

SUMMARY

Introduction. According to research carried out by the World Health Organization (WHO), the use of tobacco in its various forms causes, each year, an increase in human mortality around the world. Tobacco is currently the only legal consumer product that harms anyone exposed to it. It should be emphasized that almost half of people using it for its intended purpose die as a result of tobacco-related diseases. Smoking tobacco causes diseases of the respiratory system (emphysema, COPD, bronchial asthma, pneumonia), digestive system (gastric and duodenal ulcer), cardiovascular system (risk of abdominal aortic aneurysm, coronary heart disease, peripheral atherosclerosis, sudden cardiac arrest, brain stroke) and neoplastic diseases, as a strong cause and effect relationship between smoking and the development of malignant tumors of, among others, lung, larynx, pharynx, esophagus, oral cavity, urinary bladder, renal pelvis, has been demonstrated. (1,2,3). Tobacco is a factor generating an increased risk of infections in the form of infections of the upper and lower respiratory tract and postoperative complications in the form of difficult-to-heal wounds. The above-mentioned diseases result from the toxic effects of chemicals contained in tobacco smoke on the body's cells (4). Children and adolescents are a group particularly vulnerable to the effects of active and passive exposure to tobacco smoke. Susceptibility to the influence of the peer group, willingness to experiment, and the much faster process of addiction of the adolescent's body to nicotine is a public health challenge.

Aims. The main objective of the study was to determine the prevalence of tobacco smoking and the use of other tobacco products among children and adolescents in the Subcarpathian Voivodeship, as well as to determine the level of exposure of children and adolescents to passive tobacco smoke according to their parents. The study also covered the tendency of the surveyed youth from educational institutions of the Subcarpathian Voivodeship to use tobacco products, the influence of the peer environment on the initiation of smoking, and the use of tobacco products. The influence of the mass media on the reduction/popularization of smoking and tobacco products as well as the influence of the family environment on attitudes towards smoking and the use of other tobacco products, were analyzed. The prevalence of tobacco smoking and the use of other tobacco products among parents/guardians of the surveyed children were assessed.

Material and methods. Two questionnaires were used as a research tool in the thesis. The first questionnaire was the Polish version of the Global Youth Tobacco Survey (GYTS)

questionnaire, approved and used for children and adolescents by the American Academy of Pediatrics (AAP). The second questionnaire addressed to parents/guardians was the Polish version of the American Academy of Pediatrics (AAP) questionnaire on passive exposure to tobacco smoke and smoking. The study was conducted using the auditorium survey method using two Polish versions of survey questionnaires in the time period from March 2019 to November 2019. The first questionnaire was addressed to children and adolescents aged 12-16, while the second questionnaire was intended for their parents/guardians. The surveyed respondents lived in the Subcarpathian Voivodeship. The study was carried out in randomly selected educational institutions (elementary and middle school complexes) in the Subcarpathian Voivodeship. It was carried out in cooperation and agreement with the Subcarpathian State District Sanitary Inspector. The study was approved by the Subcarpathian Board of Education and the Bioethics Committee of the University of Rzeszow (Resolution No. 10/02/2019 of February 14, 2019).

Results. In the group of children and adolescents, 771 people were surveyed. The study group included 420 girls (54.5% of all respondents) and 351 boys (45.5%). The average age of the respondents was 14.38 ± 0.90 . In the case of girls (14.41 ± 0.95), it was only slightly higher than among boys (14.34 ± 0.84). Almost half of the respondents, i.e., 370 of them (48.0%), attended the 7th grade of elementary school. Another 271 (35.1% of the respondents) were students in the 2nd grade of middle school, and the remaining 130 (16.9%) were students in the 3rd grade of middle school. Most of the surveyed students, i.e. 507 of them (65.8%), lived in rural areas. In addition, 209 of them (27.1% of all respondents) were residents of small towns, and 55 of them (7.1%) were residents of large cities. Out of 771 surveyed students, 148 of them (19.2%) declared an attempt to smoke a cigarette. It was 10% of elementary school students and 27.7% of middle school students. The differences in this regard were statistically significant ($p < 0.001$). 17.9% of girls and 20.8% of boys tried to smoke a cigarette. People living in the countryside accounted for 20.5% and the city for 16.7%. Out of 771 respondents, 80.7% of the surveyed population declared that they had never tried smoking cigarettes. Among the 148 respondents who declared attempts to smoke cigarettes, 29.7% of elementary school students marked the answer 13 as the age of first contact with a cigarette, and 25.2% of middle school students marked the answer as 14. In this aspect, statistically significant differences were noted ($p < 0.001$). Analyzing the sex of the respondents indicating the age of the first contact with a cigarette, the girls marked the age of 14 and the boys a year lower - 13. The same answers regarding the age of nicotine initiation were recorded when

analyzing the place of residence of the respondents, but neither sex nor living in the countryside/urban area showed statistically significant differences ($p=0.198$, $p=0.174$, respectively). Respondents were asked a question about the number of cigarettes smoked in their lifetime. Among 148 respondents who had initiated nicotine, 40% of girls and 27.4% of boys (33.8% of them declaring contact with a cigarette) tried smoking in 1 or 2 puffs (without smoking a whole cigarette), 22.3% of respondents confirmed smoking 2 to 5 cigarettes in their lifetime. The answer 6 to 15 cigarettes smoked was marked by 18.7% of girls and 11% of boys. A similar number of cigarettes smoked was recorded in studies taking the place of residence and level of education as criteria. Both in terms of gender, level of education, and place of residence, these differences were not statistically significant. The vast majority of respondents (79.5%) have knowledge in the field of electronic cigarettes, as well as knowledge of the preparation of self-rolled cigarettes (77.8%). 36.8% of the respondents declared knowledge about smoking tobacco with a shisha or a water pipe, and this difference was statistically significant in terms of the gender criterion ($p=0.019$).

The vast majority of respondents (75.3%) have never tried tobacco products. During the study period, among girls who declared knowledge about tobacco products other than cigarettes, the largest number (14.4%) smoked electronic cigarettes, and 6.4% self-rolled cigarettes. Among boys, these values were 21% and 9.8%, respectively, for the same tobacco products.

With regard to smoking bidi, shisha, or water pipe tobacco and electronic cigarette, a statistically significant difference was observed in the gender criterion. Among the respondents, 95.2% of students have never tried smoking a cigar/cigarillo. Among the surveyed respondents, 31.1% (24.5% of girls and 39% of boys) of the respondents considered that e-cigarettes are less harmful than traditional cigarettes, and 22.4% of the respondents do not have sufficient knowledge about these tobacco products. There were statistically significant differences in the gender criterion ($p<0.001$). Among the respondents who confirmed the fact of smoking cigarettes, the most common way to get a cigarette was being offered a cigarette by people from the respondents' environment, which accounted for 37.3% of all smokers. There were discrepancies in the answers related to the possibility of children buying cigarettes in the shop. In 47.2% of the answers, the students stated that it is generally not easy for children to buy cigarettes, and 49.5% of the students did not confirm this opinion. A disturbing signal is the fact that 17.6% of the respondents answered that they bought a pack of cigarettes for themselves despite the existing restrictions in this matter. For 15.7% of respondents, someone else bought cigarettes. 71.2% of the students

strongly denied that smoking makes us feel more attractive, more self-confident, and fit in with others. Among the surveyed students, more than half (53.4%) of the respondents declared that none of the household members used tobacco products, and 42.4% of the respondents (45.7% of girls and 38.5% of boys) answered that household members smoked cigarettes. The observed difference was statistically significant ($p=0.042$). More than half of the respondents, i.e. 53.7% (54% of girls and 53.3% of boys), answered that they had not talked to their parents/guardians about not using cigarettes and other tobacco products. Adult respondents were asked if there were any smokers among those living with them. More than half of the respondents, i.e. 67.7% (68.5% women, 64.5% men), answered in the negative, while 26.8% confirmed sharing a common living space with a person smoking cigarettes. Among those who declared smoking, a question was asked about the nature of smoking cigarettes or other tobacco products. More than half of the respondents, 56.5%, declared that they did not smoke at all on the day of the study, and 21.7% of the respondents said that they smoked cigarettes every day. Apart from the place of residence and the home environment of the child's close relatives (relatives, friends) where passive exposure to tobacco smoke most often occurs, the survey questions also concerned public places where the child's exposure to tobacco smoke is possible. In the case of bus stops and pedestrian crossings, 58.8% of the respondents confirmed the child's exposure to tobacco smoke.

Conclusions. The vast majority of the surveyed children and youth from the Subcarpathian Voivodeship did not smoke cigarettes (80.7%). Among students declaring attempts to smoke, middle school students were statistically significantly more likely to smoke cigarettes than elementary school students. The surveyed group of students from the Subcarpathian Voivodeship, in the vast majority, did not use other tobacco products (75.3%). Students declaring the use of the above-mentioned tobacco products used electronic cigarettes and shisha or waterpipe tobacco most frequently. Boys, compared to girls, used the above-mentioned tobacco products much more often and the difference was statistically significant. There were no statistically significant differences in relation to the place of residence and the level of education of the surveyed students. The influence of the peer environment as well as the mass media did not increase the risk of smoking cigarettes, in a statistically significant way, in the study group of children and adolescents from the Subcarpathian Voivodeship.