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Prevalence of hypertension, its awareness and control in adult population in Japan

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Keywords

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In 1972, Wilber et al. published their classic paper on the rule of halves, i.e., that only half of hypertensives are detected, half of which are treated, of which only half achieve adequate blood pressure (BP) control. They concluded more effort should be placed on detection and treatment of hypertension.¹ In the 1990s, many countries conducted national health surveys to determine the prevalence of hypertension and its awareness.²⁻⁵ In defining hypertension as 140/90 mmHg or on medication, the rule of halves remained valid. We present, for the first time, prevalence data on hypertension awareness from the national health survey in Japan.⁶

Methods

Details of the 1990 National Survey of Circulatory Disorders in Japan have been published by the Ministry of Health and Welfare, Japan.⁶ Briefly, participants aged 30 and over were chosen from randomly selected 300 survey districts. A questionnaire on circulatory disorders including awareness of hypertension was distributed in advance to each survey subject. Physical examination was conducted in 8,926 individuals. BP was measured using a standard mercury sphygmomanometer. The data use for this study was approved by the Management and Coordination Agency, Government of Japan.

To estimate the number of populations affected by various categories of hypertension in Japan, we used census data in 1990. We defined hypertension as systolic BP \geq 140 mmHg, diastolic BP \geq 90 mmHg, or on hypertension medication.

Results

More than 33 million adults were estimated to have hypertension, which reached 45% of the adult population in Japan. Prevalence of hypertension increases as population ages in both men and women (Table). More than half of middle-aged men and almost three-fourths of elderly men had hypertension. More than half of men with hypertension were unaware of the condition, and less than 5% of men with hypertension were treated and controlled. As

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observed in men, more than half of middle-aged women had hypertension; among them, more than half were not aware of the condition. Among those with hypertension in middle- and old-aged women, less than 10% were treated and controlled.

Discussion

Comparing these data to those from the national survey data in US³ in 1988-94 and in Canada⁴ in 1986-92, using the same criteria of hypertension, the prevalence of hypertension as well as the percentage of those who were unaware of hypertension among hypertensives appeared to be much higher in Japan. The percentage of those who were treated and controlled among hypertensives in Japan appeared to be much lower than in these countries, about 10% in Canada, and about 20% in the US.^{3,4}

Awareness and control of hypertension among countries may not be directly comparable because of the differences in clinical guidelines for hypertension at the time of the surveys. In 1990, Japan employed the criteria of hypertension as BP 160/95 mmHg, or on medication.⁷ The Canadian guidelines in the early-1990s recommended treatment at 160/100 mmHg in low-risk individuals.⁸ The US adopted more stringent criteria than these in 1993, recommending treatment at 140/90 mmHg.⁹ The higher percentage of unawareness of hypertension in Japan than in the US may in part be attributed to the difference in clinical guidelines. The higher percentage of unawareness of hypertension in Japan than in Canada, however, is unlikely to be due to the difference in clinical guidelines.

BP levels in Japan have continually declined since the 1960s with concomitant declines in cardiovascular disease mortality.¹⁰ Stroke mortality declined by 66% between 1970 and 1985.¹¹ It remains, however, one of the highest among the developed countries,¹² e.g. stroke mortality in men in Japan was almost two times as high as that in Canada or the US both for those aged 35-74 and 75-84. Prevalence and control of hypertension are predictors of geographic variations in stroke mortality among countries.^{13,14} Higher stroke mortality in Japan may be in part due to higher prevalence of hypertension and lower percentage of its awareness and control.

The comparison of the prevalence and awareness of hypertension presented here was based on the national data in the early 1990. Comparing these statistics with more recent data is necessary.

Hypertension is such an epidemic that public health approach is of critical importance. We have enough evidence to be sure that blood pressure-related cardiovascular risk is continuous and reducing blood pressure prevents cardiovascular events.^{15,16} Further public health actions need to be seriously taken to prevent cardiovascular diseases.

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Table

Prevalence of hypertension and percent distribution of various categories of hypertension by sex and age group in Japan.

Age group	Prevalence of hypertension (/100)	Percent distribution of various categories of hypertension				
		Unaware (%)	Aware and not treated (%)	Treated and not controlled (%)	Treated and controlled (%)	
Men	30-44	26.7	72.5	20.0	6.4	1.1
	45-64	55.8	58.9	18.2	19.3	3.6
	65+	72.4	50.3	14.2	30.4	5.1
Women	30-44	15.1	74.1	16.3	8.2	1.4
	45-64	49.7	55.1	13.6	25.9	5.3
	65+	75.7	41.5	13.6	37.1	7.8