

Electronic cigarettes: a new challenge for Polish public health

To the Editor The current state of knowledge concerning the Electronic Nicotine Delivery Systems (ENDS) and Electronic Non-Nicotine Delivery Systems (ENNDS), popularly known as “electronic cigarettes” or “e-cigarettes”, was recently summarized in a report published by the World Health Organization (WHO).¹ The report covers recent updates on the evidence of health impact of these products and contains recommendations for regulatory policies. We present here the key findings from the report in the context of the prevalence of e-cigarette use in Poland and recent developments in Polish tobacco control law that included new regulations on ENDS/ENNDS.

Health risks of electronic cigarette use According to the report,¹ the level of known toxicants in aerosol generated by the typical use of e-cigarettes available on the market is on average lower than that in cigarette smoke. At the same time, available data show that those levels can vary between different brands. In some of the products, aerosol contained similar or higher concentrations of toxicants (eg, metals such as lead, chromium and nickel, and formaldehyde) than those found in traditional cigarettes under normal experimental conditions of use.¹ Nicotine, despite not being a carcinogen itself, can promote tumor development and seems to be involved in neurodegeneration and biology of malignant diseases. Using e-cigarettes during pregnancy can pose the same health risks to the fetus as smoking tobacco. It is expected that the long-term use of these products may increase the risk of chronic obstructive pulmonary disease, lung cancer, and cardiovascular disease; however, the magnitude of these risks is likely to be smaller than in the case of smoking traditional cigarettes.¹ Further scientific research is needed to determine whether passive exposure to e-cigarette aerosol is harmful or whether e-cigarettes can be considered as a smoking cessation tool.¹

Electronic cigarettes in Poland: the prevalence of use Poland is one of the countries that are frequently mentioned in the WHO report. According to cited data from the Euromonitor market research company, about 3% to 5% of global market for

e-cigarettes is accounted for by Poland.¹ Poland is also referred to as a country with one of the highest prevalence of e-cigarette use among people of 20 years of age or less (with 19% of e-cigarette users among nonsmokers and 57% in the population of current smokers). Furthermore, according to the report, a rapid increase in the prevalence of e-cigarette use has been observed in nonsmoking youth.¹ As existing studies indicate that using e-cigarettes can double the risk of tobacco smoking initiation among youth,¹ such an increase should be considered as serious public health problem that needs to be addressed in future public health policy.

Detailed information concerning data source for prevalence levels presented above is not indicated in the WHO report. The available results of surveys on e-cigarette use among Polish youth (different age groups of Polish students aged from 13 to 19 years) indeed show a recent increase in the prevalence of e-cigarette use,² which is currently at a level of 27% to 30%.²⁻⁴ However, using e-cigarettes is most common among current smokers of tobacco products. The percentage of current cigarette smokers among students who reported using e-cigarettes was at a level of 74% in a study conducted by Goniewicz et al,² while in a survey carried out by Kaleta et al,⁴ 58% of current smokers declared the current use of e-cigarettes. Furthermore, according to these studies, the percentage of e-cigarette users among students who never smoked cigarettes is relatively low (6%–8%).^{2,4} It is important to note that the above surveys were conducted on regional samples of students and in different age groups. Furthermore, “current e-cigarette users” are defined as persons who have used such products at least once in the last 30 days, whereas—as mentioned in Appendix 2 to the WHO report—it can be argued that a reference period of 7 days would probably allow for a more precise assessment of prevalence of current use.¹

According to the results of surveys conducted on nationally representative samples of adult respondents (aged 15 years old or older), the prevalence of e-cigarette use among adult Poles is relatively low. In a survey carried out by the European Commission, 14% of Polish adults declared

that they have used e-cigarettes in the past, while only 2% reported current use.⁵ A survey carried out by TNS Poland commissioned by the Chief Sanitary Inspectorate indicates that only 3% of adults use e-cigarettes.⁶ A relatively small sample size (approx. 1000 respondents) is a considerable limitation in both of these surveys, as—due to small percentages involved—it does not allow for a detailed characteristics of e-cigarette users.

In conclusion, the results of Polish surveys covering the issue of e-cigarette use suggest that such products are mainly used by people who smoke traditional tobacco products. Goniewicz et al² noted that the rise in e-cigarette use among youth was accompanied by an increase in the percentage of smokers in this population.² In a Eurobarometer study,⁵ a possibility to use e-cigarettes in places where tobacco smoking is prohibited was an important motivation for trying out this product for 55% of ever-users, while 62% have decided to try e-cigarettes in order to give up or limit tobacco smoking.⁵

Polish regulations on e-cigarettes The latest amendment to the “Act on Protection of Health against the Consequences of the Use of Tobacco and Tobacco Products”, passed on July 22, 2016,⁷ is an important step forward in regulating e-cigarettes that is also in accordance with WHO recommendations.¹ New provisions include: 1) ban on the sale of e-cigarettes to minors; 2) restricting the use of e-cigarettes accordingly with regulations concerning tobacco products, including ban on e-cigarette use in most public places and ban on the sale of cigarettes in educational, sports, and health care facilities; 3) restricting the advertising, promotion, and sponsorship of e-cigarettes accordingly with regulations concerning tobacco products; 4) ban on remote and transnational sale and selling e-cigarettes in vending machines; 5) regulations concerning requirements that producers have to fulfill before introducing e-cigarettes and their components to the market (eg, providing toxicological data and information on nicotine doses present in the product and level of nicotine absorption during use); 6) regulations concerning the maximum capacity of nicotine cartridges (10 ml for spare cartridge, 2 ml for expendable cartridge) and maximum nicotine concentration levels in liquid (20 mg/ml); and 7) a requirement to place the following health warning on the packaging of e-cigarettes: “this product contains nicotine that can cause rapid addiction”.

Conclusions Due to necessity of further research regarding health consequences of active and passive exposure to e-cigarette aerosol and insufficient data on the prevalence and characteristics of e-cigarette use in Poland, there is a need for sustainable long-term monitoring of use of those products, both in adult and in youth populations. Surveys concerning this issue should be conducted on large, nationally representative samples that would provide researchers and legislators

with reliable and statistically significant data allowing for a detailed analysis of the characteristics and determinants of e-cigarette use. Such monitoring would also be beneficial for the evaluation of the effectiveness of adopted regulations and future research on health impact of e-cigarettes. As the use of e-cigarettes is without any doubt strongly related with the use of traditional tobacco products, proposed monitoring activities should be implemented as an integral part of existing and future tobacco control programs.

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