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Smoking habits among women over 30 years of age in Małopolska

Abstract

Introduction: The aim of the study was to evaluate the prevalence and intensity of smoking among women from urban and rural areas of the Małopolskie province.

Material and methods: A structured questionnaire was used by appropriately trained nurses to conduct personal interviews. Smoking-related questions concerned the age of starting to smoke, the duration of smoking and the average number of cigarettes smoked per day. A total of 840 interviews were carried out. Lifetime exposure to smoking was expressed in pack-years.

Results: Interviews were conducted with 602 and 238 women from urban and rural areas of the Małopolskie province, respectively. The percentages of current smokers, ex-smokers and never-smokers among the women inhabiting the province are 23.4%, 21.7% and nearly 55%. The percentage of never smokers is significantly higher among women inhabiting rural areas than those inhabiting urban areas (67.3% vs 50.0%). Current smokers account for 25.9% and 17.2% of women from urban and rural areas, respectively. We have not observed any significant differences between urban and rural areas in smoking habits among younger women (below 50 years of age).

Conclusions: There is a need for extensive educational efforts that would target women in rural and urban areas and would raise the awareness of the dangers of smoking and provide support in smoking cessation.

Key words: smoking, women, Małopolska

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Introduction

Smoking is one of the main factors affecting population health. Cardiovascular disease, respiratory disease and cancer, particularly lung cancer, are causally related to smoking. According to the estimates of the World Health Organisation (WHO), 37% of Polish men and 23% of Polish women smoked every day in 2006 [1].

Survey studies conducted by the Polish Central Statistical Office have shown a decrease in the prevalence of smoking, particularly among men. The percentage of smoking men was 47.3% in 1996 and had decreased to 38.0% by 2004, while the percentage of smoking women fell only slightly over this period (from 24.5% in 1996 to 23.1% in

2004). Studies have also shown that heavy smokers (i.e. persons smoking at least 20 cigarettes per day) account for 60% of all the male smokers and a third of all the female smokers [2].

The prevalence of smoking in Małopolska was evaluated in the Burden of Obstructive Lung Disease (BOLD) study by Niżankowska-Mogilnicka et al. [3], but their results did not take into account the differences in smoking patterns relative to the type of area of residence.

We present the results of an analysis of the prevalence of smoking among women in the Małopolskie province taking into account the types of area of residence (urban *v.* rural). Data on smoking habits was collected under a commissioned research project relating to hereditary factors in

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cancer (PBZ-KBN-090/PO5/13). The study was approved by the Ethics Committee of the Oncology Centre, The Krakow Branch.

Material and methods

The subjects were residents of the Małopolskie province and had been randomly selected (in a simple draw) from among the women managed at general outpatient clinics of their local health centres.

Between January 2004 and August 2007, we conducted 840 standardised interviews using a dedicated questionnaire, the usefulness of which had been established in a pilot study. The interviews were conducted by appropriately trained nurses. Before the interview, the respondents were asked to provide consent for the study. Smoking-related questions concerned the age of starting to smoke, the duration of smoking and the average number of cigarettes smoked per day.

Smokers were defined as women who had regularly smoked at least one cigarette per day for at least seven months. Ex-smokers were defined as women who had not smoked for at least three years prior to the interview [4]. The total exposure to the risk of smoking was expressed in pack-years (the number of packs smoked per day multiplied by the number of years of smoking). The mean age and the mean number of pack-years relative to the type of area of residence were compared using the t-Student test and the respective frequencies were verified using the chi-square test of independence [5]. Differences were considered significant if the p value was less than 0.05.

Results

We analysed data collected from 602 residents of urban areas and 238 residents of rural areas of the Małopolskie province. Table 1 summarises the demographic characteristics of the subjects.

The mean age was significantly higher in the group of females inhabiting urban versus rural areas (59.7 ± 9.7 v. 56.2 ± 9.6 years). The percentages of women below 50 years of age were 15.4% and 25.6% in the group of females inhabiting urban and rural areas, respectively.

Women from urban and rural areas differed significantly in their educational profiles with a respective 67.9% and 31.0% of women having completed secondary or higher education.

The percentage of never-smokers was significantly higher in the group of females inhabiting rural versus urban areas (67.3% v. 50.0%), while the percentage of current and ex-smokers was significantly higher among urban versus rural female residents (Table 2). The mean age of starting to smoke was 21.4 ± 5.0 years and 20.1 ± 4.0 years among urban and rural female residents, respectively ($p = 0.0133$).

We also observed that the mean duration of smoking was significantly lower in the group of women inhabiting rural areas, both among ever-smokers, current smokers and ex-smokers, compared to women inhabiting urban areas.

The mean number of pack-years in the group of ever-smokers and in the group of ex-smokers was significantly higher among the urban residents. However, it should be noted that the mean number of pack-years in the group of current smokers was nearly the same in both groups (23.4 v. 23.5). The analysis of the number of pack-years of smoking that included individual ranges of exposure showed a significantly higher exposure among urban versus rural residents.

Table 3 compares the number of pack-years between urban and rural female residents of the Małopolskie province, taking into account age and education. No significant differences between urban and rural residents were observed among women below 50 years of age, while women aged

Table 1. Demographic characteristics of women according to residence

	Town n = 602	Village n = 238	p
Mean age	59.7 (SD = 9.7)	56.2 (SD = 9.6)	0.0000
Age			
< 50 years	93 (15.4%)	61 (25.6%)	0.0006
≥ 50 years	509 (84.6%)	177 (74.4%)	
Education			
Elementary	113 (18.8%)	109 (45.9%)	0.0000
Vocational	80 (13.3%)	55 (23.1%)	
Secondary	309 (51.3%)	62 (26.0%)	
University	100 (16.6%)	12 (5.0%)	

Table 2. Characteristics of smoking habits among women according to residence

	Town n = 602	Village n = 238	p
Cigarette smoking			
Non-smokers	301 (50.0%)	160 (67.3%)	0.0000
Ex-smokers	145 (24.1%)	37 (15.5%)	
Current smokers	156 (25.9%)	41 (17.2%)	
Mean years smoked			
Ever smokers	27.4 (SD = 12.1)	22.6 (SD = 10.5)	0.0007
Ex-smokers	21.5 (SD = 12.0)	15.8 (SD = 8.6)	0.0013
Current smokers	32.9 (SD = 9.4)	28.8 (SD = 8.0)	0.0065
Mean pack-years			
Ever smokers	20.2 (SD = 15.8)	16.2 (SD = 15.0)	0.0365
Ex-smokers	16.9 (SD = 15.8)	8.0 (SD = 8.0)	0.0000
Current smokers	23.4 (SD = 15.3)	23.5 (SD = 16.1)	0.9611
Pack-years			
0	301 (50.0%)	161 (67.7%)	0.0000
1–19	175 (29.1%)	54 (22.7%)	
20–29	50 (8.3%)	11 (4.6%)	
≥ 30	76 (12.6%)	12 (5.0%)	

50 years or older from urban areas had significantly more smoking exposure in terms of pack-years compared to women from rural areas.

Women inhabiting urban areas, irrespective of education, had more exposure to smoking in terms of pack-years than women inhabiting rural areas. The percentage of women inhabiting urban areas who smoked at least 20 cigarettes a day was twice as high, both among women with no more than vocational education, and among women with at least secondary education.

Discussion

Our study has shown that current smokers, ex-smokers and never-smokers account for 23.4%, 21.7% and nearly 55% of female residents of the Małopolskie province with the mean exposure to smoking being 18.2 pack-years. In the study by Niżankowska-Mogilnicka et al. [3] of 300 women from the Małopolskie province, the percentages of current and ex-smokers were 21.9% and 21.5%, respectively, with the mean exposure to smoking of 15.1 pack-years. The difference in the number of pack-years (18.2% v. 15.1%) may result from the fact that the study population in the study by Niżankowska-Mogilnicka et al. comprised exclusively female residents of the Chrzanowski and Proszowicki districts and did not include female resi-

dents of the three largest cities of the Małopolskie province, namely Krakow, Tarnow and Nowy Sącz. A study to assess the prevalence of smoking in Wielkopolska in 2000 showed a higher percentage of female smokers than in Małopolska (29.9%) with the percentage of female never-smokers being 58.2% [6].

Our study showed that the prevalence of smoking and the mean duration of smoking among women inhabiting urban areas of the Małopolskie province are significantly higher than among women inhabiting rural areas. We also observed that the mean number of pack-years among current smokers did not differ significantly between the groups. Furthermore, we found no significant differences in the number of pack-years between women below 50 years of age inhabiting urban areas and those inhabiting rural areas. We demonstrated that women from urban areas, including both women with vocational education at the most, and women with at least secondary education, had significantly more exposure to smoking in terms of numbers of pack-years than women from rural areas.

The prevalence of smoking among patients looked after by GPs providing care to residents of a district town and residents of rural areas was assessed in a study by Maciejewski et al. [7], who found that current smokers accounted for 25.8% and 17.8% of women from urban and rural areas,

Table 3. Smoking habits among women according to age groups, education and residence

	Town n = 602	Village n = 238	p
Pack-years in age groups			
< 50 years			
0	39 (42.0%)	28 (45.9%)	0.8849
1–19	43 (46.2%)	26 (42.6%)	
≥ 20	11 (11.8%)	7 (11.5%)	
≥ 50 years			
0	262 (51.5%)	133 (75.1%)	0.0000
1–19	132 (25.9%)	28 (15.8%)	
≥ 20	115 (22.6%)	16 (9.1%)	
Pack-years in relation to education			
At most vocational			
0	111 (57.5%)	116 (70.7%)	0.0074
1–19	43 (22.3%)	33 (20.1%)	
≥ 20	39 (20.2%)	15 (9.2%)	
At least secondary			
0	190 (46.4%)	45 (60.8%)	0.0399
1–19	132 (32.3%)	21 (28.4%)	
≥ 20	87 (21.3%)	8 (10.8%)	

respectively. More than half of the women inhabiting urban areas, and nearly three quarters of the women inhabiting rural areas, had never smoked (54.0% v. 72.9%).

The prevalence of smoking among women residing in urban and rural areas of the Małopolskie province is almost the same (25.7% and 17.2%, respectively) as that in the study by Maciejewski et al. [7], while the discrepancy in the percentage of female never-smokers living in rural areas between the studies (67.3% v. 72.9%) may be associated with the age of the respondents. In the study by Maciejewski et al., the age distribution was presented for men and women collectively, without taking into consideration types of areas of residence, which makes it impossible to compare the age structure among women in both studies.

The prevalence of smoking among women in Poland has remained on the same level for the past several years. Between 1996 and 2004, there was a slight decrease in the prevalence of smoking, from 24.4% to 23.1%, which is why it is so important to undertake educational efforts aimed at raising awareness of the dangers of smoking and to provide support to those who wish to quit. Extensive, comprehensive and long-term efforts against smoking among women should be undertaken in the urban and rural communities alike. One of the arguments to support the necessity to place a particular emphasis on the fight with smoking among women from rural areas is the increased incidence of lung cancer in women below 45 years of age, who are residents of the rural areas of the Małopolskie province [8].

Conclusions

The analysis of the prevalence of smoking among women inhabiting the Małopolskie province showed that smoking is more prevalent among female residents of urban areas than female residents of rural areas (25.9% and 17.2%, respectively). There were no significant differences between rural and urban areas in the prevalence of smoking among younger women (below 50 years of age). Extensive educational efforts to raise the awareness of the dangers of smoking and support to women who wish to quit smoking should be undertaken in the community of women inhabiting both urban and rural areas.

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