

Daily tobacco smoking patterns in rural and urban areas of Poland – the results of the GATS study

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Abstract

Introduction and objective: Cigarette smoking is one of the main causes of premature death worldwide. Tobacco smoking is influenced by social and economic factors such as age, gender, level of education and place of residence. The objective of this paper is to describe the occurrence of daily tobacco use in urban and rural populations in Poland.

Materials and Method: The data was collected between 2009–2010 as part of the International Global Adult Tobacco Survey project. The study was conducted based on population of age 15 and older. 7,840 full individual interviews were conducted (51.2% in rural and 48.8% in urban areas). The total response rate was equal to 65.1%.

Results: 25.4% of rural residents at the age of 15 and above smoke tobacco daily (32.5% men and 17.9% women). In cities, this percentage corresponds to 30.3% (35.4% males and 25.8% females, respectively). Among the males and females, the highest percentage of daily tobacco smokers was found among respondents with vocational education (males 47.3% in urban and 41.8% in rural areas; females 36.8% and 23.5%, respectively). In both the rural and urban areas the lowest percentage of daily cigarette smokers among male respondents were those with higher education (24.9% in urban and 16.1% in rural areas). In the group of female respondents, the lowest incidence was observed among those with primary education (16.4% in urban, 11.7% in rural areas).

Conclusions: Daily smoking patterns in Poland differ according to the place of residence (urban/rural) and gender. A decrease in the percentage of daily tobacco users should be observed in the next few years. Along with age exceeding 60 years, the percentage of daily cigarette smokers is clearly on the decline.

Key words

tobacco smoking, epidemiology, rural and urban areas

INTRODUCTION

Epidemiological data concerning tobacco smoking. Tobacco smoking is one of the main causes of premature death worldwide. It is also the leading cause for the occurrence of non-infectious chronic illnesses, such as respiratory and cardiovascular diseases as well as various types of cancers [1]. Tobacco smoking (active and passive) kills around 6 million people annually, including over 600,000 non-smokers [2, 3]. If the current trend continues, by 2030 the number of daily deaths caused by tobacco use in the world will exceed 8 million [2, 4, 5, 6]. This will affect 80% of people living in low and medium developed countries [2].

According to the WHO data, 22% of the world's adult population above 15 years of age smoke tobacco [7]. In Europe, tobacco smoking causes around 1.6 million premature deaths

and 13 million Europeans currently suffer from tobacco-related diseases [8].

The Global Adult Tobacco Survey (GATS) has shown that the number of current cigarette smokers in Poland at the age of 15 and above is equal to 30.3%: 36.9% of males and 24.4% of females. A considerable part of smokers use tobacco every day. Among all adults, this percentage is equal to 27% [9].

It has been proved that health risks rise with an increasing number of cigarettes smoked and the cumulative dosage of tobacco use [10]. It is estimated that in the year 2000 alone, tobacco smoking caused 13% of deaths among males and 4% among females worldwide [11, 12]. In Poland, around 69,000 deaths were reported – 60% of which included premature deaths at an age between 35–69 [4].

In 2004, 1.6 million out of 7.4 million deaths worldwide were caused by tobacco use [7]. Among the European population, 80–90% of malignant lung tumors are caused by cigarette smoking [12].

Economic results of tobacco smoking. Apart from the negative impact on the state of public health, tobacco smoking

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also has numerous economic effects. In 2001 alone, Polish tobacco smokers spent 16 billion PLN on cigarettes [13].

The expenses regarding health care caused by cigarette users are approximately 30% higher than those incurred by non-smokers [14]. The treatment of tobacco-related illnesses costs, covered by the State budget, are about 18 billion PLN per year. The expenses include treatment of chronic obstructive pulmonary disease (10 billion PLN), coronary disease (4 billion PLN) and strokes (4 billion PLN). The other group of expenses associated with cigarette smoking are indirect costs, including: work absenteeism, loss of productivity, and disability benefits paid under the cover of tobacco-related diseases, and total approximately 15 billion PLN spent per year [13].

High expenditure on the treatment of tobacco-related illnesses may be reduced if the price of a packet of cigarettes and excise duty are raised. Both factors are the most effective tools in curbing tobacco use and reducing the effects of smoking. A report on the taxation of tobacco products in Poland shows that by raising the average price of a packet of cigarettes by half (from 9.14 PLN to 13.72 PLN) as many as 618,000 smokers will most likely consider quitting. Assuming such a scenario, a decrease of 7.2% in the mortality rate is likely to be observed among Polish adults and youths [15].

Impact of social factors on smoking patterns. The amount of money spent on cigarette use and the smoking patterns are also affected by social factors. A correlation was found between cigarette use and certain social and economic factors, such as age, gender, level of education and respondents' place of residence [16]. In Germany, a higher percentage of current smokers has been present among urban compared to rural communities [17]. However, researchers in Canada reached a different conclusion, stating that an increased number of cigarette smokers in rural areas may be present due to fewer restrictions concerning smoking in these areas [18].

Conversely in Poland, as reflected by data collected during a nationwide study 'Epidemiology of Allergic Diseases in Poland' (ECAP), there is a prevalence of tobacco smokers residing in urban areas: in Warsaw, 30.8% of the population, and in the rural area around Zamosc – 26.3%. Male smokers in both of these areas form comparable groups: 36.5% and 38.8%, respectively. Among female respondents such occurrence varies. There is a significant difference between groups of females from both areas. 27.4% of female respondents from Warsaw and 15.8% from Zamosc are active tobacco smokers [19]. The conclusions based on the data collected by the ECAP are similar to those reached by German researchers.

OBJECTIVE

The objective of the presented study is to describe the occurrence of the daily tobacco smoking patterns in Poland based on place of residence (urban/rural areas) and gender.

MATERIALS AND METHOD

GATS – basic information. Data analysis concerning cigarette smoking patterns in urban and rural population in Poland was conducted based on the data collected as

part of the Global Adult Tobacco Survey project – GATS. The GATS project is a questionnaire-type study analyzing the tobacco consumption, conducted in 2008–2010 in 14 countries, including Poland.

The study was statistically representative, including the population aged 15 and above, funded by the Bloomberg Philanthropies Organization in the Bloomberg Global Initiative for Tobacco Reduction.

In Poland, the GATS study was coordinated by the Ministry of Health and World Health Organization (WHO) Country Office in Poland. It was conducted by the Medical University of Warsaw, Maria Skłodowska-Curie Cancer Centre and Institute of Oncology and Pentor Research International. Technical support was provided by the WHO, the US Center for Disease Control and Prevention (CDC) and the John Hopkins Bloomberg School of Public Health (JHBSPH).

Population and sampling method. The GATS study conducted in Poland included the adult population (males and females aged 15 and older) permanently residing and considering Poland as their main place of residence. The group excluded from the study were adults living in Poland temporarily (e.g. tourists), in collective accommodation (such as dormitories) and those institutionalized, including persons residing in hospitals, prisons, nursing homes and other such institutions.

A three-step, stratified and cluster sampling method was applied. The TERYT base was used as the sample frame. The TERYT base is at the disposal of the Central Statistical Office and it contains information about all housing units in Poland. In the first stage of the sampling, 400 units (200 urban and 200 rural) out of 38,691 statistical regions were drawn with the probability proportional to their size. In the second stage, 34–36 households were selected from each statistical region. In total, out of all 16 provinces (Voivodeships), 6,800 rural and 7,200 urban households were selected. In the third stage of the study, one person was selected from every household.

The number of the respondents from rural and urban areas was believed to be comparable (urban 50%, rural 50%), but in reality not reflecting the actual structure of the Polish population. It was important to test the hypotheses based on the place of residence. In order to obtain all national estimates, the collected data was weighted according to GATS guidelines. As a result, the percentage of the urban to rural population was equal to 62% vs. 38%. Bearing in mind the objective of the presented study, in order to compare the cigarette smoking patterns of rural and urban populations, not-weighted data was used in the full analysis.

Research Questionnaire. The questionnaire used in GATS study was composed of two basic modules: a household questionnaire and a respondent's questionnaire. In the latter, the following topics were included: basic personal data; cigarette smoking; smokeless tobacco; smoking cessation attempts; passive smoking; economic aspects of smoking; information about tobacco; patterns and knowledge about the effects of cigarette use; source of tobacco.

The analysis describes the occurrence of the daily cigarette smoking patterns based on the following questions (the number in brackets corresponds to the number of questions in the Polish edition of the GATS questionnaire):

- (B01) Do you currently smoke tobacco every day, less than every day, or you do not smoke at all?
- (BO2) Have you ever smoked tobacco daily in the past?
- (BO3) In the past, have you smoked tobacco every day, less than every day, or not at all?

Research implementation. The presented study was carried out by professional interviewers using the CAPI method (Computer Assisted Personal Interviewing) on portable devices such as PDAs (Personal Digital Assistant). The interviews were conducted in respondents' homes for a period of 18 weeks from 2 November 2009 – 7 March 2010. The completed questionnaires were sent online to the headquarters in Warsaw for verification and quality control.

Of the 14,000 sampled households, 8,948 took part in the survey (63.9%). 7,840 (93.9%) full individual interviews were carried out (according to the assumptions made it was believed to be 8,000). The total response rate was 65.1% and was higher in the rural areas (69.1%) in comparison to urban areas (61.5%). 3,867 (49.3%) males and 3,973 (50.7%) females took part in the survey.

4,012 (51.2% of the total) respondents were residents of rural areas and 3,828 (48.8%) of urban areas.

Statistical Analysis. Statistical analysis was carried out based on the IBM SPSS Statistics 20 package. Not-weighted data was used. The sampling method allowed the carrying out of two independent samples – urban and rural, both representative of a given population.

For all tests, significance level (p -value) <0.05 was used as statistically significant. To test the hypotheses regarding smoking rate, an X^2 test was used. To measure the relationship between nominal variables an odds ratio (OR) was used. Measurement of the linear correlation between variables was carried out by use of Pearson's linear correlation.

RESULTS

Daily smoking patterns in urban and rural areas. The GATS study showed differences in daily smoking rate depending on the place of residence. 25.4% of rural residents at the age of 15 and above admitted to smoking tobacco every day; in urban areas – 30.3%. This difference is statistically significant ($p < 0.001$). The urban population did not present homogeneity in tobacco smoking rate. The differentiating factor, among other variables, was the size of the place of residence (Fig. 1). The highest percentage (32.9%) of current daily cigarette smokers is present in the large cities (above 500,000 inhabitants). In these cities, there is also the highest number of tobacco users smoking less than every day (4.5%). In small cities (up to 20,000 inhabitants), the percentage ranges from 2.6% to 3.1%, and the adult inhabitants smoke tobacco daily the least often (26.0%). The results were similar to the those obtained in rural areas.

Daily smoking patterns based on gender. Both in the rural and urban areas there is a strong difference in cigarette smoking rate based on gender. In the city, 35.4% of men and 25.8% of females aged 15 and above smoke tobacco every day. The differences are statistically significant ($p < 0.001$). The odds ratio (OR) calculated for males relative to females

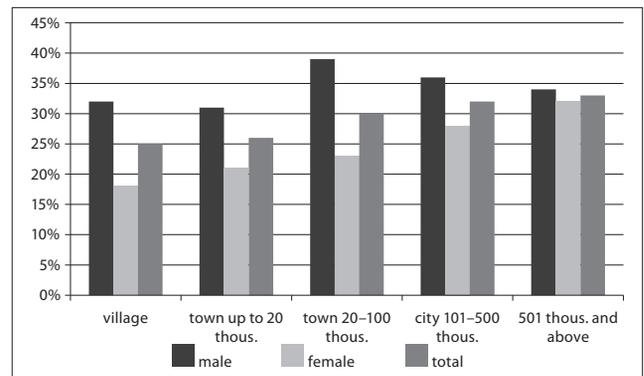


Figure 1. Number of daily tobacco smokers, based on size of place of residence and gender in the population aged 15 years and older.

iving in the city is 1.58 (95% CI 1.375 – 1.815). In rural areas, 32.5% of males and 17.9% of females smoke tobacco every day ($p < 0.001$). The odds ratio calculated for males relative to females is 2.205 (95% CI 1.902 – 2.557).

The difference in daily smoking rate between the group of male respondents from the rural and urban areas is on the border of the accepted statistical significance ($p = 0.057$). For female tobacco users this difference is significant at the $p < 0.001$ level.

Daily smoking patterns based on age. The age of cigarette smokers plays a significant role factor in differentiating smoking patterns in both urban and rural areas. In urban areas, daily tobacco users are most commonly 40–49 years old (39.5%) and 50–59 (39.8%). The lowest percentage of tobacco smokers is present among the group of 70-year-old and over respondents (7.1%) and 15–19 years (14.5%). Similarly, in rural areas, daily tobacco users are 40–49-years-old (38.4%) and 50–59 (33.1%), with lowest prevalence among daily smokers aged 70 and above (6.3%) and 15–19 years (11.1%).

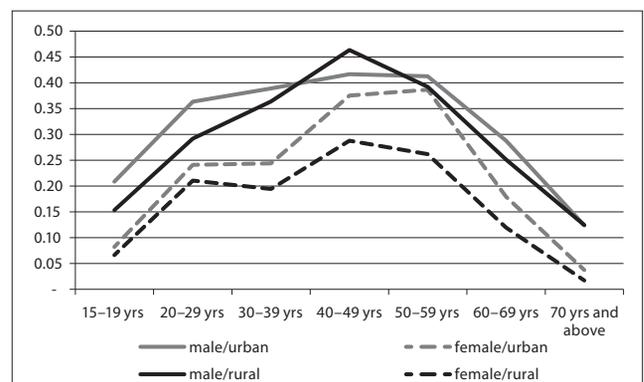


Figure 2. Percentage of daily tobacco smokers, present in urban/rural areas, based on gender and age in the population aged 15 years and above.

Figure 2 presents the percentage of daily tobacco users based on their age and gender. Among male respondents living in rural areas, most daily smokers are found at an age between 40–49 (46.3%). Also in the same age group, most female daily smokers living in rural areas were present (28.8%). In all the analyzed age groups, the differences based on gender were statistically significant, except for the youngest age group (between 15–19), considered as being on the border of statistical significance ($p = 0.051$).

In the urban population, the highest percentage of male smokers is present in the groups aged between 40–49 (41.6%) and 50–59 (41.3%). In the same age group, the percentage of females living in urban areas smoking daily are 37.5% and 38.7%, respectively. In the groups of urban citizens aged 40–49 and 50–59 the differences between male and female daily smoking patterns were not statistically significant ($p=0.298$ and $p=0.491$, respectively), in contrast to all the other age groups where such differences were statistically significant.

Daily smoking patterns based on social and economic status. Table 1 presents detailed data on daily smoking rate, based on key social-economic factors.

Table 1. Percentage of daily tobacco users, based on social and economic factors.

	male/ urban	female/ urban	male/ rural	female/ rural
No.	1,810	2,018	2,057	1,955
Education				
primary education	31.0%	16.4%	29.2%	11.7%
vocational secondary education	47.3%	36.8%	41.8%	23.5%
secondary education	33.3%	27.5%	28.5%	19.9%
higher education	24.9%	19.3%	16.1%	17.8%
Professional status				
employed person	39.1%	32.9%	37.5%	23.5%
self-employed	31.5%	31.1%	39.2%	22.6%
running own farm	*	*	33.2%	17.4%
Student	19.7%	8.8%	12.6%	7.4%
keeping a household	*	29.8%	47.8%	27.7%
Retired	27.5%	17.0%	24.6%	10.4%
unemployed	62.2%	30.8%	52.5%	26.3%
Net income (monthly)				
<1,000 PLN	41.0%	21.4%	34.5%	16.6%
1,000 – 1,500 PLN	39.1%	24.4%	31.8%	18.7%
1,501 – 2,000 PLN	39.5%	30.9%	35.6%	20.2%
2,001 – 3,000 PLN	31.1%	31.3%	31.3%	18.0%
>3,000 PLN	34.0%	25.6%	39.3%	21.7%
Refusal to respond	32.5%	26.7%	27.0%	17.2%
Faith/religious practice				
believer, practising regularly	26.8%	15.7%	27.7%	13.5%
believer, practising irregularly	36.3%	31.1%	38.0%	26.6%
believer, non-practising	47.4%	38.0%	45.9%	37.4%
non-believer	32.8%	46.2%	25.7%	*

* Size of the group less than 20 people.

The respondents' education level plays a significant role in differentiation of daily smoking patterns. For all four analyzed groups based on their place of residence (urban/rural) and gender, the differences are statistically significant at the level of $p<0.001$. In all analyzed population groups, the highest percentage of daily cigarette users was present among respondents with vocational secondary education. Both in the rural as well as urban areas the lowest percentage of daily smokers was found among male respondents with higher education. In the group of female respondents, the lowest incidence was observed among women with primary education.

The professional status of respondents significantly affects daily smoking patterns. Among men, the highest percentage of daily smokers was found among respondents who were unemployed. In the urban population, 62.2% of the unemployed are daily tobacco users, in the rural population – 52.5%. Among female respondents living in urban areas, the largest number of daily cigarette users was found in the following groups: full-time employees (32.9%), self-employed (31.1%), unemployed (30.8%) and those maintaining households (29.8%). In rural areas, daily cigarette smokers most frequently were women maintaining households (27.7%) and the unemployed (26.3%). In all the analyzed population groups, the lowest percentage of daily tobacco users was found among students and pensioners, i.e. among the youngest and the oldest respondents.

The respondents' income level affects daily smoking patterns only in the urban population (males $p=0.012$; females $p=0.006$). In the case of respondents living rurally, this factor was not statistically significant (males $p=0.106$; females $p=0.770$). Male tobacco users living in urban areas, earning less than 1,000 PLN per month, indicated the highest daily tobacco consumption (41%), while the lowest consumption was found among those with income ranging from 2,001 – 3,000 PLN (31.1%). Among women living in the urban areas, the highest percentage of daily tobacco smokers is seen in the group with an income level of 2,001–3,000 PLN (31.3%) and 1,501 – 2,000 PLN (30.9%), and the lowest percentage among those earning less than 1,000 PLN (21.4%).

It has also been shown that faith and religious practice affect tobacco use in all of the analyzed population groups, based on gender and place of residence ($p<0.001$). Among males, the highest percentage of daily smokers is present among non-practicing believers, including males from both urban (47.4%) and rural (45.9%) areas. Among females, the highest percentage of daily cigarette smokers is found among non-believers (46.2%). In the rural areas, the data for female non-believers are inconclusive due to the low number of the population group. The highest incidence was observed in the group of female non-practicing believers (37.4%). Based on the data collected in all groups based on religious belief, believers and regularly practicing believers smoke tobacco daily the least often. The exception was found in the group of male respondents living in rural areas, where the lowest incidence was found among non-believers (25.7%). In the group of believers and practicing believers, the percentage of daily tobacco users was only slightly higher (27.7%).

Past smoking experience. The GATS study also included questions about past smoking experience. 49.1% of respondents from urban areas and 44.1% from rural areas answered that they have had previous experience with tobacco use (significance of differences $p<0.001$). In comparison, the percentage of today's daily tobacco smokers was equal to 30.3% of adult urban and 25.4% of rural residents ($p<0.001$). The highest percentage of the population with past experience of daily tobacco consumption was found in the group of urban residents between the ages of 50–59 (61.9%). In rural areas, the highest incidence was present the population group aged 40–49 (55.8%). In the rural areas, 28.7% of females and 58.7% of males (OR = 3.527, 95% CI 3.092 – 4.022) admitted to having smoked tobacco daily in the past. In urban areas, this number was equal to 39.9% and 59.3%, respectively (OR = 2.199, 95% CI 1.932–2.502).

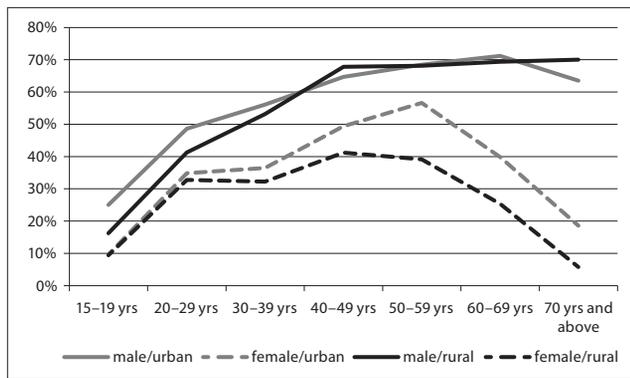


Figure 3. Percentage of population with past experience of tobacco use, based on place of residence, age and gender.

Figure 3 shows the results of the presented study based on age and gender, showing diversity among respondents' smoking behavioural patterns. The daily smoking rate based on respondents' past experience increases with age from 16–25% in the population group age 15–19, to approximately 40 years of age, reaching a constant level at around 64–71%. The place of residence has an effect on different results in male smoking patterns, but are not statistically significant in particular population groups.

In the case of female respondents, there was a different behavioural pattern based on past experience, the daily smoking rate of female tobacco users increases with age. The highest incidence was observed in the population group aged between 50–59 (56.6%) living in urban areas, and 40–49 living in rural areas (41.2%). These values fall to 18.6% in the city and 5.8% for those living rurally for the population group of age 70 and above. In the female population, the place of residence (urban/rural) does not affect the results in the group of respondents between ages 15–19, 20–29 and 30–39. In the older groups, the differences are statistically significant, based on age 40–49 ($p=0.040$), 50–59 ($p<0.001$), 60–69 ($p<0.001$), 70 and older ($p<0.001$).

The initiation of daily smoking pattern. The average age at which respondents began to smoke cigarettes daily is 18.19 (95% CI 17.97–18.40). In the group of women it is 20.13 (19.79–20.47). Among the residents of rural areas it is, respectively, 18.50 years (18.29–18.71) for men and 19.77 years (19.40–20.13) for women (Fig. 4). In the case of males aged 20

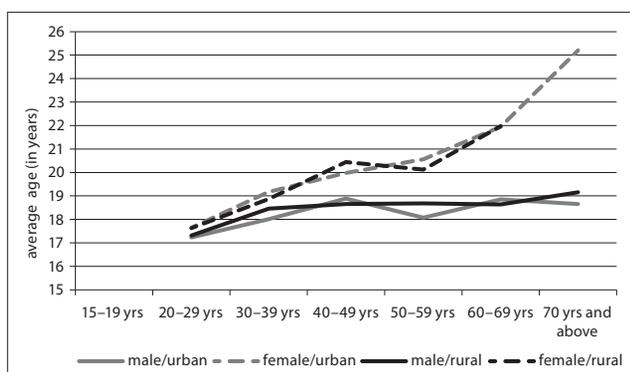


Figure 4. Average age of initiation of daily smoking pattern for various age groups, based on place of residence and gender.

* Due to the low number of respondents (below 20) aged between 15–19, study results in this group have not been shown. Similarly, the group of female of respondents aged 70 and older living in rural areas have not been included.

and above, they began to smoke daily, on average, at the age 17–19. In the group of female tobacco users, the average age of daily smoking initiation increases with age. Pearson's linear correlation indicates the relationship between the females' age and the time of daily smoking initiation among these respondents as 0.345 ($p<0.001$). In comparison, this value was 0.135 ($p<0.001$) in the group of male tobacco smokers.

DISCUSSION

Methodological limitations of the GATS study. The scale, scope and inter-nationality of the GATS project has a positive effect on the quality of the data presented; however, it should be noted that the nature of the study is based only on questionnaires. This means that respondents' smoking patterns were analyzed exclusively based on declarations, rather than actually observed behaviour. There is a risk, in certain cases, of possible discrepancies between respondents' answers and the actual state in behavioural patterns. Even though the population of Poland is aware of the negative effects of smoking on health [6, 10, 12], the risk of falsifying data is minimal [20]. The fact that the study was carried out by professional interviewers with extensive experience in conducting questionnaire interviews, played a significant role in the maintaining quality of the conducted study. Each respondent was informed about the purpose of the examination and the institutions involved in the study, including the World Health Organization, Ministry of Health, Warsaw Medical University, Maria Skłodowska-Curie Cancer Centre and the Institute of Oncology.

Due to the non-weighted data used in the statistical analysis (discussed in the methodology section above), the collected data may slightly diverge from officially presented data results of the GATS study. From the point of view of the objective of the presented study, which is to compare the occurrence of daily smoking rates in urban and rural areas in Poland, it has marginal significance. The results of population groups have been presented based on age, gender and place of residence, factors which were used in the process of weighting data.

Daily smoking patterns. Analysis of daily smoking patterns based on past experience (Fig. 3 and 4) show significant differences between generations. The question arises, whether the lower percentage of young male smokers results from the changes in the state of awareness, or the fact that some of them will become daily tobacco users only in the future. The average age at which respondents start smoking daily (Fig. 4) indicates rather a change in attitudes and awareness, highlighting the effectiveness of policies introduced by the Polish authorities and non-governmental organizations aimed at limiting tobacco smoking.

In the case of female tobacco users, smoking patterns show a slightly different dynamic. Comparing the oldest population groups with the middle-aged group of female respondents, there is a strong tendency of tobacco use among the younger generations. This was accompanied by a fall in the average age at which females start daily tobacco consumption. Comparison of the results of the presented study, based on the youngest with the middle-aged population groups among female smokers, indicates a reversal in the negative trend and a decline in daily smoking patterns, as is also the case with the youngest male respondents.

The presented study shows that in urban areas tobacco is smoked daily by 35.4% of males and 25.8% of females aged 15 and above. In rural areas, this number is equal to 32.5% and 17.9, respectively. Similar results were obtained in the ECAP study. Among female rural residents, 29.6% were smokers; in urban areas, this number was dependent on the region, showing diversity from 36.3% in Poznań to 49.5% in Gdańsk. However, the highest percentage was observed among male respondents living in Zamość – 56.1% [21].

According to Sygit et al., in a study of the risky behaviour of young people aged 15–19 in urban and rural areas, more young smokers were recorded in the rural (30.57%) than in the urban areas (25.61%) [22].

An increased number of male smokers were also observed by Japanese researchers who conducted a questionnaire survey among 2,884 employees (2,022 males and 862 females) from 296 enterprises. From the entire group examined, 62.8% of males and 21.7% of females proved to be current smokers [23]. In Poland, the disparity between males and females not as high; however, both in urban and rural areas an increased number of male smokers was noted.

State policies in the reduction of tobacco smoking. In order to reduce tobacco consumption, in 2003 the World Health Assembly of the World Health Organization adopted the WHO Framework Convention on Tobacco Control (FCTC). This was the first international treaty in the field of public health concerning the issue of tobacco smoking. The main objective was to protect society from the consequences of tobacco use while taking into account their health and economic effects [5, 7]. To date, 168 countries worldwide have signed the Convention. Poland ratified the FCTC on 15 September 2006 [7].

The main document shaping the Polish anti-smoking policies is the National Health Programme for the years 2007–2015. Its operational Directive No. 1 is to prevent smoking from spreading further [24].

A direct consequence of the decisions taken at the WHO Framework Convention on Tobacco Control was to ensure the Polish population has access to zones free from tobacco smoke. In November 2010, the Act of 9 of November 1995 on health protection against the results of smoking tobacco and tobacco products was amended, introducing a ban on tobacco smoking in public areas, thereby meeting the objectives of the Convention by Polish law.

During the implementation of new law, the Public Opinion Research Centre conducted studies to verify the number of tobacco smokers. The report showed that since the introduction of the smoking ban in public areas the number of smokers has not changed. Before the introduction of the ban in February 2010, 30% of the population were tobacco users. The number of cigarette smokers remained at a comparable level in May 2011 – 30% [26], and in July 2012 – 31% [27].

There has been an increase in the percentage of the population supporting the introduced ban. In 2010, the number was 74% [25], in 2012 it has increased to 84% [27]. In New Zealand and California, similar to Poland, public opinion research showed that introduced bans on tobacco smoking in public areas was supported by large sectors of the population – 69% and 75%, respectively [5].

CONCLUSIONS

1. The daily smoking patterns in Poland are affected by and dependent on several factors, such as place of residence (urban/rural) and gender.
2. Due to the decreasing smoking rate among the young population, in the coming years a decline in the percentage of tobacco users can be expected.
3. Among respondents aged 60 and above, the percentage of daily cigarette users is clearly falling, most probably due to deterioration in the overall state of health of the population.

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