Evidence for improved control of hypertension in Taiwan: 1993–2002

Objective This study reports the prevalence of hypertension, proportions of awareness, treatment, and control in the 2002 Taiwanese Survey on Hypertension, Hyperglycemia, and Hyperlipidemia (TwSHHH), and compared the changes of hypertension prevalence, awareness, treatment, and control in two recent nationwide surveys.

Methods TwSHHH is the second nationwide survey designed to assess the prevalence, awareness, treatment, and control of hyperglycemia, hyperlipidemia, and hypertension. The TwSHHH survey applied a multistage, stratified, and random sampling during 2002 with a total of 7566 participants. Among them, 3088 male and 3391 female participants were 19 years old and over and were selected from households throughout Taiwan. The data of Nutrition and Health Survey in Taiwan (NAHSIT), the first nationwide survey to assess disease and nutrition status during 1993–1996, was also applied to compare changes of the prevalence, awareness, treatment, and control of hypertension between the two surveys.

Results Compared with the NAHSIT, the prevalence of hypertension on TwSHHH decreased significantly in female adults, between 1993–1996 and 2002. In both males and females of all age groups, the awareness, treatment, and control of hypertension significantly and substantially improved between NAHSIT and TwSHHH. These results also correlated in time with the implementation of National Health Insurance since 1995. The favorable changes in education and availability of care may account for improved control of hypertension and, possibly, its prevention.

Conclusions There was a significant improvement of hypertension awareness, treatment, and control in the TwSHHH survey compared with the NAHSIT survey in Taiwan. J Hypertens 26:600–606 © 2008 Wolters Kluwer Health | Lippincott Williams & Wilkins.

Keywords: awareness, control, hypertension, prevalence, treatment

Abbreviations: BMI, body mass index; DBP, diastolic blood pressure; JNC-7, The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; NAHSIT, Nutrition and Health Survey in Taiwan; PPS, probability proportional to size; SBP, systolic blood pressure; TwSHHH, Taiwan Survey on Hypertension, Hyperglycemia, and Hyperlipidemia

Introduction
The Nutrition and Health Survey in Taiwan (NAHSIT) was developed to assess disease and nutrition status during 1993–1996 [1], an interval of time that followed 20–30 years of rapid economic growth in Taiwan. Hypertension was a major focus of the survey due to the possibility that dietary and lifestyle changes associated with economic growth increased the incidence and prevalence of cardiovascular disease (CVD). Data from the NAHSIT indicated that the prevalence of hypertension is on the rise, especially in rural areas where access to medical care is less and therefore rates of awareness, treatment, control, and medication compliance are correspondingly lower. Prior to the institution of the National Health Insurance (NHI) program, only 57% of Taiwanese were covered by medical insurance [2]. Then in 1995, when the NHI program was implemented, medical services became more accessible in Taiwan. As a result, 96% of citizens in Taiwan are covered under NHI and 90% of hospitals and clinics were NHI-contracted providers by 1996 [2,3].

The NAHSIT data were largely collected before the actual availability of NHI implementation. Consequently, to determine the effect of NHI on public health, the Taiwanese Survey on Hypertension, Hyperglycemia, and Hyperlipidemia (TwSHHH) was conducted in 2002 and not only updated information about the prevalence of