

Metabolic syndrome in Poland: the WOBASZ II study

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by Rajca et al, see p. 520

The article by Rajca et al¹ published in the current issue of *Polish Archives of Internal Medicine (Pol Arch Intern Med)* estimated the prevalence of metabolic syndrome (MS) in Poland in the years 2013 to 2014, based on the results of the WOBASZ II study. It also compared the results of this study with those of the WOBASZ study² which used a similar methodology and was carried out a decade earlier (2003–2005).

The WOBASZ II study included 6170 Polish participants (3224 women and 2946 men) aged 20 years and over. Metabolic syndrome was defined according to the 2009 Joint Interim Statement (JIS) criteria.³ The adopted definition allowed for some options in identifying the individuals meeting the criteria, for example, drug treatment for reduced HDL cholesterol (HDL-C) and elevated triglycerides levels was not considered. It was also decided to use the “Europid” waist circumference (WC) thresholds.

The participation rate in the WOBASZ II study was lower than in the WOBASZ study (45.5% vs 77%, respectively). In addition, the proportion of men was lower than that of women, especially in the older age groups (>59 years). The same number of participants of both sexes should have been included.⁴

The prevalence of MS in this study was higher in men than in women (39% vs 32.8%, respectively). This trend was reversed in the age groups of 59 years and over, albeit not significantly. As in other epidemiological studies, the prevalence of MS increased with age, reaching a peak in both sexes in the age group of 60 to 79 years.⁵

Apart from the WOBASZ studies, only the NATPOL 2002 study⁶ assessed the prevalence of MS in Poland, though using the Adult Treatment Panel III (ATP III) criteria. A prevalence of 22.6% and 18% was found, respectively, in women and men. Nevertheless, other Polish regional studies assessed the prevalence of MS.

In a sample of 2674 participants (aged 35–75 years) of the PMSDE (Polish Multicenter Study

on Diabetes Epidemiology) study⁷ conducted in 3 selected areas (Kraków, Lublin and Łódź) between 1998 and 2000, the overall crude prevalence of MS was 35% (37% in women and 32% in men), according to the ATP III definition.

In the Polish arm of the HAPIEE (Health, Alcohol and Psychosocial factors In Eastern Europe) study⁸ conducted in the urban area of Kraków between 2002 and 2005, 8821 participants aged 45 to 69 years were included. According to the International Diabetes Federation (IDF) definition, the overall crude prevalence of MS was 27.9% (29.5% in women and 26.2% in men).

A study conducted in primary health care units of Kraków⁹ between 2004 and 2005, which included 40 989 participants aged over 25 years, found a crude MS prevalence of 19.4% (20.9% in women and 16.2% in men), according to the ATP III criteria.

In the PURE Poland study¹⁰ conducted between 2007 and 2009, which included 1634 inhabitants of Lower Silesia aged 35 to 70 years, a crude MS prevalence of 44.1% (41.8% in women and 48.2% in men) was found, based on the criteria close to those used in the WOBASZ II study.

According to a study published in 2010,¹¹ involving 1648 participants aged 25 to 85 years from a local community in Lower Silesia, MS prevalence was 43.9% and 49.9%, in women and men, respectively, based on the IDF criteria (39% and 38.4%, respectively, by the ATP III criteria).

In a preliminary report of the PONS study (Polish Norwegian Study),¹² which took place in the Kieleckie region between 2010 and 2012 and included 3845 participants aged between 45 and 64 years, a crude MS prevalence of 39.5% (34.3% in women and 49.9% in men) was found by the JIS criteria. In another sample of 7997 participants of the same study, aged between 37 and 66 years, an overall crude MS prevalence of 39.9% was found.¹³

According to the WOBASZ II study, the median values of WC and blood pressure (BP) as well as

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the serum parameters used to define the components of MS are higher in men than in women in the age range of 20 to 59 years, except for the serum HDL-C levels. In women, an increase in triglycerides and a decrease in HDL-C serum levels observed in older age groups may partly reflect the effect of menopause.¹⁴ Regarding the prevalence of individual MS components, the abdominal component is the most prevalent in women under 80 years of age. Its high prevalence is influenced by the adopted WC cutoff point (80 cm in women). According to the PONS study,¹⁵ it is suggested that the cutoff points may be higher in both sexes (100 cm and 87 cm, respectively, in men and women). In men, the BP component is the most prevalent in all age categories, although the abdominal component is also very frequent. In addition, the high prevalence of the triglycerides and glycemic components in men under the age of 60 stands out in comparison with women.

Comparing the prevalence of MS in the Polish population aged 20 to 74 years according to the results of the WOBASZ and WOBASZ II studies, there was a significant increase in both sexes (mostly in the male sex) and in all age groups, except for male participants aged 20 to 39 years. Regarding the individual components of MS, an increase was observed in almost all of them in both men and women, apart from the reduction of BP in both sexes and of triglycerides in women. The large increase in the glycemic component in the last decade is particularly noticeable, especially in men.

In light of the WOBASZ II study, which shows a high prevalence of MS in the Polish population and its worsening in the last decade, the importance of diagnosis and early intervention is highlighted so that this trend can be reversed in all age groups. New national studies may be useful to update these results.

Intervention should be a priority in individuals under 40 years of age, particularly regarding the abdominal component in both sexes and the BP, triglycerides, and glycemic components in men. These recommendations can also be extended to individuals in the age group of 40 to 59 years, albeit less strongly.

Bearing in mind the observed tendency for the glycemic component to increase in the last decade, special attention should be paid to its early diagnosis and treatment, particularly in younger age groups.

ARTICLE INFORMATION

DISCLAIMER The opinions expressed by the author(s) are not necessarily those of the journal editors, Polish Society of Internal Medicine, or publisher.

CONFLICT OF INTEREST None declared.

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