

13. THE PREVALENCE OF BEHAVIOURAL HEALTH RISK FACTORS

Anna Poznańska, Daniel Rabcenko, Bogdan Wojtyniak

Many lifestyle elements are essential for health and, consequently, the quality and length of life. The importance of diet and exercise was already emphasised by ancient physicians such as Herodicus (5th century BC), Hippocrates (5th-4th century BC), and Galen (2nd century AD). Much later, in the 1950s, the adverse effect of smoking on life expectancy was demonstrated when the results of the *British Doctors' Study* showed that it increased the risk of death from lung cancer and coronary thrombosis¹. It is also worth highlighting the significance of the *Framingham Heart Study*, initiated in 1948 and still ongoing, in identifying behavioural risk factors for cardiovascular diseases².

Attempts to quantify the impact of lifestyle on population health have been undertaken at least since the publication of Lalonde's (1974) concept of health fields³. In the 1990s, for example, the contribution of lifestyle to all-cause mortality was estimated at 50%, while biological and environmental/social factors were attributed 20% each, and the health care system – 10%⁴.

The most recent analysis of the Global Burden of Disease Study (2021 *GBD Study*) attributed 28.2% (32.2% among men and 23.1% among women) of global deaths from all causes in 2021 to behavioural risk factors (excluding overweight

¹ Doll R, Hill AB (1954). *The mortality of doctors in relation to their smoking habits*. *BMJ* 328 (7455): 1529-33; doi:10.1136/bmj.328.7455.1529

² Syed S Mahmood et al. (2014). The Framingham Heart Study and the epidemiology of cardiovascular disease: a historical perspective. *The Lancet* 383 (9921):999-1008; [https://doi.org/10.1016/S0140-6736\(13\)61752-3](https://doi.org/10.1016/S0140-6736(13)61752-3)

³ Lalonde M., *A New Perspective on the Health of Canadians: a Working Document*, National government publication, Ottawa 1974

⁴ Badura B. (1995). What is and What Determines Health. In: *Scientific Foundations for Public Health Policy in Europe*. Eds.: Laaser U., de Leeuw E., Stock Ch., Juventa Verlag, Munchen.

and obesity)⁵. The results for Poland are similar: 28.3%, 33.3%, and 22.9%, respectively, with a slightly larger difference for men. It should be noted, however, that the data refers to the period of the COVID-19 pandemic when the importance of behavioural risk factors for mortality intensity was lower than average. In 2021, the values of the above indicators were the lowest in the entire analysed period (1990-2021). According to the 2018 GBD results, their influence contributed to 33.8% of deaths worldwide (39.1% among men and 27.5% among women). For Poland, the values were higher: 36.2%, 42.9% and 29.1%.

In 2021, in Poland, behavioural, i.e., modifiable, risk factors accounted for 25.6% of total *Disability-adjusted life years* (DALYs) – the years of life that a society loses due to premature death or damage to the health of its members. These values were 30.9% for men and 19.5% for women. Due to the pandemic, as observed in the case of deaths, the values were the lowest in the analysed period (1990-2021).

As knowledge about the importance of behavioural risk factors has expanded, national authorities and international organisations have undertaken various education and prevention activities. At the initiative of the WHO, the Global Action Plan for the Prevention and Control of Non-Communicable Diseases was also developed, identifying smoking, harmful alcohol consumption, unhealthy diet and lack of physical activity as factors whose reduction could prevent many illnesses and most premature deaths due to the above worldwide. In 2019, the Plan was extended to 2030. One of its goals is to reduce modifiable risk factors for non-communicable diseases (NCDs) and underlying social factors by creating health-supportive environments⁶. The 2025-2028 WHO General Programme of Work recommends a comprehensive, multi-sectoral, and multi-stakeholder approach⁷.

In Poland, the reduction of the prevalence of several lifestyle risk factors is included in the 2021-2025 National Health Programme, the primary public health policy document outlining its objectives and key tasks⁸. To implement the Programme's strategic goal, i.e., "increasing the number of years lived in good health

⁵ Institute for Health Metrics and Evaluation, GBD Results, <https://vizhub.healthdata.org/gbd-compare/> access: 7 April 2025

⁶ WHO (2022) Updated Appendix 3 of the WHO Global NCD Action Plan 2013-2030.

⁷ WHO (2025). A Global Health Strategy for 2025-2028 – advancing equity and resilience in a turbulent world: fourteenth General Programme of Work. Geneva.

⁸ Regulation of the Council of Ministers of 30 March 2021 on the 2021-2025 National Health Programme (Dz. U. /Journal of Laws/ of 2021, item 642)

and reducing social inequalities in health”, two operational objectives directly related to improving health behaviour were defined, i.e. overweight and obesity prevention and addiction prevention. The first includes tasks associated with promoting proper nutrition and increased physical activity in the population, and the second one concerns reducing smoking and alcohol consumption.

Use of traditional tobacco products and their substitutes

Fig. 13.1 shows trends in smoking traditional tobacco products in Poland, the European Union and selected EU countries, where the situation is best and worst.

Since 2006, a consistent decline in daily use of traditional tobacco products (cigarettes, pipes, cigars) has been observed in Poland among both men and women (Fig. 13.1). However, this trend has slowed down in recent years, particularly after 2020. In this study, at the beginning of 2025, 28.8% of men and 20.3% of women declared daily smoking. There has been a slight increase in smoking rates for men, a reversal of the earlier trend. As regards women, the decline rate has also slowed down, with the levels currently stable and without clear further improvement.

In the European Union, the overall trend continues to decline for both men and women. Poland lags behind the countries with the lowest smoking rates – for women, these include Sweden (8%) and the Netherlands (13%), and for men – the Netherlands (10%) and Sweden (9%). At the same time, changes (of different magnitude and in different directions) in the number of daily smokers are observed in different countries. These changes are not only related to the COVID-19 pandemic. It is worth noting the significant increase in daily female smokers in Greece (from 2012 to 2020) and Romania (from 2017 to 2023), as well as long-term positive changes in Sweden, the Netherlands and Denmark. Interesting changes are taking place in France, where a consistent, positive trend is also evident, but the absolute level of the percentage of daily female smokers remains high. Among men, attention should be drawn to the lack of favourable changes in the countries with very high rates of daily smoking (excluding Greece) and a certain slowdown, or even an increase in 2023, of positive trends in countries with the lowest level of that indicator (Sweden, the Netherlands, Finland, Ireland). In Poland, the current smoking prevalence corresponds to the levels observed in the above countries about two decades ago.

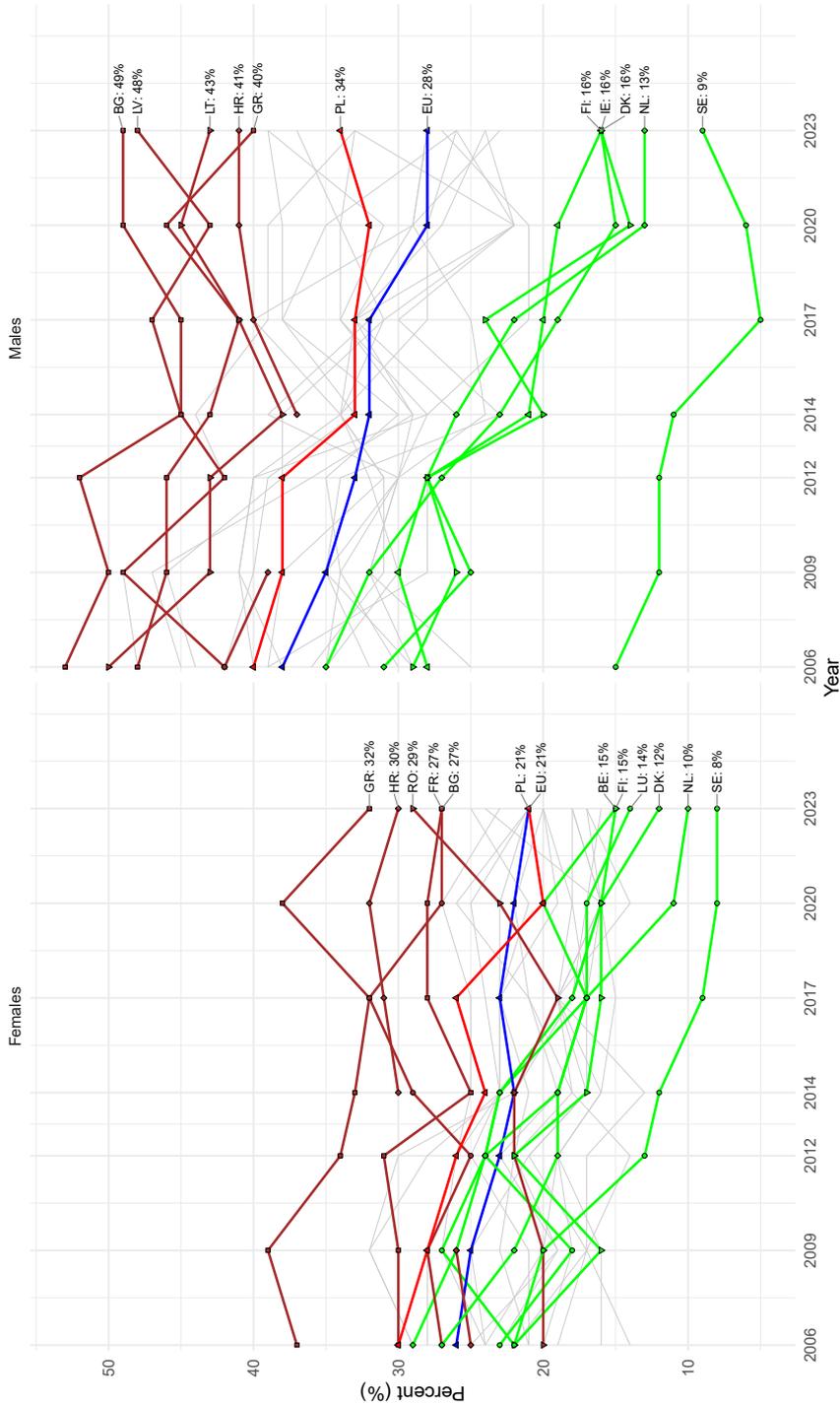


Fig. 13.1. Prevalence of daily smoking in Poland, the European Union and selected countries (data: Eurostat)

Fig. 13.2 shows the percentage of daily smokers in 2025 by gender, age and place of residence. In the 20–39 age group, 29.3% of men and 22.6% of women reported daily smoking. In the 40–59 age group, the prevalence was 34.5% in men and 25.0% in women. In the 60–74 age group, daily smoking was declared by 25.7% of men and 17.4% of women. In the 75+ age group, 6.3% of men and 6.2% of women declared daily smoking. In all age groups, except 75+, the prevalence of daily smoking men exceeded that of women. Among both men and women, the percentage of smokers is significantly higher in urban areas than in the countryside (by 5.9 percentage points for men and 9.2 percentage points for women).

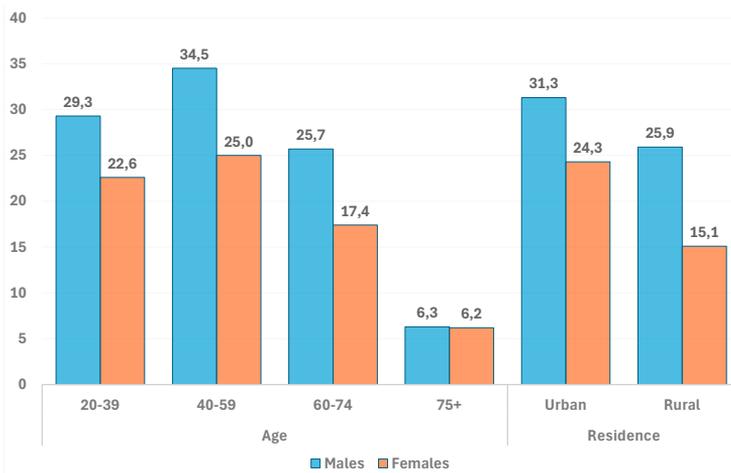


Fig. 13.2. Prevalence of daily smoking by gender, age and place of residence in Poland in 2025 (own elaboration based on the 2025 National Institute of Public Health NIH – National Research Institute Risk Factors Study)

In 2025, in Poland, the levels of daily smoking clearly varies depending on gender, level of education and self-assessment of economic status. Among women, there is a notably higher (33.3%) smoking prevalence among those with lower secondary school education or below. Among men, the highest prevalence was observed in the group with basic vocational education while the lowest among those with a university degree.

Similar patterns were observed in relation to self-assessment of economic status. As part of the Health and Risk Factors Study conducted by NIZP PZH - PIB in 2025, participants were asked about the financial difficulties related to meeting basic needs, such as food, clothing and housing and utility costs. Based on the responses, three categories of economic status were defined. Among both men and women, smoking

is most frequently declared by those who assess their economic status as bad, and least often by those who perceive their status as moderate or relatively good.

In all categories analysed, with the exception of the group with the lowest level of education – the prevalence of daily smoking was consistently higher among men than among women.

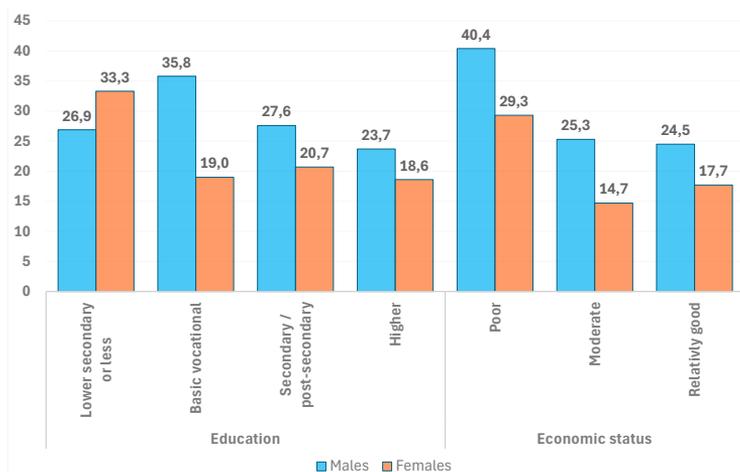


Fig. 13.3. Prevalence of daily smoking by gender, education and economic status in Poland in 2025 (own elaboration based on the NIZP PZH – PIB Risk Factors Study)

In the study, 56.9% of current male smokers and 63.6% of current female smokers declared past attempts to quit smoking. At the same time, among current non-smokers, 32.9% (39.1% of men and 28.2% of women) used to smoke (declared daily or occasional smoking in the past). These findings indicate a substantial potential of possible actions to reduce the prevalence of smoking. Of those who tried to quit smoking, professional help (physician, psychotherapist, participation in smoking cessation programs) was sought by only 18.4% (both men and women). The majority of those, 77.7% of men and 84.6% of women, received such assistance, and it was free of charge in the case of 65.6% and 76.1%, respectively.

Fig. 13.4 shows the percentage of women and men who use substitutes of traditional tobacco products, e.g. e-cigarettes, tobacco heaters, nicotine pouches, chewing tobacco, on a daily basis, by age, education level and economic status. The highest prevalence was observed among individuals aged 20-39. None of the respondents aged 75 and over reported using electronic tobacco products. For both men and women the prevalence of substitute use was more than one-third higher among urban residents compared to those living in rural areas. Greater differences, depending on education,

were observed in the group of women – the highest score was obtained in the groups with higher education, lower secondary school education and below. The different nature of the correlation between education level and the frequency of using substitutes of traditional tobacco products is noteworthy – the relative variation in the male population is smaller, with the highest percentage of daily smokers observed in the groups with secondary and basic vocational education, and among women – in the groups with higher education and lower secondary school education. For both men and women, the most frequent use of substitutes of traditional tobacco products is observed in the group of respondents with the worst economic status.

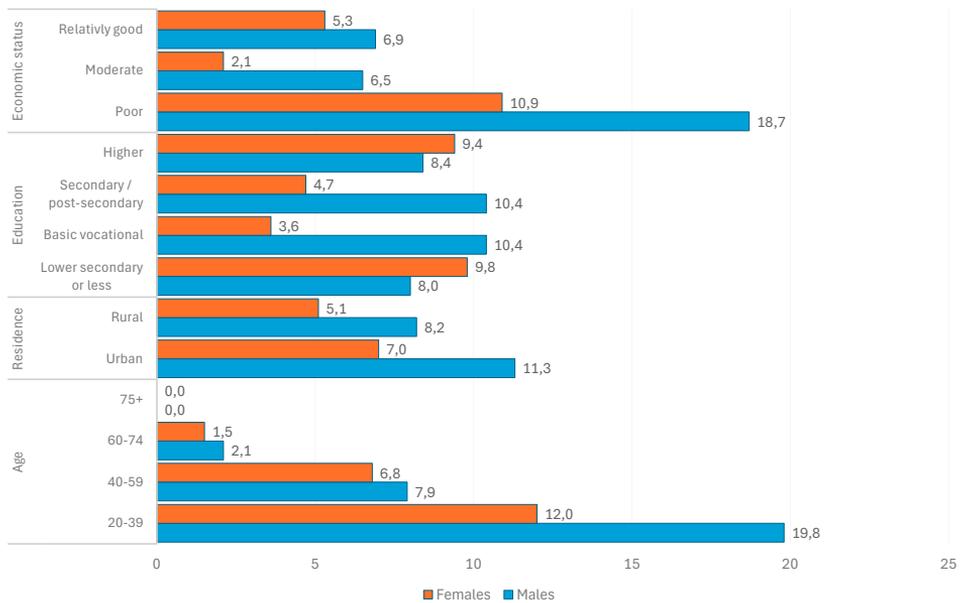


Fig. 13.4. Daily use of substitutes of traditional tobacco products (e.g. e-cigarettes, tobacco heaters, nicotine pouches, chewing tobacco), by age, place of residence, education level and economic status, by gender (own elaboration based on the NIZP PZH – PIB Risk Factors Study)

An important issue is the simultaneous use of tobacco products and their substitutes. The analysis revealed that among daily smokers, 23.0% also used substitutes, including 16.4% of the respondents using tobacco product substitutes every day, and another 6.6% using them less often than daily. In the group of respondents smoking less often than daily, the corresponding percentages were 17.3% and 13.7%. This means that a total of 31.0% of this group uses substitutes despite the limited use of traditional tobacco products, which indicates a tendency to supplement tobacco consumption with alternative nicotine products.

Alcohol consumption

Presenting the level of alcohol consumption in Poland against the background of European Union countries is a unexpectedly complex challenge. The data available in the WHO, Eurostat and OECD databases is incomplete or outdated, which, in the context of the decline in alcohol consumption in Poland in the last two years (Fig. 13.5) and the COVID-19 epidemic, makes the task more difficult. A reliable source may be the Global Health Observatory’s forecasts⁹, prepared based on alcohol sales data and estimates of unrecorded consumption, placing Poland above the European average.

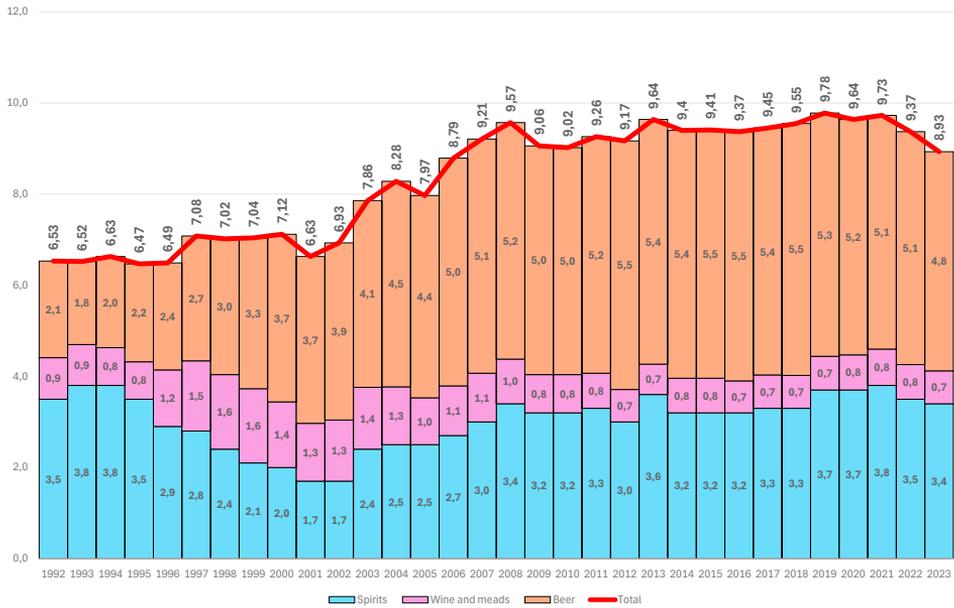


Fig. 13.5. Changes in per capita alcohol consumption and structure of the type of alcohol consumed in Poland in the years 1992-2013 (Source: National Centre for Counteracting Addictions¹⁰ based on Statistics Poland data¹¹)

⁹ “Alcohol, Total (Recorded + Unrecorded) per Capita (15+) Consumption with 95%CI, Projections”. Access: 12 April 2025. [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/alcohol-total-\(recorded-unrecorded\)-per-capita-\(15-\)-consumption-with-95-ci-projections](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/alcohol-total-(recorded-unrecorded)-per-capita-(15-)-consumption-with-95-ci-projections).

¹⁰ „Spożycie-napojow-alkoholowych-na-jednego-mieszkanca2023.pdf”. Access: 12 April 2025. <https://kcpu.gov.pl/wp-content/uploads/2024/09/Spozycie-napojow-alkoholowych-na-jednego-mieszkanca2023.pdf>.

¹¹ Statistics Poland “Domestic market deliveries and consumption of some consumer goods per capita in 2023”. [stat.gov.pl](https://stat.gov.pl/obszary-tematyczne/ceny-handel/handel/dostawy-na-rynek-krajowy-oraz-spozycie-niektorych-artykułow-konsumpcyjnych-na-1-mieszkanca-w-2023-roku,9,14.html). Access: 12 April 2025. <https://stat.gov.pl/obszary-tematyczne/ceny-handel/handel/dostawy-na-rynek-krajowy-oraz-spozycie-niektorych-artykułow-konsumpcyjnych-na-1-mieszkanca-w-2023-roku,9,14.html>.

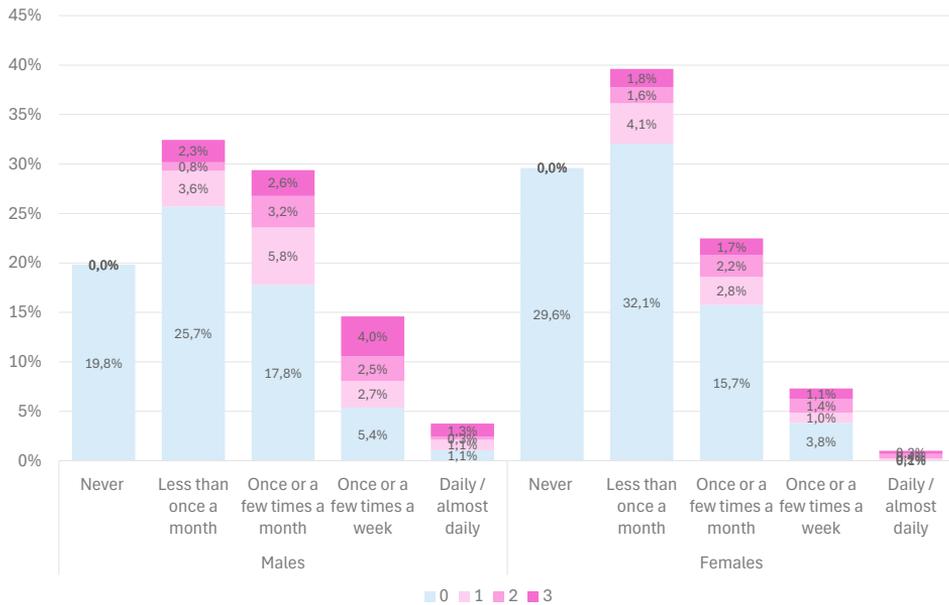


Fig. 13.6. Declared frequency of alcohol consumption taking into account the number of risky drinking indicators (own elaboration based on the NIZP PZH – PIB Risk Factors Study)

Fig. 13.6 shows the self-reported frequency of alcohol consumption, taking into account the responses of male and female respondents related to indicators of risky drinking. Risky drinking was assessed by means of three questions concerning the occurrence of thoughts that the respondent was consuming too much alcohol, feeling bad or guilty due to alcohol consumption, and the respondent’s irritation because of comments of others regarding the respondent’s alcohol consumption, reported during the interview. An positive response to one of such questions qualified the respondent as having indicators of risky drinking.

Overall, a potentially harmful frequency of alcohol consumption (once or more often per week) was declared by 18.4% of men and 8.3% of women. At least one indicator of risky drinking (regardless of the declared frequency of consumption) was noticed in 29.6% of men and 18.0% of women.

In the following section of the study, the category of respondents who either reported a potentially harmful frequency of alcohol consumption or were in the group of people with 2 or 3 indicators of risky drinking will be analysed. According to this definition, the proportion of risky drinkers was 27.2% among men and 15.7% among women, indicating substantial gender differences.

Fig. 13.7 shows the percentage of women and men with indicators of risky drinking, by age, place of residence, education level and economic status.

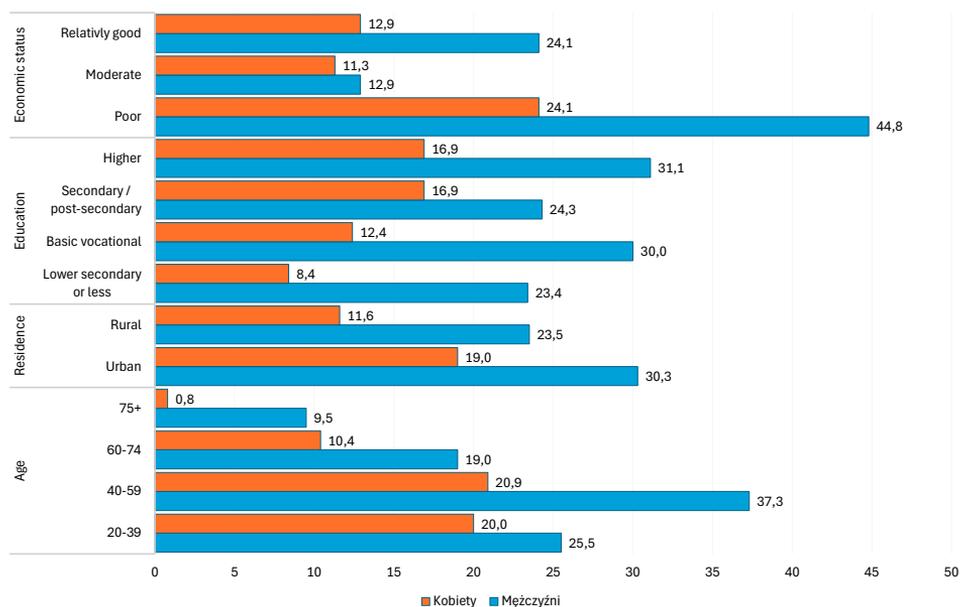


Fig. 13.8. Prevalence of risky alcohol drinkers by age, place of residence, education level and economic status, broken down by gender, 2025 (own elaboration based on the NIZP PZH – PIB Risk Factors Study)

Among men, the highest prevalence of risky drinkers was observed in the 40–59 (37.3%) age group, among respondents with higher education (31.1%) and basic vocational education (30.0%) and declaring a poor economic status (44.8%). Risky drinking was approximately one-third more prevalent among urban residents compared to those living in rural areas. The highest percentages of responses that could indicate risky drinking among women were observed in the 40–59 (20.9%) and 20–39 (20.0%) age groups, in the groups of respondents with higher education and secondary/post-secondary education (16.9% each) and those with poor economic status (24.1%). The prevalence of risky drinking among women living in urban areas was nearly two-thirds higher than among their rural counterparts.

Use of psychoactive substances

For the first time, the current edition of the risk factor prevalence study included questions related to the use of psychoactive substances. Respondents were asked about cannabis, stimulants (amphetamine, ephedrine, novel psychoactive

substances) and substances with high addictive potential commonly referred as hard drugs (heroin, LSD, cocaine).

Fig. 13.8 shows the use of cannabis. The percentage of men using cannabis was higher than that of women, both in terms of lifetime use (16.3% vs 11.5%) and in the past 12 months (6.1% vs 3.7%). The use of cannabis was reported mainly by those under the age of 60 - in the 20-39 age group, the percentage of lifetime users was 18.8%, and in the 40-59 age group - 21.1%; it was 8.9% and 6.0%, respectively, in the last 12 months.

The highest rates of lifetime use of cannabis was observed among those with lower secondary education or below (23.7%, 11.9% in the last 12 months) and by the respondents with a poor economic status (25.6%, 11.8% in the last 12 months).

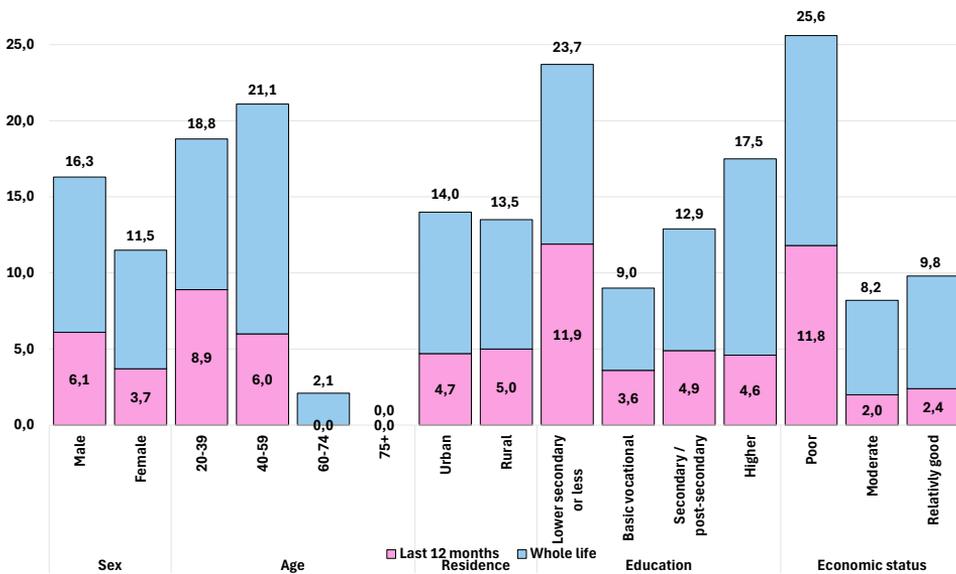


Fig. 13.8. Cannabis use in the last 12 months and ever in lifetime, 2025 (own elaboration based on the NIZP PZH - PIB Risk Factors Study)

Fig. 13.9 shows the use of stimulants such as amphetamine, ephedrine and novel psychoactive substances. Men reported higher rates of stimulant use than women, both in terms of lifetime prevalence (7.3% vs 3.9%) and in the last 12 months (3.9% vs 1.1%). According to the results, the problem of stimulant use affected almost exclusively those under the age of 60, in the 20-39 age group, the percentage of lifetime users was 10.4%, and in the 40-59 age group - 6.4%; and 6.3 % and 1.3 %, respectively, in the last 12 months.

The highest lifetime prevalence of stimulants use was observed among individuals with lower secondary education or below (16.1%) and those with a poor economic status (14.5%). In the last 12 months, the highest rates were recorded in the same groups: 4.5% and 7.9%, respectively. In the 20-39 age group, the total use was 10.4%, and it was 6.3% in the last 12 months.

The frequent use of stimulants by people reporting a poor financial status is noteworthy.

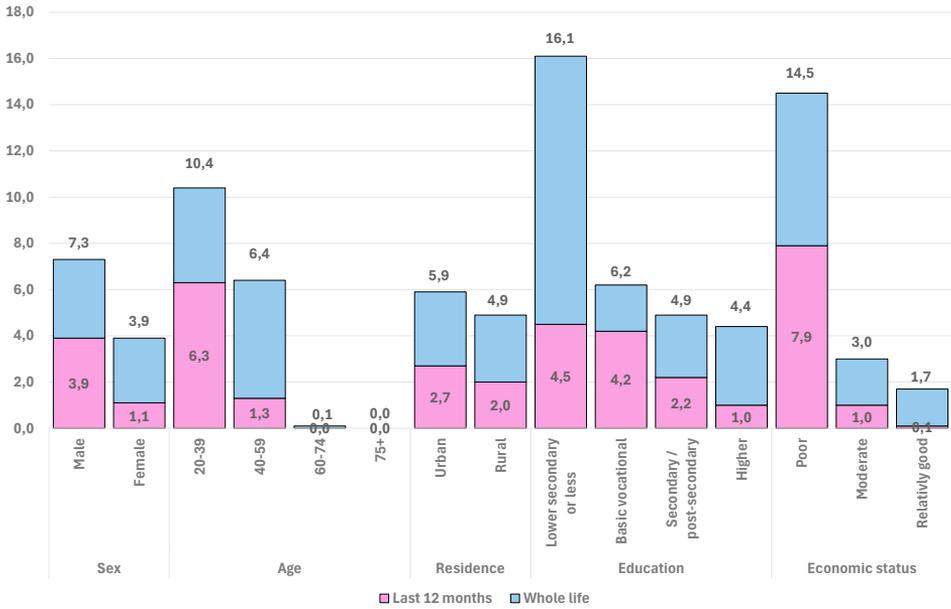


Fig. 13.9. Stimulant use in the last 12 months and ever in lifetime, 2025. (own elaboration based on the NIZP PZH - PIB Risk Factors Study)

Figure 13.10 shows the percentage of users of psychoactive substances with high addictive potential (LSD, cocaine, heroin, etc.). Men reported higher rates of hard drug use than women, both in terms of lifetime prevalence (5.0% vs 2.0%) and in the past 12 months (1.8% vs 0.6%). The substances were mainly used by the respondents under the age of 60. In the 20-39 age group, the proportion of lifetime users was 6.1%, and in the 40-59 age group - 4.2%; it was 2.5% and 1.1%, respectively, in the last 12 months.

The highest lifetime prevalence of hard drugs use was observed among individuals with lower secondary education or below (9.8%) and those declaring a poor economic status (9.1%). In the last 12 months, the highest values were for

the same groups: 1.0% and 3.7%, respectively. It is worth noting that the Health and Risk Factor Study conducted by NIZP-PZH - PIB was cross-sectional, meaning that education, economic status and use of psychoactive substances were assessed simultaneously. Therefore, the observed correlations do not indicate a causal relation.

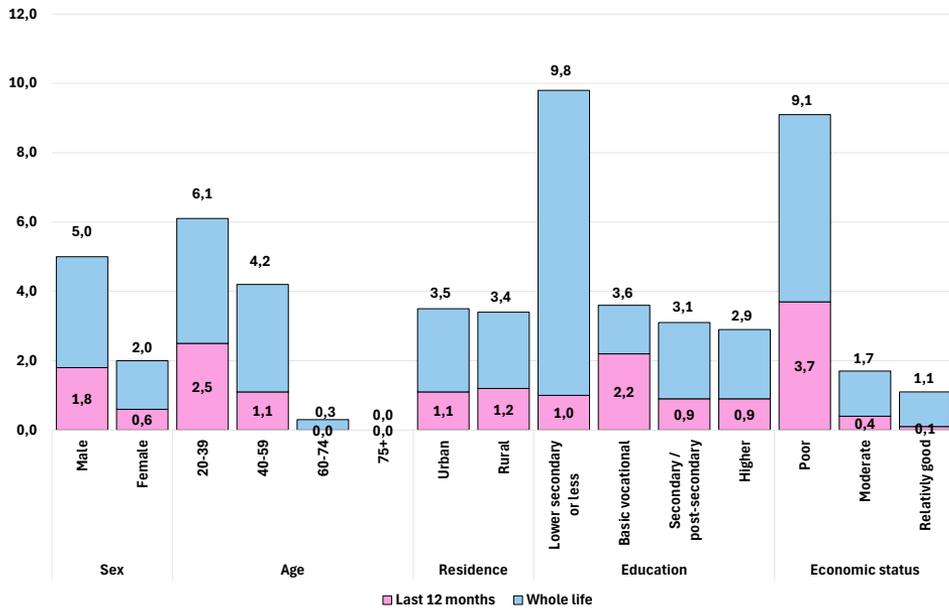


Fig. 13.10. Use of psychoactive substances with high addictive potential (own elaboration based on the NIZP PZH - PIB Risk Factors Study)

Overweight and obesity

According to the results of the 2021 Global Burden of Disease (GBD) study, excess body weight is the fifth major health risk factor in Poland, accounting for 7.7% of all deaths and 7.6% of years of healthy life lost⁵. For women, it is the second leading risk factor in terms of DALYs (8.9%) and fourth in terms of deaths (9.3%); for men, it is the sixth (6.5%) and eighth (6.2%), respectively.

The latest available estimates of the prevalence of overweight and obesity in Poland are based on surveys that included respondents' self-assessments of body weight and height. The obtained results vary, also due to methodological

differences. For example, the *European Social Survey*, carried out within the framework of the *European Research Infrastructure Consortium* in the social sciences and humanities in 2023/24, estimated the prevalence of excessively high body weight (BMI \geq 25) among the population aged 15 or over at 57.6% (69.0% among men and 47.4% among women) and obesity (BMI \geq 30) at 18.8% (22.1% and 16.5%, respectively)¹².

Similar results were obtained in the “Health of Adults” study conducted by Statistics Poland in 2022 as part of the EU Statistics on Income and Living Conditions (EU-SILC). The prevalence of excess body weight among the Polish population at the age of 16 or over was estimated at 57.1% (65.7% among men and 49.3% among women), and that of obesity at 18.0% (19.5% and 16.7%, respectively).¹³

The WHO results regarding the scale of the problem, based on many sources (with a preference for measurement-based data), are generally significantly overestimated. In 2022, the proportion of Polish adults (aged 18 or older) with excessively high body weight was estimated at 68.5% (men: 77.8% and women: 55.9%), and concerning obesity, it was 31.4% (men: 33.8% and women: 29.4%)¹⁴. The percentage of men with excess body weight (equal to that observed in Romania) was the highest among the 27 European Union countries; for women, it was 10th position, counting from the highest value. The share of Poles with obesity places the country in the 6th and 9th position in the EU, respectively.

The results of the health and risk factors study conducted by the National Institute of Public Health NIH – National Research Institute in February 2025 indicate that 55.8% of Poles aged 20 or older are overweight, while 13.9% are obese. This problem is much more common in men than in women (by gender, the percentages of overweight persons were 64.1% and 48.3%, respectively, and concerning obesity, it was 15.3% and 12.6%). After taking into account the age structure of both subpopulations, these proportions remain almost unchanged; the age-standardised percentages were 64.5% and 47.7% for overweight and 15.3% vs 12.4% for obesity. These values are lower than those obtained in the aforementioned studies, particularly for obesity. However, they show an increase in the prevalence of both problems since autumn 2018, when the previous edition of this study was conducted.

¹² European Social Survey (2025). What do Poles say about themselves? New European Social Survey data (N=1442), <https://ess.ifispan.pl>, access: 8 April 2025; ESS data viewer

¹³ Statistics Poland (2023). Income and living conditions of the Polish population (EU-SILC 2022 study report)

¹⁴ WHO The Global Health Observatory, <https://www.who.int/data/gho/data/indicators>, access: 18 April 2025

Based on the results of our two studies, the situation has worsened compared to the state before the COVID-19 pandemic - the prevalence of excess body weight has increased significantly (by 7.2 pp among women and 5.3 pp among men, for obesity by 1.7 pp and 4.4 pp, respectively) and this is only partly the result of the population ageing. After converting the age-specific frequencies of overweight and obesity from 2018 to the current age structure of the population, it turns out that excess body weight would be the case for 60.5% of men and 43.0% of women. For obesity, the percentages would be 11.5% among Poles of both genders.

The prevalence of excess body weight increases with age, reaching a maximum in the 75-84 age category (Fig. 13.11). It should be emphasised that already at the age of 20-39, more than half of men weigh too much, and in the older age groups (60-84), their share exceeds $\frac{3}{4}$. In all the age groups under study, the proportion of overweight women is significantly lower than that of men, with differences of 17-19 pp in the 74-year-old group and 8-9 pp among the elderly. For both genders, the lowest levels of obesity are observed in the youngest adult group, i.e. aged 20-39 (8.2 % of men and 6.7 % of women). The issue reaches its maximum already among men at the age of 40-59 – in this category, the most significant gender differences are observed concerning obesity (19.1% of men and 12.7% of women). In older age groups, the differences are minor and do not exceed 2 pp. The highest number of obese women (17.8%) is in the 60- 74 age group.

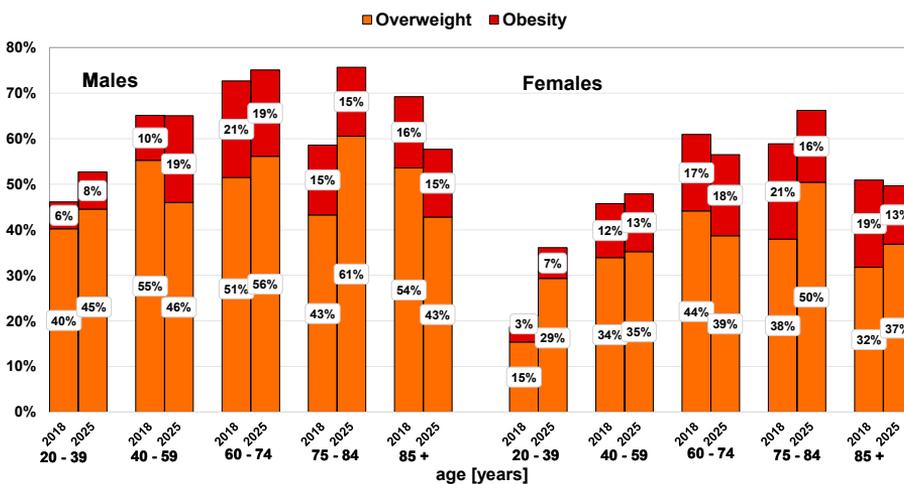


Fig. 13.11. Prevalence of overweight and obesity among the Polish population aged 20 and over in the years 2018-2025, by gender and age (values rounded to 1%); (data: National Institute of Public Health NIH – National Research Institute)

In almost all age groups under study, the prevalence of excess body weight increased compared to 2018. (Fig. 13.11). The unfavourable situation of the youngest women (20-39 years old) is noteworthy - in this group, both the prevalence of overweight and obesity doubled over less than seven years. In turn, among Polish women aged 75 and over, the proportion of overweight individuals (BMI below 30) increased, but the prevalence of obesity decreased significantly (by 6.3 pp in the 85 or over age category and by 5.2 pp in the 75-84 age category). Among men, the increase in obesity levels mainly concerned only those under the age of 60 (by 9.2 pp in the 40-59 age category and by 2.2 pp in the 20-39 age group). Against this background, a significant decrease in the prevalence of excess weight among the oldest men is worth noting (by as much as 11.6 pp), primarily due to a 10.8 pp. reduction of overweight with BMI < 30.

In the case of women, the study results confirm a clear link between excess body weight and education level (Fig. 13.12). A correlation has been observed for many years: overweight individuals are most often found among those with less education. In 2025, these were Polish women with basic vocational education (59.8% of them were found to be overweight, and 18.9% were obese) and lower secondary education or below (57.8% and 26.5%, respectively). Among women with higher education, the values were significantly lower (more than twice for obesity) and were 37.8% and 8.8%. After the standardising procedure and eliminating the differences in the age structure of the compared categories, the more favourable situation of better-educated Polish women is still clear (the prevalence of overweight is 39.3%, and obesity is 8.6%, compared to 56.3% and 28.2% for those with lower secondary education or below, and 57.4% and 16.5% for those with basic vocational education).

The situation is slightly different among men – although excess body weight was most common among Poles with basic vocational education (73.6%), it was least common among those with the lowest and highest education (53.7% and 54.2%, respectively). After eliminating the differences in the age structure of the compared categories, the most vulnerable remain people with basic vocational education (standardised frequency: 73.5%). However, an apparent discrepancy is visible between the group with higher education (56.2%) and those with lower secondary or primary education levels (62.3%). The most significant number of obese individuals is observed among men with vocational education (18.7%) and higher education (18.4%), and the smallest - among those with secondary education (12.1%). This effect results from differences in the age structure of the groups; after eliminating them, the highest risk of obesity concerns men with lower secondary school education or below (age-standardised frequency), followed by those with basic vocational education (18.4%) and higher education (18.1%), with 12.1% in the case of secondary or post-secondary education.

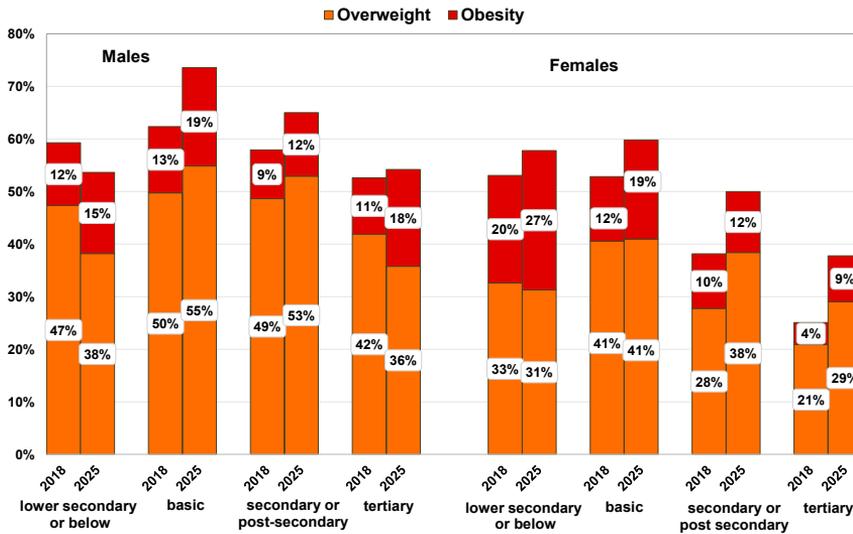


Fig. 13.12. Prevalence of overweight and obesity among the Polish population aged 20 and over in the years 2018-2025, by gender and education level (values rounded to 1%); (data: National Institute of Public Health NIH – National Research Institute)

The presented results indicate that differences between men and women in the prevalence of overweight, and especially obesity, also strongly depend on the education level. Among Poles with higher education, after eliminating differences in age structure, obesity is 2.1 times more common in men. The presented results indicate that differences between men and women in the prevalence of overweight, and especially obesity, among women and men also strongly depend on the education level. Among Poles with higher education, after eliminating differences in age structure, obesity is 2.1 times more common in men. In contrast, among those with primary education, it is 1.4 times more common in women. As regards the remaining education categories, the prevalence of obesity is similar for both genders, with slight surpluses (up to 11% of the standardised frequency value) in men. The prevalence of excess body weight (after age-standardisation) in all educational categories is higher in men than in women; the standardised frequency surpluses increase steadily with higher education levels. They are 11% for lower secondary school education or below, 28% for basic vocational education, 32% for secondary education and 43% for higher education.

Compared to 2018, obesity is more common among Poles of both genders at all levels of education, with one exception for excess body weight (among the least educated men, this percentage has decreased by 5.6 pp). The most considerable

– unfavourable change concerns the group of women with higher education, where the share of those with obesity increased 2.1 times over less than 7 years, and those overweight (BMI < 30) – 1.4 times. As a result, the share of overweight individuals increased 1.5 times (by 12.7 pp). The increase in the prevalence of excess body weight among Polish women with secondary education is primarily due to the increase in the prevalence of overweight in terms of BMI < 30 (by 10.7 pp), while among less educated Polish women, the increase in the share of obese persons (by 6.6 pp for basic vocational education and by 6.0 pp for lower secondary education or below). The prevalence of obesity among men increased most significantly among those with higher education (by 7.7 pp) and with basic vocational education (by 6.1 pp). In the latter group, the share of overweight people with a BMI below 30 also increased strongly (by 5.1 pp), which, given the high percentage of people with excess body weight already in 2018, led to the value reaching a record level of 73.6%.

The prevalence of overweight and obesity is also associated with socioeconomic status. Particularly noteworthy in this respect are members of households that have consistently or frequently lacked sufficient funds for food, clothing or housing bills over the past year. Polish women in this group, compared to other women, are characterised by an almost twofold higher prevalence of obesity (19.0% vs 10.8%) with a similar level of prevalence of excess body weight (49.1% vs 48.1%). The differences deepen after eliminating the influence of the age structure of both subpopulations; the age-standardised percentages for obesity are 21.8% vs 9.7%, respectively, while for excess body weight, these are 53.6% and 46.2%. For men, the pattern has the opposite character. In the group with financial problems, a lower prevalence of excess body weight (52.2% vs 68.8%) and obesity (11.4% vs 16.4%) is observed compared to those in a better financial situation. When standardised by age, the differences remain significant; the frequencies for excessively high body weight are 55.7% vs 66.9%, and for obesity, 11.9% vs 16.5%. It is worth emphasising that among the materially disadvantaged, obesity is more often recorded among women, while in the case of individuals in a better financial situation - among men.

Compared to 2018, the prevalence of excess body weight and obesity has decreased among less well-off men by 5.9 pp and 2.9 pp, respectively. After converting the age-specific frequencies of overweight and obesity from 2018 to the current age structure of the population (the population in 2025 is older), the decline is even greater (by 6.8 pp and 4.3 pp). About excess body weight, this result is consistent with the above-mentioned significant decrease in its prevalence among men with lower secondary education or below – in this group, as many

as 76% of the study subjects are in a difficult financial situation, many more than in the case of other education categories (from 19% among men with higher education to 31% among those with basic vocational education). In the group of better-off men, the prevalence of excess body weight and obesity increased by 9.6 pp and 6.3 pp, respectively. This effect is only remotely the result of population ageing – after eliminating it, the differences are slightly minor, amounting to 7.9 pp and 5.9 pp.

Since 2018, the prevalence of excess body weight in women has increased by 5.6 pp among those with lower incomes and by 7.7 pp among those in a better financial situation (when converted to the current age structure, the differences are 4.9 pp and 5.4 pp). The increase in the prevalence of obesity concerned almost exclusively women who frequently experienced financial difficulties – it amounted to 5.6 pp (5.5 pp after standardising the age structure of the compared groups); in the group of Polish women in a better financial situation, the increase was minimal – by 0.5 pp (0.2 pp).

The share of Poles with excess body weight is higher among rural residents compared to the urban, both for men (67.9% vs 60.6%) and women (50.9% vs 46.4%). This effect is not due to differences in the age structure of the compared subpopulations, as standardised percentages were 68.7% vs 60.8% and 51.3% vs 45.4%, respectively. At the same time, the prevalence of obesity among rural residents is higher only for women (13.4% vs 12.0%, and after age-standardised percentages: 13.8% vs 11.7%). Among men, urban residents are more likely to be obese (16.1% vs 14.3%, and after standardisation, 15.9% vs 14.5%).

Compared to 2018, the prevalence of excess body weight increased among urban men by 2.4 pp (by 1.0 pp after adjusting for population ageing). The change in the prevalence of obesity was greater. It was 4.7 pp (3.8 pp after standardising the age structure of the groups being compared), which means a decrease in the share of people who are less overweight (BMI below 30); it can be assumed that many of them exceeded the obesity threshold after 2018. Among rural male residents, the prevalence of overweight increased by 8.1 pp (6.4 pp after adjusting for age structure), representing a stronger increase compared to urban men. The prevalence of obesity increased similarly to that in urban areas by 4.1 pp (3.7 pp). The increase in the prevalence of overweight among women was hardly associated with place of residence, and it amounted to 7.0 pp (5.3 pp) in urban areas and 6.9 pp (5.3 pp) in rural areas.

The prevalence of overweight and obesity among schoolchildren is presented in Chapter XX of this report.

Physical activity

According to the results of the Global Burden of Disease (2021 GBD) study in 2021, in Poland, low physical activity was the cause of 1.3% of total deaths (0.8% of men and 1.9% of women) and 0.9% of lost healthy life years - DALY (1.3% in the case of women and 0.6% for men)⁵. The leading cause was cardiovascular diseases, followed by cancer (for mortality), diabetes and kidney diseases (DALY).

In Poland, physical activity studies employ various methodologies, including the definition of outcome indicators. However, their results consistently indicate a decline in physical activity with age, as well as a correlation with the level of education of the study subjects. A high proportion of people who do not engage in recreational physical exercise is also observed.

According to the results of the above-mentioned European Social Survey, conducted at the turn of 2023 and 2024, 34.7% of Poles aged 15 or over (36.5% of women and 32.7% of men) declared that in the week before the survey, they had not spent even 30 minutes practising sports or other forms of physical activity (including brisk walking)¹². The share of inactive people increased with age; among the youngest Poles (below the age of 24), nearly one in five (19.6%) were inactive, and among the oldest respondents (aged 65 or over), nearly half (48.7%). The share of individuals who did not undertake any exercises consistently depended on the level of education, with percentages of 45.1%, 35.5%, and 23.0% for lower secondary, secondary, and above secondary education levels, respectively.

Based on the "Health of Adults" study by Statistics Poland in 2022, carried out as a module of the EU Statistics on Income and Living Conditions (EU-SILC), 23.6% of Poles aged 16 or over (23.1% of men and 24.0% women) do not engage in sports or recreational non-work-related physical activities (lasting at least 10 minutes and causing at least a slight increase in breathing or heart rate)¹³. Their share in the population steadily decreases depending on the level of education, and it is 36.2% among those with lower secondary education or below, 33.0% with basic vocational education, 20.5% with secondary education and only 9.7% with higher education.

The WHO recommends at least 150 minutes per week of moderate-intensity or 75 minutes of high-intensity exercises (or a roughly equivalent combination of both)¹⁵ for adults to stay healthy. The health and risk factors study,

¹⁵ WHO guidelines on physical activity and sedentary behaviour: at a glance. Geneva: World Health Organisation; 2020. Licence: CC BY-NC-SA 3.0 IGO.

conducted by the National Institute of Public Health NIH – National Research Institute in February 2025, determined the amount of time per week in the spring or autumn season that Poles devoted to activities (gymnastics, brisk walking, running, cycling, swimming, gym, sports, etc.) recommended for recreational purposes (not related to work or travel to work). 42.3% of Poles (43.2% of men and 41.6% of women) exercise for at least 10 minutes without a break. On average, they devote 200 minutes per week to such activities, or nearly 30 minutes per day.

These results indicate that more than half of Poles (57.7%, including 56.8% of men and 58.4% of women) aged 20 or older do not regularly engage in recreational physical exercise for at least 10 minutes a week. The higher percentage of inactive women is due to differences in the age structure of gender subpopulations - women are generally older than men. After age standardisation, the percentages become almost equal, amounting to 57.7% for men and 57.8% for women. The results are considerably less favourable than those obtained in the studies presented above but apply to slightly older people (aged 20 or more).

Departing from the requirement of at least moderate effort and including people who limit their physical activities to walking into the group engaged in exercise reduces the share of inactive individuals to 27.3% (28.5% among men and 26.2% among women, and after standardisation for age to 28.8% and 26.2%, respectively).

At the same time, the WHO recommendations, which include not only the intensity of exercises but also the minimum amount of exercise time per week, are met by 30.6% of men and 27.9% of women (including cycling for transport purposes as a form of recreational exercise). After standardising the frequencies by age, the male advantage decreases to 29.9% vs 28.3%.

The frequency of undertaking at least moderate-intensity exercises decreases with age (Fig. 13.13). 46.3% of those aged 20-39 and 73.8% of those aged 75-year-olds or older are inactive in this respect. 41.0% of the youngest and 14.5% of the oldest Poles report fulfilling the WHO recommendations. In the 20-39 age group, men exercise more often than women – the shares of inactive are 44.2% compared to 48.4%, and meeting the WHO recommendations: 42.8% vs 39.3%. In the 40-59 age group, the share of inactive individuals of both genders is similar (55.9% vs 56.9%). However, men spend more time practising physical activity and more frequently fulfil the WHO recommendations (31.5% vs 28.4%). Among Poles over the age of 60, women exercise more often and longer than men, with an evident difference in the 60-74 age group, where percentages of physically inactive individuals are 70.9% for men and 65.3% for women.

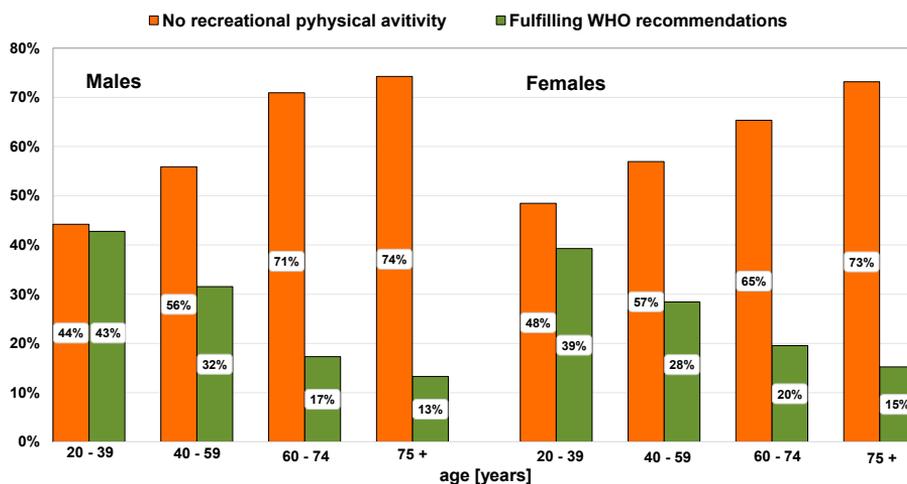


Fig. 13.13. Physical activity of Poles aged 20 or more by gender and age in 2025 – share of those not undertaking recreational physical exercises and meeting the WHO recommendations related to the length of physical activities (values rounded to 1%) (the National Institute of Public Health NIH – National Research Institute data)

The engagement in recreational exercises of both genders increases with the level of education (Fig. 13.14). The range of values of the compared indicators is very significant. Men with higher education fulfil the WHO recommendations 2.4 times more frequently than those with primary education (37.1% vs 15.4%), and women even 3.6 times (36.0% vs 9.9%). Recreational exercises are not undertaken at all by 78.7% of men with primary education and 47.6% with higher education. For women, these values are 84.2% and 48.3%, respectively. The foregoing results only to a small extent from differences in the age structure of the groups under study (older people are less educated - according to Statistics Poland data, based on the results of the 2021 National Population and Housing Census, among Poles aged 70 or over, 32.0% had primary education and 13.3% had higher education, while for those aged 25-39, the values were 3.3% and 45.1%, respectively). After age-standardising the percentages, the values for the different levels of education still vary considerably. The percentages of inactive people are, in increasing order of education level (i.e. lower secondary school or below, basic vocational education, secondary education and higher education): 77.2%, 67.2%, 55.3%, and 49.1% for men and 85.2%, 63.79%, 60.1%, and 51.0% for women. Similarly, the shares of those meeting the WHO recommendations are 14.8%, 19.6%, 33.1%, and 36.5% for men and 11.6%, 20.1%, 27.5%, and 34.6% for women.

Among the study subjects with higher education and basic vocational education, both physical activity indicators have similar values for men and women

(Fig. 13.14). In the other education categories, men are more active. Among those with secondary education, the share of men who do not exercise is 5.2 pp lower, and the share of meeting the WHO recommendations is 6.2 pp higher than for women. Regarding the group of lower secondary education or below, the analogous differences are 5.5 pp for both indicators.

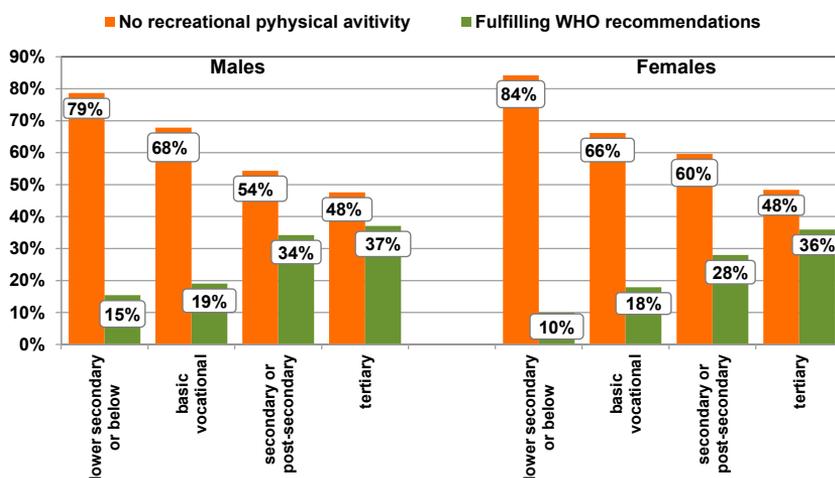


Fig. 13.14. Physical activity of Poles aged 20 or over by gender and education level in 2025 – share of those not undertaking recreational physical exercises and meeting the WHO recommendations related to the length of physical activities (values rounded to 1%) (NIZP PZH – PIB data)

The physical activity of Poles also correlates with their material situation. Individuals from households with a consistent or frequent lack of money for food, clothing, or housing fees were significantly less likely than others to engage in recreational activities (percentages of inactive: 64.4% vs 55.1%). They are also less likely to meet the WHO recommendations (23.8 vs 31.2%), even considering only those who exercise (66.7% vs 69.5%). The differences are slightly greater when the age structure of the compared groups is taken into account. After standardisation, the percentage of those not engaging in physical exercise is 67.6% vs 54.4%, and that of those following the recommendations is 21.8% vs 33.7%. Representatives of both genders in a difficult financial situation are equally likely to give up physical activity – 64.3% of men and 64.4% of women (after standardisation, 65.0% vs 63.9%, respectively) and meet the WHO recommendations – 24.1% vs 23.7% (after standardisation – 23.7% vs 23.9%). Among the better-off respondents, men were slightly more active than women (the percentage of those not undertaking physical activities is 56.0% vs 54.2%, and that of those fulfilling the

recommendations is 32.9% and 29.6%). However, after eliminating differences in the age structure of the compared subpopulations, this effect disappears for the first indicator (after standardisation: 55.3% vs 55.2%) and decreases significantly for the second one (32.0% vs 30.2%).

Rural residents exercise slightly less frequently than urban residents (the percentage of those not undertaking physical exercises is 58.9% vs 56.6%). This phenomenon is more noticeable in women, with 60.2% of rural and 57.0% of urban residents being inactive, whereas the differences are smaller for men (57.5% vs 56.3%). For both genders, this difference becomes more pronounced after accounting for the age structure of the compared groups (age-standardised coefficients differ by 4.3 pp for women (60.6% vs 56.3%) and 2.8 pp for men (59.2% vs 56.4%). The physical activity level of both genders living in cities is therefore very similar; in rural areas, women exercise less often than men, which is, however, partly due to the age structure of the groups. The percentage of rural and urban residents meeting the WHO recommendations is similar (for the total population, 29.7% vs 28.7%; the “urban-rural” differences in gender-specific coefficients do not exceed 1.1 pp). Regardless of place of residence, men are more likely than women to meet the recommendations (30.3% vs 27.4% in urban and 31.0% vs 28.5% in rural areas).

Information on the physical activity of Polish pupils is provided by the *Health Behaviour in School-aged Children Survey (HBSC)*, conducted every 4 years.¹⁶¹⁷¹⁸¹⁹²⁰ It analyses the percentage of children aged 11-16 who maintain the level of activity recommended by the WHO for preserving good health and supporting proper development (i.e., 60 minutes of moderate to high-intensity exercise every day). In 2022, 19% to 29% of boys and 12% to 27% of girls met those recommendations, depending on age (Fig. 13.15).

¹⁶ Instytut Matki i Dziecka (2007). Zdrowie subiektywne, styl życia i środowisko psychospołeczne młodzieży szkolnej w Polsce. Raport techniczny z badań HBSC w Polsce w 2006 r. Eds.: Mazur J, Woynarowska B, Kołło H, Warszawa

¹⁷ Instytut Matki i Dziecka (2011). Wyniki badań HBSC 2010. Raport techniczny. Eds.: Mazur J, Małkowska-Szkutnik A, Warszawa

¹⁸ Instytut Matki i Dziecka (2015). Zdrowie i zachowania zdrowotne młodzieży szkolnej w Polsce na tle wybranych uwarunkowań socjodemograficznych. Wyniki Badań HBSC 2010. Ed.: Mazur J, Warszawa

¹⁹ Instytut Matki i Dziecka (2018). Zdrowie uczniów w 2018 roku na tle nowego modelu badań HBSC. Eds.: Mazur J, Małkowska-Szkutnik A, Warszawa

²⁰ Rakić J G et al. (2024). A focus on adolescent physical activity, eating behaviours, weight status and body image in Europe, Central Asia and Canada: Health Behaviour in School-aged Children international report from the 2021/2022 survey. Volume 4. WHO. Regional Office for Europe, Copenhagen License: CC BY-NC-SA 3.0 IGO

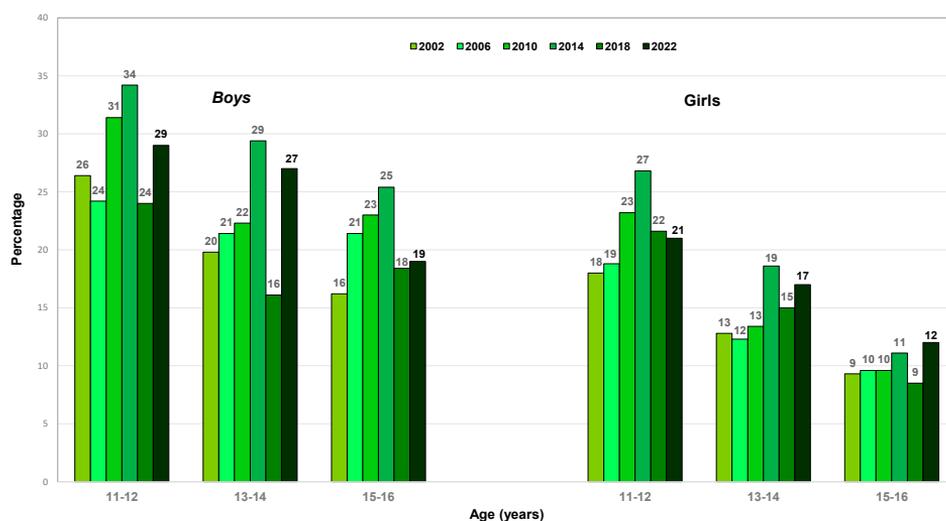


Fig. 13.15. Percentage of school-aged children meeting the daily physical activity recommendations in 2002, 2006, 2010, 2014, 2018, and 2022 by age and gender (source: HBSC survey)

The long-term upward trend in this indicator broke down for all age categories in 2018. In 2022, the situation improved compared to the previous survey, except for the youngest girls' group, where the downward trend continued. However, youth activity did not exceed the 2014 level - the only exception was the group of the oldest girls (15-16 years old), characterised by very low activity levels and their slight fluctuations (in the 21st century, the figures fluctuated between 9% and 12%, reaching a maximum in 2024).

The basic trends observed for many years have not changed: in all categories analysed, boys are more active than girls, and for both genders, the percentage of pupils meeting the WHO recommendations decreases with age. Individual adolescents are becoming less active over time. Thus, 19% of 15-16-year-old boys exercise at the recommended level, while it was 24% in 2018 (for 11-12-year-olds). This effect is even stronger among girls – in the group of 15-16-year-olds, the share of physically active female students decreased from 22% (a level similar to that of boys) to 12% over four years.