity [7]. Also, the right way of spending free time is extremely important in relation to the school youth society, because the lack of perspectives and conditions to use extracurricular time can be a consequence of many negative behaviors, such as nicotinism or drug addiction [8].

### **Aim of the study**

The aim of the work was to learn about selected aspects of health behaviors in junior high school youth from rural and urban environments.

### Material and method

The study included 98 students and students attending the third grade of junior high school. 50 people (51%) were students from junior high school No. 1 Rabka Zdrój called Defenders of Poczta Polska in Gdańsk (city group), while 48 students (49%) are students from the Schools called John Paul II in Łętownia (village group). The tests were carried out in schools after obtaining the consent of the school management. Participation of students in the study was anonymous and voluntary. The research was carried out in January 2017, using the author's questionnaire form. The students were informed about the purpose of the research and their parents agreed to participate in the study. The questionnaire included questions about health behaviors including nutrition, physical activity, addictions and personal hygiene. The results were analyzed statistically, using Microsoft Office Excel 2010 and the IBM SPSS Statistics program. The mean values, standard deviation were determined and the following tests and statistical coefficients were used to examine the relationships between the individual traits examined: the Chi-2 test was used to check whether the compared groups differ significantly in nominal variables, the Mann-Whitney U test was used to check whether there is a statistically significant difference between the two groups in terms of quotients, whose distribution is significantly different from normal and in terms of ordinal variables.

Among the students studied, 44 (45%) were male students, and the remaining 54 (55%) were female. Both among the respondents from the city and from the village, more than half were girls (58% and 52% respectively). The boys constituted 42% of the respondents from the city and 48% of the respondents from the village.

Table 1. Values of obtained somatic indexes.

	Place of residence										U Mann-Whitney test
	city					village					
	M	Me	Min	Max	SD	M	Me	Min	Max	SD	p
Body height (cm)	167,0	166	150	186	9,25	170,6	170	155	194	9,22	0,058
Body weight (kg)	56,80	54,5	40	84	11,81	59,42	60	40	86	10,66	0,154

BMI	20,1	20,05	15,4	27,9	2,87	20,3	20,1	15,6	27,43	2,69	0,611
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The average body height of junior high school students from the city was 167.06 cm. The average body height of people from the village is 170.63 cm. The coefficient of variation indicates a slight differentiation in both groups. Interestingly, the difference between the students of the village gymnasium and the city was on the verge of statistical significance ( $p = 0.058$ ). The average weight of people from the city was 56.8 kg, while the average number of people from the village was 59.42 kg. The coefficient of variation indicates a moderate differentiation of this group in terms of body mass. There is no statistically significant difference between junior high school students from the countryside and the city. The average BMI of people from the city was 20.18. The average BMI of people from the village is 20.32. Coefficient of variation indicates moderate differentiation. No statistically significant difference was found between the groups (Table 1).

## Results

Table 2. The most important elements in a healthy lifestyle.

What elements are the most important in a healthy lifestyle?	Place of residence				U Mann-Whitney test	
	city		village		$\chi^2$	p
	N	%	N	%		
Physical activity	46	92,0%	47	97,9%	1,771	0,183
Balanced diet	32	64,0%	33	68,8%	0,247	0,619
No addictions	31	62,0%	29	60,4%	0,026	0,872
Regular sleep	26	52,0%	21	43,8%	0,668	0,414
Good personal hygiene	23	46,0%	22	45,8%	0,000	0,987
Way to spend a free time	18	36,0%	9	18,8%	3,651	0,056

Among the junior high school students, the majority think that physical activity is the most important in a healthy lifestyle (92% and 97.9% respectively). 64% of respondents from the city and 68.8% from villages, 62% of those surveyed from the city and 60.4% from the village indicated for a balanced diet, 52% of the respondents from the city and 52.8% from the

village for a regular sleep, and for proper personal hygiene 45% of respondents from the city and 45.8% from the village. Interestingly, the least-chosen answer - the way of spending free time, was more often indicated among respondents from the city (36%) than from the village (18.8%). There were no statistically significant differences between junior high school students from the city and from the village regarding opinions on what elements are the most important in a healthy lifestyle (Table 2).

Table 3. Type of physical activity

Type of physical activity	Place of residence				$\chi^2$ test	
	city		village		$\chi^2$	p
	N	%	N	%		
Volleyball	35	70,0%	32	66,7%	0,126	0,723
Cycling	34	68,0%	16	33,3%	11,777	0,001
Football	20	40,0%	19	39,6%	0,002	0,966
Running	25	50,0%	8	16,7%	12,183	0,000
Swimming	14	28,0%	18	37,5%	1,005	0,316
The gym	14	28,0%	13	27,1%	0,010	0,919
Basketball	14	28,0%	11	22,9%	0,333	0,564
Dance	8	16,0%	7	14,6%	0,038	0,846
Other	6	12,0%	7	14,6%	0,142	0,706
Fitness	8	16,0%	3	6,3%	2,336	0,126
Martial arts	5	10,0%	3	6,3%	0,459	0,498

The most common types of physical activity among urban residents are volleyball (70%) and cycling (68%). Half of the respondents (50%) indicated running, and 2 out of 5 people (40%) for football. Quite popular are also: swimming, gym and basketball (28% each). Physical volleyball is the most common physical activity among rural residents (66.7%). Almost 2 in 5 respondents pointed to football (39.6%) and swimming (37.5%). There were also quite numerous people who: ride a bike (33.3%), go to the gym (27.1%) and play basketball (22.9%). The Chi-2 test showed that significantly more city dwellers than a village ride a bike and run.

Table 4. Number of meals a day

	Place of residence										U Mann-Whitney test
	City					village					
	M	Me	Min	Max	SD	M	Me	Min	Max	SD	p
How many meals do you eat a day?	4,30	4	2	6	0,86	4,27	4	3	6	0,71	0,650

Respondents from cities declared consumption of 2 to 6 meals a day. An average of 4,4 meals. Half of them consumed more, and half less than 4 meals a day. The largest number of respondents from cities consume 4 (48%) or 5 (34%) meals a day. Respondents from the village were eating 3 to 6 meals a day. On average, 4.27 meals. The largest number of respondents from cities consume 4 (56.3%) or 5 (29.2%) meals a day. There was no significant difference between the groups in terms of the number of meals consumed daily.

Table 5. The way of spending free time (% do not add up to 100 because the respondents could indicate more than one answer).

What you usually do in your spare time?	Place of residence				Test Chi-2	
	city		village		$\chi^2$	p
	N	%	N	%		
	34	68,0%	22	45,8%	4,91	0,027
I use the Internet	33	66,0%	22	45,8%	4,04	0,044
I meet with friends	20	40,0%	22	45,8%	0,34	0,560
Active recreation	20	40,0%	16	33,3%	0,46	0,494



I read books	18	36,0%	11	22,9%	2,01	0,156
I watch tv	12	24,0%	13	27,1%	0,12	0,726

Two most frequently indicated ways of spending free time by respondents from cities are Internet usage (68%) and meetings with friends (66%). As many as 2 out of 5 respondents also indicated active leisure (40%) and reading books (40%), and 36% for watching TV. The least popular is playing different games. In turn, among the respondents from the village dominate: Internet usage, meetings with friends and active recreation. 45.8% of those surveyed pointed to them. There are also many people who read books (33.3%), play various games (27.1%) and watch TV (22.9%). As it turned out, more respondents from the city than from the village use the Internet in their free time and meet with friends.

Table 6. Place of residence and sources of information on how to live healthily (% do not add up to 100 because the respondents could indicate more than one answer).

Where do you find out? How to live healthily?	Place of residence				Test Chi-2	
	city		village		$\chi^2$	p
	N	%	N	%		
From the Internet	41	82,0%	30	62,5%	4,665	0,031
From school	18	36,0%	27	56,3%	4,044	0,044
From family	25	50,0%	19	39,6%	1,074	0,300
From friends	15	30,0%	13	27,1%	0,102	0,749
From Facebook	18	36,0%	6	12,5%	7,314	0,007
Radio and TV	12	24,0%	12	25,0%	0,013	0,908
Other	4	8,0%	1	2,1%	1,771	0,183

Respondents from cities most often (82%) pointed to the Internet as a source of information on how to live healthily. Half of the respondents receive knowledge on the subject from the family, 36% from school and from Facebook, and 30% from friends. 24% of respondents from cities indicated on radio and TV. In turn, respondents from the rural areas most often pointed to the Internet (62.5%) and school (56.3%), followed by family (39.6%). Slightly less draws knowledge from friends (27.1%), from radio and TV (25%), and the least (12.5%) from

Facebook. Significantly more junior high school students from the city than from the village draws knowledge about how to live healthily from the Internet and Facebook. In turn, significantly more junior high school students from the village than from the city draws knowledge about how to live a healthy life from school.

## **Discussion**

Prone to health- behaviors should appear in every period of human life, and it should begin at the earliest stage of life. The experiences and health habits of young people influenced on health in adulthood.

Michota-Katulska et al. Showed that almost 90% of the students surveyed, regardless of their place of residence, believed that physical activity is the most important element of a healthy lifestyle [6]. Our own research, referring to the knowledge of middle school students in the field of healthy lifestyle, show that the majority of respondents know satisfactorily the principle of a healthy lifestyle. Both gymnasium students from the city (92%) and from the village (97.9%) believe that activity is the most important in a healthy lifestyle, 64% of respondents from the city and 68.8% from rural areas, 64% are not addicted to a balanced diet the respondents from the city and 60.4% from the village, regular sleep 52% of the respondents from the city and 43.8% from the village and for appropriate personal hygiene 45% of the respondents from the city and 45.8% from the village.

Recreation and extracurricular sport activities are an important element of broadening their interests, they give the opportunity to develop their sports skills and create conditions for proper psychophysical development. Own research shows that 44% of respondents from the city have a share in out-of-school sports activities and 56.3% from rural areas. Bajurna and Jakubek's research indicate moderate recreational activity of junior high school students. The authors have shown that teenagers spend too much time watching TV and multimedia [9]. Grzegorzcyk et al. In the study of the middle school group noted that the vast majority declares physical activity outside of physical education [10]. Own research shows that the most common type of physical activity of students are volleyball, football and cycling. Similar results were obtained by Grzegorzcyk et al., Where the respondents most often undertook activities such as team games, cycling and jogging, while aerobics and swimming were less popular. Own research shows that students spend more than 4 hours per week on

additional physical activity. Research by Grzegorzczuk et al. Shows that junior high school students devote too little time to physical activity per week [10].

Food and nutrition is one of the most important aspects of health behaviors that affect the health of the individual. Dietary habits of adolescence can become permanent in adulthood. The results of own research relating to proper nutrition have shown that over 42% of respondents in the city feed properly, and from the village a little over 54%. Own research shows that middle school students do not eat meals at fixed times. Wołowski and colleagues contributed to similar results, over half of the respondents did not have regular meal times. Most of the junior high school students studied ate the sandwiches for the second breakfast, followed by a bun and then fruits [11]. Similar results were obtained in the studies of Zimna-Walendzik, stating that the majority of respondents eat breakfast, which is usually eaten by sandwiches brought from home or fruit [12]. Water, even more than food, must be delivered in the right amount to the body and its content in the body affects homeostasis. Own research shows that the majority of subjects drink between 1 and 2 liters of fluids a day, among which water predominates. Zimna-Walendzik proves, however, that students consume insufficient amounts of water and low-energy beverages during the day [12]. Szponar also showed that young people drink the amount of liquids that are inadequate to their body's needs [13].

Incorrect amount of sleep can cause disruptions in the proper functioning of the body, impair concentration, reduce resistance to stress, exacerbate fatigue, which in turn causes waking up at night or difficulty falling asleep [14]. Own research shows that a significant proportion of respondents from the city and the village sleep 7-8 hours a day, some think that they have an irregular sleep mode. Zych et al. Shows that the majority of respondents observe the recommended number of hours of sleep (7-8 hours), but almost 25% of junior high school students sleep less than 7 hours a day. Disturbing is the fact that a significant number of students wakes up during the night or has problems falling asleep [14].

Own research shows that 50% of respondents from the city and 25% from the village tried to smoke cigarettes. Alcohol was drunk by 80% of the respondents from the city and 56.3% from the village and drugs were tried by 10% of the respondents from the city and 2.1% from the village. Rzeźnicki et al. prove that almost 35% of junior high school students have already undergone tobacco initiation, 51% drink alcohol and over 10% admitted to drug use [15]. Żołnierczuk-Kieliszek et al. showed that as many as 82.2% of respondents drink alcohol [16],

and Szczepańska et al. proves that the problem of smoking cigarettes concerns 31% of the respondents living in the city, and in turn among the residents living in the village 10% [8].

According to our own research, 58% of respondents in the city have BMI in the normal range, 34% are underweight and 8% overweight. In turn, among the respondents from the village 68.8% have a BMI in the norm. However, 27.1% are underweight and 4.2% are overweight. Scibor et al. In the study found excess body weight in 15.9% of junior high school students, of which 4.5% were obese. The results of this study did not show a significant relationship between place of residence and weight [17]. Own research indicates that for slightly more than half of underweight subjects (53.3%), there is physical activity above 4 hours per week, while in the group with normal body mass (38.1%), 2 to 4 hours per week.

### **Conclusions**

1. Both junior high school students from the city and the village show knowledge about health behaviors, especially when it comes to physical activity and healthy eating but a large number of respondents do not eat meals at fixed times, sleep is also neglected.
3. Among junior high school students from the city, there was a greater tendency to display adverse health behaviors - addictions, than in the village ones.
4. There is a need to constantly disseminate pro-health education and to shape correct attitudes and behaviors of young people.

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