

Prevalence of hypertension: importance of epidemiologic studies and the need to spot undiagnosed cases

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Hypertension is the leading cause of cardiovascular disease and one of the most widespread chronic diseases.^{1,2} It affects 1.39 billion people in the world, with higher prevalence in low- and medium-income countries.³ Worldwide, the prevalence of arterial hypertension in adults (30–79 years) is estimated at 32% in women and 34% in men, and has seemed rather stable over the last 30 years.⁴ Similar data have been reported for European countries,⁵ although some observational studies noted a prevalence of approximately 20%.^{6,7} This apparent discrepancy and, in general, a difficulty to exactly estimate the prevalence of hypertension, may be related to the number of undiagnosed hypertensive individuals.^{8,9} Another significant aspect is associated with patients' consideration of the disease; in fact, it is estimated that around 27% of patients with a diagnosis of hypertension do not monitor their blood pressure.¹⁰ Until the age of 50 years, hypertension is predominant in men, whereas it becomes more prevalent in women, if a population over 65 years of age is considered.¹¹ This observation is of primary relevance in the context of raising awareness of the disease. In this respect, epidemiologic studies, using national registries, are pivotal to accomplish this goal. The work by Cegłowska et al,¹² published in the present issue of *Polish Archives of Internal Medicine*, fulfils this aim. In this observational study, the authors used the public payer claims database to assess the prevalence and incidence of hypertension in Poland in the years 2018–2022. A strength of the study is its huge sample size, which included a total of 11 million hypertensive individuals. Overall, the data presented by Cegłowska et al¹² show a higher number of women with hypertension, as compared with men. The prevalence was 0.5%, 0.5%, 0.5%, 0.4%, and 0.4% ($P < 0.001$) in children (age <18 years) and 34.4%, 34.8%, 34.9%, 35.2%, and 35.2% ($P < 0.001$) among adults in

2018, 2019, 2020, 2021, and 2022, respectively. The incidence of registered hypertension among children was 91.1, 88.6, 58, 67.2, and 69.3 per 100 000 ($P < 0.001$), while the incidence among adults was 1372, 1394.7, 1072.7, 1178.7, 1055.7 per 100 000 ($P = 0.002$) in 2018, 2019, 2020, 2021, and 2022, respectively. The incidence of hypertension was somehow lower in the years 2020–2022 than in 2018–2019, which probably results from an increased number of undiagnosed cases due to the COVID-19 pandemic. In 2022, the mean age of individuals with hypertension was found to be 66.2 years in women and 60.8 years in men. The highest incidence of hypertension was observed in men aged 55–59 years and in women aged 50–54 years. Overall, the prevalence of hypertension increases with age, but up to the age of 54 years, it was higher in men, while in older age groups it was higher in women. A prevalence close to 90% observed in the oldest age groups is not a surprising finding. As remarked by Cegłowska et al,¹² it is highly likely that the real prevalence of hypertension in the Polish population could have been underestimated. In fact, hypertension may actually affect 40% of the adult population. We believe that such an underestimation may potentially be present in all epidemiologic studies, and this may be due to several reasons. First, the awareness of the importance of blood pressure measurement, especially in adults, remains low, which could explain a proportion of undiagnosed hypertension cases. Second, many cases of hypertension may be unregistered, because blood pressure measurements could have been taken at home or in nursing homes, without a formal registration in official databases, such as those of general practitioners. Finally, it is likely that some patients measure blood pressure by themselves or in pharmacies, without any involvement of general practitioners or medical specialists.

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An unavoidable limitation of the study, beyond the impact of the pandemic on data collection, are the missing data of patients using private medical services or those who do not utilize any medical care. Thus, actual prevalence and incidence of hypertension could have been higher and even more impactful on public health. Nonetheless, the work by Cegłowska et al¹² remains an important epidemiologic study, carefully conducted on nationwide scale. It demonstrates how arterial hypertension is extremely widespread, and highlights the need to improve blood pressure monitoring within a collaborative framework involving patients, general practitioners, and hypertension specialists, aimed at reducing the number of undiagnosed cases and improving patient management and public health. Moreover, since hypertension is becoming more prevalent in the elderly, efforts should be made to tailor health care to particular age groups.

ARTICLE INFORMATION

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CONFLICT OF INTEREST None declared.

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