

REDUCTION IN THE PREVALENCE OF TOBACCO USE ACCOMPANYING LEGISLATIVE CHANGES IN TOBACCO POLICY IN POLAND IN THE YEARS 2010–2019

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Abstract

Objectives: Tobacco use is one of the most serious public health problems. Each year, it contributes to preventable disability and death of 8 million people worldwide. The aim of the study was to determine the change in the prevalence of tobacco and e-cigarettes use among Polish adults in the years 2010–2019 and the potential impact of legislative interventions on tobacco consumption in Poland. **Material and Methods:** The research was based on an analysis of secondary data obtained from a cross-sectional study as part of the public opinion monitoring in Poland. The study was carried out in 2 editions (2010 and 2019) on representative samples of approximately 1000 Polish residents >18 years of age. **Results:** The proportion of traditional cigarette smokers decreased from 30.4% to 26.0% in the years 2010–2019 ($p < 0.05$). In the male group decreased from 40.3% to 31.0% ($p < 0.001$); among females, the values remained at the same level (21.3%). The greatest change in the percentage of current smokers was recorded in cities with $\geq 500\,000$ inhabitants (from 30.3% to 17.1%) and $< 100\,000$ inhabitants (from 31.5% to 24.6%) ($p < 0.05$). The total support for the new legal regulations increased from 73.9% to 89.8% ($p < 0.001$). The use of e-cigarettes in 2019 declared only 1.9%. **Conclusions:** The percentage of adult traditional cigarette smokers decreased significantly between 2010 and 2019 (mainly among men). Among women, the percentage of cigarette smokers remained the same. The most significant declines in cigarette smoking were also observed among residents of the largest cities ($\geq 500\,000$ inhabitants). During the same period, there was a further increase in the acceptance of legal restrictions on smoking cigarettes in public places. E-cigarette use among adults is a niche phenomenon in Poland, but it is much more prevalent among women than men. *Int J Occup Med Environ Health.* 2022;35(4)

Key words:

smoking cessation, Poland, tobacco, smoking, prevalence, smoke-free policy

INTRODUCTION

Tobacco use is one of the most serious public health problems. Each year, it contributes to preventable disability and death of 8 million people worldwide [1]. Data collected in the European Union (EU) shows that almost 0.7 million deaths per year are related to tobacco use [2]. Smoking contributes to over 71 600 avoidable deaths every year in Poland [3,4].

Research conducted by the European Commission in August–September 2020 shows that less than a quar-

ter (23%) of EU respondents aged ≥ 15 years were current smokers of cigarettes, cigars, cigarillos or pipes [5]. A decrease in the percentage of smokers from 32% to 23% was observed in the EU countries and the United Kingdom in the years 2006–2020. One-fifth of the respondents declared themselves as ex-smokers (22%), while 55% have never smoked [5]. Significant differences in tobacco consumption have been observed between individual EU countries, with constantly rising levels of smoking prevalence in Southern Europe. More than a third of respon-

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dents in Greece (42%), Bulgaria (38%) and Croatia (36%) use tobacco. The lowest percentage of current tobacco users was observed in Sweden (7%). In Europe, men (26%) smoke more often than women (21%) and people aged 25–54 (27–30%) more often than younger people (20%) or those >55 years of age (18%) [5].

The *Global Adult Tobacco Survey* (GATS) showed that the number of smokers aged ≥ 15 years in Poland in 2010 was 30.3% (36.9% among male and 24.4% among female respondents). Daily use of tobacco was declared by 27% of adults [6–8]. According to the Kantar Public report conducted for the Chief Sanitary Inspectorate in Poland in 2019, 21% of respondents aged ≥ 15 years declared daily tobacco use (25.8% men and 19.2% women) and 1.3% admitted to using tobacco occasionally [9,10].

The amended Act of November 9, 1995 on protection of health against the effects of using tobacco and tobacco products in Poland has been in force since November 15, 2010. It introduced significant restrictions on tobacco use in public places. The objectives of the Act included the reduction of tobacco consumption, as well as protecting non-smokers from exposure to tobacco smoke. The ban prohibited tobacco smoking in certain areas, such as healthcare facilities, cultural and leisure facilities, places for children to rest and play, means of public transport and public transport stops. Another significant change involved implementing restrictions in gastronomic and entertainment establishments. However, the Act allowed owners of premises to designate special areas where smokers could use tobacco [11]. Beneficial effects of the ban were seen particularly in the exposure to secondhand smoke over the years 2009–2019 when significant decreases were noted in this field: from 25.4% to 6.7% in the workplace, from 45.7% to 11.7% at bus stops and in public transport and from 45.0% to 7.0% in bars and pubs, reported among all respondents. [12]

In 2016, the use of electronic cigarettes and novel tobacco products in public places was additionally prohibited [13].

Aim of the study

The aim of the study was to determine the change in the prevalence of tobacco and e-cigarettes use among Polish adults in the years 2010–2019 and the potential impact of legislative interventions (Tobacco Control Act [11]) on tobacco consumption in Poland.

MATERIAL AND METHODS

Data was collected from a questionnaire-based survey. The research was based on an analysis of secondary data obtained from a cross-sectional study carried out by the Public Opinion Research Center (Centrum Badania Opinii Społecznej – CBOS) as part of the public opinion monitoring in Poland. This method is widely available and allows to reduce the time and resources necessary to carry out the study [14,15].

The complete database used in the analyses was obtained from CBOS. The database was prepared and used only for the purpose of this research. Public Opinion Research Center is a foundation that receives grants for maintenance and realization of tasks indicated in the state budget. One of its assignments includes conducting representative surveys. The mission of CBOS is to systematically provide opinions on economic and socio-political (including health) issues for public use. The surveys are conducted on representative samples of approx. 1000 Polish residents >18 years of age. Randomization of study sample is ensured on several stages. In the beginning, a sampling frame is selected. An individual PESEL number is used in the CBOS survey. Next, the study population is divided into subgroups from which respondents are selected. The population is divided into 6 groups (strata) based on the place of residence. The authors then decide on the number of respondents to be chosen from each stratum to maintain represen-

tativeness. In the final stage, study samples are selected from each stratum.

This analysis used data collected from 2 editions of the study – one conducted in February 2010 (before the introduction of the amended Act) and the second in July 2019. In total, 2098 adult Poles participated in the study (1021 in 2010 and 1077 in 2019). The method of computer-assisted face-to-face interviews (CAPI) carried out by qualified interviewers was implemented. The questionnaire contained about 170 closed questions concerning, among others, social and health issues, political and religious beliefs, employment and income, as well as current events, such as presidential and parliamentary elections and sport events. For the purpose of this study, responses to the following questions were analysed:

- “Do you smoke cigarettes?” (this refers to traditional cigarettes, not electronic cigarettes);
- “Have you smoked cigarettes in the past?”;
- “Do you use electronic cigarettes (e-cigarettes)?” (this question was asked only in the 2019 survey).

Socio-economic variables were also examined in this study:

- level of education,
- assessment of current living and housing conditions,
- gender of the respondent,
- year of birth of the respondent,
- size of town or village in the study sample.

In the analysis support for the introduction of the smoking ban (question: “Do you support the ban on smoking traditional cigarettes in public places?”), the responses “I strongly support” and “I somewhat support” have been combined into the category “I support,” while “I strongly do not support” and “I somewhat do not support” were assigned to the “I do not support” category.

Ethical review and approval were waived for this study, due to the fact that it was based on the analysis of secondary data obtained from a cross-sectional study provided by CBOS. Statistical analysis was conducted with the use of IBM SPSS software v. 26.0. The statistical significance level was ≤ 0.05 .

RESULTS

General results

In Poland, the proportion of traditional cigarette smokers decreased from 30.4% to 26.0% in the period February 2010–July 2019 ($p < 0.05$). At the same time, no significant differences were observed in the percentage of participants who declared smoking in the past.

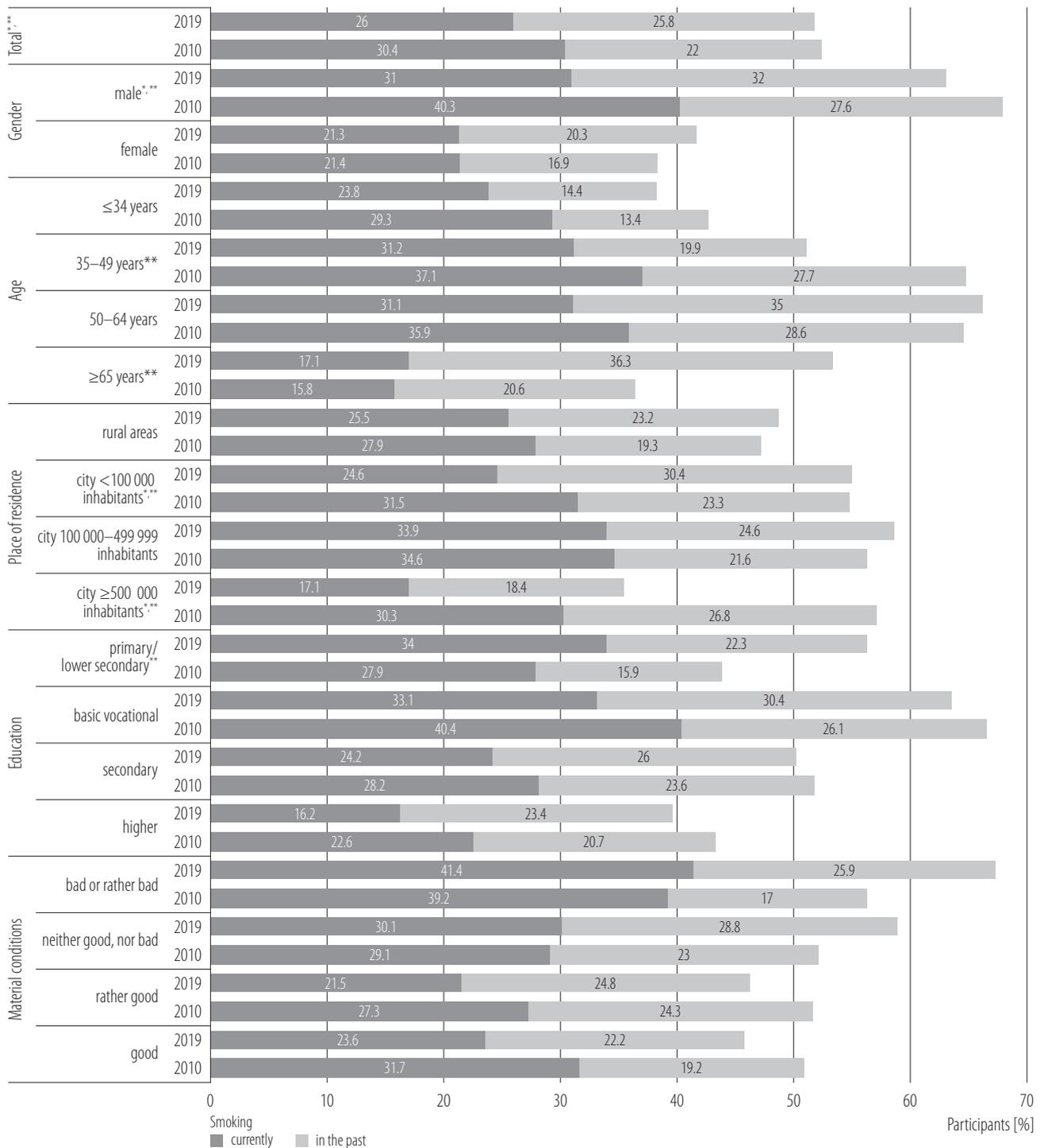
Although in 2010 44.4% of respondents did not mind being around smokers, this number dropped to 41.7% in 2019 ($p < 0.05$). The ban on smoking traditional cigarettes in public places was originally supported by 73.9% of the respondents (44.6% expressed strong support and 29.3% declared they somewhat support the ban), and by 89.8% in 2019 (74.8% and 15.0%, respectively) ($p < 0.001$).

Prevalence of current smoking in socio-economic groups

In the years 2010–2019 the proportion of current traditional cigarette smokers in the male group decreased from 40.3% to 31.0% ($p < 0.001$) (Figure 1). No such trend was observed among women, for whom the percentages remained at the same level of 21.3% in 2019. As for the place of residence, the greatest change in the percentage of current smokers between the years 2010–2019 was recorded in cities with $\geq 500\,000$ inhabitants (a decrease of 13.2 percentage points: from 30.3% to 17.1%) or with $< 100\,000$ inhabitants (a decrease by 6.9 percentage points: from 31.5% to 24.6%) ($p < 0.05$). In the 2010 study, the highest percentage of smokers was found among respondents with basic vocational education – 40.4%, while in the 2019 study in those with primary/lower secondary education – 34.0%. The least smokers were observed among respondents with higher education – 22.6% (2010) and 16.2% (2019). Differences between education level groups were statistically non-significant.

Smoking traditional cigarettes in the past

The proportion of ex-smokers among male respondents increased from 27.6% to 32.0% ($p < 0.01$) between the



* Statistically significant changes with respect to smoking currently.

** Statistically significant changes with respect to smoking in the past.

Figure 1. Declared traditional cigarettes smoking and smoking of traditional cigarettes in the past in 2010 and 2019 based on the survey conducted on a representative sample (N = 1021 adults in February 2010 and N = 1077 in July 2019), Poland

years 2010–2019, while changes in the numbers of female ex-smokers turned out to be statistically non-significant. However, when it comes to age groups, a significant change was observed in the group of 35–49-year-olds – the percentage of former smokers decreased from 27.7% to 19.9% ($p < 0.05$). A significant change was also recorded among respondents aged ≥ 65 years – the percentage of ex-smokers increased from 20.6% to 36.3% ($p < 0.001$) (Figure 1).

Analysis focused on the place of residence showed that the percentage of former tobacco users increased over the years in rural areas and in cities of 100 000–499 999 inhabitants, although this change was not statistically significant. In cities with $< 100\ 000$ inhabitants, the proportion of former smokers increased from 23.3% to 30.4% ($p < 0.05$), while in cities with $\geq 500\ 000$ inhabitants the proportion decreased from 26.8% to 18.4% ($p < 0.01$).

The proportion of those who declared smoking in the past within the group of respondents with primary/lower secondary education increased by 6.4 percentage points, from 15.9% to 22.3% ($p < 0.05$). This phenomenon primarily concerned people > 50 years of age. In the 50–64 years age group, an increase from 48.6% to 54.5% was observed and even bigger change was reported in the ≥ 65 years age group, where the numbers increased from 14.3% to 33.9%. In the remaining groups classified by education level, the changes were found to be statistically non-significant. Changes in housing and living conditions of former tobacco users were also discovered to be statistically non-significant.

Change in the attitude of Poles towards the ban on smoking traditional cigarettes in public places

In the period of 2010–2019, the total support for the new legal regulations increased from 73.9% to 89.8% (with “strong support” expressed by 74.8% of respondents and therefore gaining 30.2 percentage points) ($p < 0.001$). A total

number of 68.3% of men surveyed in the study supported the introduction of the ban, while in 2019 the number of male supporters reached 86.9% ($p < 0.001$). An increase from 79.0% to 92.6%, i.e., by 13.6 percentage points was also observed among female respondents ($p < 0.001$) (Figure 2).

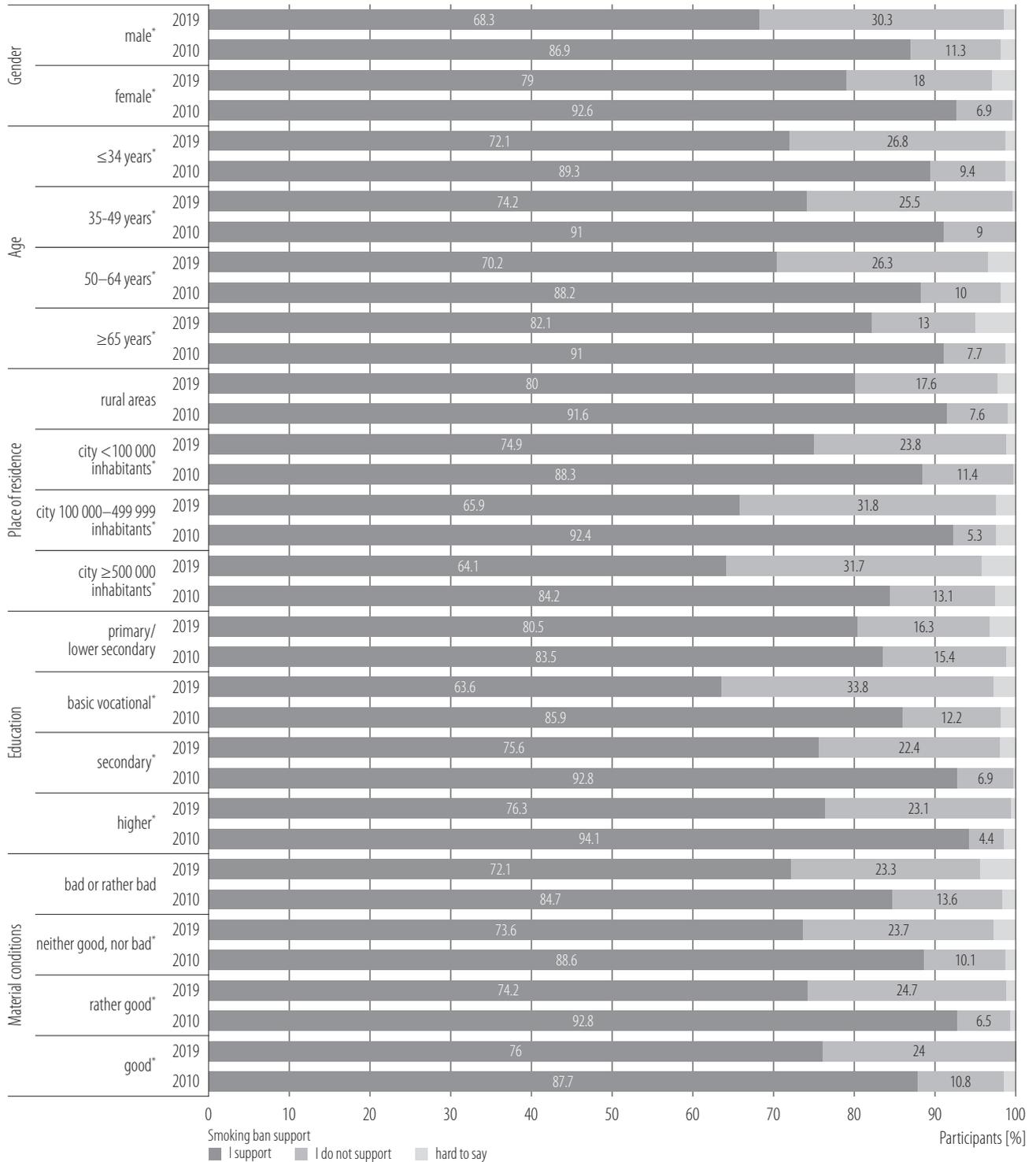
In 2010, the ban on smoking traditional cigarettes in public places received the strongest support from respondents aged ≥ 65 years – 82.1%. In 2019, the percentage of supporters from this age groups increased to 91.0%, similarly to the numbers recorded in the 35–49 years age group. In both editions of the study, the weakest support was expressed by people aged 50–64 years (Figure 2). The change in attitude towards the ban on smoking in public places proved to be statistically significant in all age groups: ≤ 34 years ($p < 0.001$), 35–49 years ($p < 0.001$), 50–64 years ($p < 0.001$), ≥ 65 years ($p < 0.01$).

In terms of the place of residence, the analysis of changes in the attitude towards the smoking ban in public places showed that the largest increase in support for the ban was recorded in cities with 100 000–499 999 inhabitants – from 65.9% to 92.4%, i.e., by 26.5 percentage points. The smallest increase in the approval for restrictions was observed in rural areas – from 80.0% (the group with the highest support) to 91.6% ($p < 0.001$) (Figure 2).

When the level of education is considered, the highest increase in support was recorded in the group with basic vocational education – from 63.6% to 85.9% ($p < 0.001$) (Figure 2). According to the declared housing and living conditions, the largest change in support for the bill was noted in the group of respondents who described their conditions as “good” (from 76.0% to 87.7%), while the smallest increase was observed in the group of people whose material conditions were “bad” or “rather bad” (from 72.1% to 84.7%) ($p < 0.001$) (Figure 2).

Using electronic cigarettes

In 2019, the regular use of e-cigarettes was declared by 1.9% of adult Polish residents, while 1.4% declared oc-



* The categories in which the change was statistically significant were marked.

Figure 2. Support for the ban on smoking in public places based on: gender, age, place of residence, education and material conditions of the household based on the survey conducted on a representative sample (N = 1021 adults in February 2010 and N = 1077 in July 2019), Poland

casual use. In both cases, the majority of e-cigarette users were men – 2.9% regular male users vs. 0.9% regular female users and 2.0% occasional male users vs. 0.9% occasional female users ($p < 0.05$). Regular use of e-cigarettes was most often declared by people <35 years of age – 3.0%, as well as in the 35–49 years age group – 3.0% ($p < 0.001$). The majority of e-cigarettes users were unmarried – a total number of 7.8% used these products regularly and occasionally ($p < 0.001$). Variables concerning the place of residence, level of education, health and living and housing conditions were statistically non-significant. Detailed information is presented in Table 1.

Overall, smoking of traditional cigarettes and e-cigarettes was declared by 27.9% of respondents in 2019 vs. 30.4% in 2010 when only traditional cigarette smoking was studied, as the question about the use of e-cigarettes did not appear in the 2010 survey.

DISCUSSION

It is important to emphasise that this analysis has provided an opportunity to observe the potential impact of legislative interventions (Tobacco Control Act) introduced in 2010 on tobacco consumption in Poland. Based on the results of the analysis, the proportion of adults declaring smoking traditional cigarettes in the period February 2010–July 2019 decreased from 30.4% to 26.0%. In 2019, the percentage of tobacco users was still higher among males (31.0%) than females (21.4%).

This analysis focuses on the changes in smoking prevalence which occurred after the implementation of new restrictions within the scope of anti-smoking policy in Poland. The enacted law was aimed at protecting the health of non-smokers in public spaces. From November 15, 2010, the smoking ban began to apply in healthcare facilities, cultural and leisure facilities, means of public transport and public transport stops, as well as in recreational areas for children and catering establishments (pubs and restaurants). The above-mentioned changes may have poten-

tially contributed to the decrease in the proportion of traditional cigarette smokers aged ≥ 18 from 30.4% in 2010 to 26.0% in 2019, as shown in the analysis. Although progress has been made in implementing smoke-free policies, 1 in 4 Poles still use tobacco, which may indicate targets for further legislative changes in tobacco control policy.

Similar advancements have been observed in other European countries that have previously changed their smoke-free policies. In 2004, Ireland was the first EU country to introduce a total smoking ban in all workplaces, including restaurants and pubs [16]. In 2003, the smoking prevalence in Ireland was 25.3% and it dropped to 21.5% in 2013, i.e., by 3.8 percentage points during 9 years when the new law was applying. Moreover, Ireland is observing further decline in smoking prevalence, with 17.0% of respondents declaring themselves as active smokers in 2019 [17].

In 2004, Norway also introduced a ban on smoking indoors: in restaurants, bars, and hotels. Data for Norway show a decrease of 11 percentage points, from 27% in 2003 to 15% in 2013. National statistics show that in 2020, the proportion of daily smokers was 9% [18].

In Italy, smoke-free policies have been in force since 2005. In this country, the percentage of smokers in 2004 was 26.2% [19] and also decreased – to 21.4% in 2015/2016 [20]. In view of the situation in other EU countries, it is necessary to maintain the current direction of changes in attitudes towards smoking among different social groups, as well as to monitor the changes that are already taking place.

Moreover, other social and economic factors, such as the place of residence or education level, are observed to influence smoking prevalence [21,22]. In the analysis, the most significant declines in smoking rates were recorded in cities with more than 500 000 inhabitants (decrease by 13.2 percentage points). In 2019, 17.1% of inhabitants of these cities used traditional tobacco when compared to 22.5% of people living in rural areas. However, this difference appeared to be statistically non-significant. The re-

Table 1. Declared use of an electronic cigarette in 2019 based on the survey conducted on a representative sample of 1077 adults, July 2019, Poland

Variable	Participants (N = 1077) [%]		p
	electronic cigarette regular use (1.9%)	electronic cigarette occasional use (1.4%)	
Gender			<0.05
male	2.9	2.0	
female	0.9	0.9	
Age			<0.001
≤34 years	3.0	3.7	
35–49 years	3.0	0.8	
50–64 years	0.7	0.4	
≥65 years	0.4	0.4	
Place of residence			0.169
rural areas	0.9	1.4	
city			
<100 000 inhabitants	2.0	1.0	
100 000–499 999 inhabitants	3.5	1.2	
≥500 000 inhabitants	1.3	3.9	
Education			0.180
elementary/lower secondary	2.1	3.2	
basic vocational	1.9	0.4	
medium	2.4	1.2	
higher	1.0	1.0	
Health condition			0.065
very good	0.0	3.0	
quite good	2.3	1.5	
neither good nor bad	1.6	0.0	
quite poor	2.2	2.2	
very bad	0.0	0.0	
hard to say	0.0	0.0	
Material conditions			0.515
bad or rather bad	3.4	5.2	
neither good nor bad	1.1	0.5	
rather good	2.6	1.6	
good	1.4	1.4	

Table 1. Declared use of an electronic cigarette in 2019 based on the survey conducted on a representative sample of 1077 adults, July 2019, Poland – cont.

Variable	Participants (N = 1077) [%]		p
	electronic cigarette regular use (1.9%)	electronic cigarette occasional use (1.4%)	
Marital status			<0.001
single	4.1	3.7	
married	1.3	0.7	
divorced/separated	0.0	1.6	
widowed	0.0	0.0	

Bolded are results statistically significant.

sults obtained in the first edition of the study correspond with the results from the 2010 GATS study, which reported that 30.4% of respondents in large cities and 26.1% in rural areas smoked traditional cigarettes every day or occasionally [8]. In a study conducted in 2019, researchers from Kantar reported that 17.1% of tobacco users lived in large cities and 17.3% in rural areas [10]. Differences in the prevalence of smoking between large cities and rural areas may result from greater dissemination of information on anti-smoking policies in large cities [23].

With regard to the level of education, the authors proved that participants with lower education (primary/lower secondary or basic vocational) smoke tobacco more often than people with secondary and higher education, which is consistent with the results presented in similar reports. Data collected in 2010 from GATS research showed that 29.6% of people with primary education and 43.9% with vocational education used tobacco every day [24]. In the 2019 Kantar report the numbers were 22.1% and 29.7%, respectively [10]. Possible explanation for greater prevalence of smoking addiction among people with lower education may be associated with lower awareness of health risks posed by smoking. It is also important to mention educational campaigns targeting particular

population groups which were carried out throughout the study period studied, as such initiatives may have also contributed to a decline in the prevalence of tobacco use. In Poland the Chief Sanitary Inspectorate is one of the organs responsible for the implementation and coordination of educational activities in the field of behaviours and attitudes related to smoking. At the time of the smoking ban adoption, a nationwide media campaign was launched in 2010 (TV broadcast), informing about changes in the national tobacco policy, specifically including the ban on smoking in workplaces and public areas [12]. Other initiatives undertaken by the Chief Sanitary Inspectorate include annual organization of a nationwide educational campaign “World No Tobacco Day” established by the World Health Organization on May 31. This campaign is addressed to general public [25]. Activities organized on this day aim to encourage the widest possible group of recipients to quit smoking [26]. Educational attractions are carried out in cooperation with local media and their costs are covered by municipal funds for tobacco prevention activities, therefore allowing the organizers to reach a wider audience. Numerous articles, interviews, broadcasts and TV spots reinforce the impact of health-promoting initiatives and activities [27]. The talks,

lectures and occasional events which took place in educational institutions within the framework of anti-tobacco education programs, were conducted by school coordinators, e.g. “Don’t smoke in front of me, please” and “Clean air around us,” addressed to preschool-aged and early school-age children and their parents [27].

Educational campaigns targeting specific groups remain an important element of tobacco prevention efforts. Social media are a powerful tool, as it facilitates educators to reach particular social groups and makes the communication more effective. Taking into account the results of the analysis, special educational activities should focus on the 35–64 years age group. However, specific health campaigns should also target the youngest individuals who are still in the early stages of smoking initiation or who have started tobacco consumption at a very young age.

According to the World Health Organization, raising taxes to increase the price of cigarettes is one of the most effective methods to decrease smoking prevalence. Tobacco taxes are generally well accepted by the public, including tobacco users themselves, as most of them are aware that smoking is harmful to health [28]. When analysing changes in tobacco consumption over time, it has been observed that the response of addicted individuals to price rises is slow but increases over time, therefore leading to a reduction in tobacco consumption [29]. It has also been noted that adolescents, young adults and those with low socio-economic status are more sensitive to price changes when compared to the general population [30,31].

Studies from Canada, South Africa and the UK, conducted after cigarette price rises, showed that higher prices encourage quitting, discourage others from starting to smoke and reduce the number of relapses among ex-smokers [29]. Moreover, smokers in Poland admit that rising cigarette prices are one of the most significant factors influencing their decision to quit [9]. Statistics document a significant increase in the price of cigarettes in Poland between 2010 and 2019: from PLN 9.67 to PLN 14.05 for 20 cigarettes [32].

These data suggests that cigarette price increase may be one of the elements potentially influencing the decline in smoking prevalence in Polish population. With this in mind, it is important to emphasise that comprehensive tobacco control policies should also address economic issues.

Furthermore, a significant increase in support for the introduced ban on smoking in public places was observed in the study period, rising from 73.9% in 2010 to 89.8% in 2019 (the frequency of expressing “strong support” by respondents increased by 30.2 percentage points to 74.8%). The results of studies carried out in other EU countries which implemented anti-smoking policies earlier than Poland showed that support often increases after the introduction of smoke-free environments. In Italy, the support for anti-smoking policy has gradually increased from 83% before the 2001 ban to 93% in 2006 after the introduction of smoking ban. A similar situation was observed in Ireland, where support for a total smoking ban among Irish smokers increased in the years 2003–2005: in workplaces (43% to 67%), in restaurants (45% to 77%) and in bars/pubs (13% to 46%). A total number of 83% of Irish smokers described the anti-smoking legislation as “good” or “very good” [33].

In France, Germany and the Netherlands, a comprehensive anti-smoking policy has been shown to receive more support than partial smoking bans. More than three-quarters of Germans (77.5%) supported a ban on smoking in restaurants and bars. In the Czech Republic, support for the prohibition on smoking in restaurants increased from 65.4% in 2010 to 68.4% in 2011, while in Finland the numbers rose from 34% in 2004 to 61% in 2005. Research conducted in Norway also proved that public support for anti-smoking laws increased significantly following the introduction of laws banning smoking in bars and restaurants – from 54% in 2004 to 90% in 2011 [33].

In Poland, the Chief Sanitary Inspectorate is responsible for enforcing the anti-tobacco policy. In 2018, 99.6% (N = 260 957) of the inspected facilities complied with the requirements of the anti-smoking law [26].

The protection from exposure to secondhand smoke ensured by the law has been welcomed by both smokers and non-smokers. However, the support for the ban in different types of public places where smoking was banned is unknown. It is possible that smoking is more acceptable in places where researchers, e.g. Jankowski et al. [12] have noted greater exposure to SHS, such as catering and hospitality establishments, as well as public transport stops. With this in mind, the laws need to be improved in terms of the enforced restrictions and designation of places where smoking is still allowed.

In the group of respondents analysed in 2019, the use of e-cigarettes was a rare phenomenon. The results of the analysis are in line with data generally recorded in the EU countries. In 2014, 1.5% of the adult population were regular e-cigarette users, while in 2017 this group amounted to 1.8%. Men declared the use of e-cigarettes more often than women and the same trend was relevant to younger respondents [34]. The Special Eurobarometer 506 report also indicated that approx. 1% of the Polish population were e-cigarette users in 2020 [5]. Research also shows that e-cigarettes have been gaining more popularity among young people, i.e., between 15–19 years of age. The prevalence of e-cigarette use increased by 9 percentage points, from 2% in 2010–2011 to 11% in 2015–2016. Researchers have noticed that e-cigarettes do not replace traditional cigarettes but rather allow for the use of various products [35].

Tobacco control legislation is an important element in combating health and socio-economic consequences of smoking. It is important to remember, however, that the decline in smoking prevalence is also the result of many variables, such as increased public awareness, information and education campaigns and economic impact through increased cigarette prices.

Limitations of the research method

The analysed data comes from a survey conducted on a representative sample of Poles. This type of research in-

creases the quality and credibility of the collected data. However, in both cases the nature of the research is based solely on questionnaires and the collected data is of a declarative nature. It means that the analyses were made only on the basis of respondents' answers and not on the basis of observed behaviours. There is a risk that, in some cases, there may have been discrepancies between the respondents' answers and facts.

There are still many factors that influence the prevalence of smoking in a given society. The problem of smoking remains a very broad subject and it is impossible to analyse all factors in one publication.

CONCLUSIONS

The percentage of adult traditional cigarette smokers decreased significantly between 2010 and 2019, but the change was observed mainly among men. Among women, the percentage of cigarette smokers remained the same. The most significant declines in cigarette smoking were also observed among residents of the largest cities ($\geq 500\,000$ inhabitants).

During the same period, there was a further increase in the acceptance of legal restrictions on smoking cigarettes in public places.

E-cigarette use among adults is a niche phenomenon in Poland, but it is much more prevalent among women than men.

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