



Special Issue: Current evidence and perspectives for hypertension management in Asia

## A Commentary to “The prevalence of hypertensive diseases and treated hypertensive patients in Japan: a nationwide administrative claims database study”

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Waki et al. analyzed the National Database of Health Insurance Claims and Specific Health Checkups (NDB), and determined the number and age-adjusted prevalence of hypertensive patients receiving treatment in Japan [1]. They analyzed the database from January 1, 2014 to December 31, 2014 and showed that 27,009,064 out of 108,022,191 adults (25.0%) had hypertension [1]. The treatment rate was 89.6% [1]. The authors analyzed a massive database, which in itself was a huge endeavor, and provided the basis for the future utilization of NDB for hypertension research. However, there are inherent limitations of using a claims database like the NDB, which were acknowledged by the authors. First, a claims database limits the analysis to patients who utilized medical institutions for the treatment. This may explain the discrepancy between the previously reported number of hypertensive patients in Japan, reportedly 43 million patients, and the present study [2–4]. Also, the treatment rate differed significantly from the previously reported rate of 56% in Japan [3], 46.7% in high-income countries analyzed by the PURE study, and 63% treatment rate in South Korea, a country that is most similar to Japan in terms of demography [5, 6]. This suggests that the majority of hypertensive patients in this study were relatively motivated patients who desired treatment for hypertension, which may have resulted in a potential underestimation of the prevalence of hypertension and overestimation of the treatment rate of hypertension. Second, the diagnosis is dependent on using standardized

disease codes without any blood pressure measurement data. Third, with greater utilization of medical resources for the elderly population, the prevalence of hypertension in the younger age group was likely to be underestimated. The population with lower socioeconomic status, who are at an increased risk of hypertension, was likely to be under-represented as well [7]. Hence, the 1% prevalence of hypertension in people below the age of 30 in this study differed from previous reports from the Japanese National Health and Nutritional Survey of 2016. This study showed a prevalence of 10.2% in men and 4.1% in women below the age of 30 [3]. The results also differ considerably from the reported prevalence of 10.4% for hypertensive patients between the age of 20–39 reported in South Korea [6]. Fourth, due to the absence of blood pressure (BP) measurements, it was not possible to determine the BP control rate in the population.

Due to the aforementioned limitations, the epidemiologic data of Japan should be based on the National Health and Nutrition Survey of Japan. Nevertheless, this paper has merits. It sets the basis for evaluating the changing trends in the epidemiology of hypertension in Japan. This paper will form the basis for comparing regional differences in the hypertension prevalence and treatment rate over time. The data obtained will be invaluable for administrative planning of the government and for academic research. This paper will also be important for future research regarding important hypertension-related issues that can only be utilized using a claims database such as 1) the proportion of patients using combination drug treatment, 2) the treatment discontinuation rate at 1 year, and 3) the drug compliance rate.

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### Compliance with ethical standards

**Conflict of interest** SP does not have any direct conflict of interest with this study. However, SP has received honorarium from Pfizer, Beatrice,

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