

STATE-OF-THE-ART REVIEW

Hypertension and Related Cardiovascular Disease Burden in China



Joshua D. Bundy, MPH, Jiang He, MD, PhD
New Orleans, LA

Abstract

BACKGROUND With rapid economic development, urbanization, and an aging population, cardiovascular diseases (CVDs) have become the leading cause of death in China.

OBJECTIVES The aim of this study was to provide a comprehensive review on the prevalence, awareness, treatment, and control of hypertension (HTN) as well as blood pressure (BP)-related morbidity and mortality of CVD in Chinese adults over time.

FINDINGS The prevalence of HTN in China is high and increasing. Recent estimates are variable but indicate 33.6% (35.3% in men and 32% in women) or 335.8 million (178.6 million men and 157.2 million women) of the Chinese adult population had HTN in 2010, which represents a significant increase from previous surveys. BP-related CVD remains the leading cause of death in Chinese adults, with stroke being the predominant cause of cardiovascular deaths. Of those with HTN, 33.4% (30.4% in men and 36.7% in women) were aware of their condition, 23.9% (20.6% in men and 27.7% in women) were treated, and only 3.9% (3.5% in men and 4.3% in women) were controlled to the currently recommended target of BP <140/90 mm Hg. Awareness and treatment of HTN have improved over time, but HTN control has not. Geographic differences in the prevalence, awareness, treatment, and control of HTN are evident, both in terms of a north-south gradient and urban-rural disparity.

CONCLUSIONS The prevalence of HTN is high and increasing, while the control rate is low in Chinese adults. Combatting HTN and BP-related morbidity and mortality will require a comprehensive approach at national and local levels. The major challenge moving forward is to develop and implement effective, practical, and sustainable prevention and treatment strategies in China.

KEY WORDS hypertension, cardiovascular disease, mortality, prevalence, treatment, control, China

© 2016 The Authors. Published by Elsevier Inc. on behalf of Icahn School of Medicine at Mount Sinai. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

INTRODUCTION

Hypertension (HTN) is the leading global preventable risk factor for cardiovascular disease (CVD) and premature death.^{1,2} With 20% of the world's population, China represents a large portion of this burden, where HTN and blood pressure

(BP)-related CVD are major public health challenges.^{3,4} In the past few decades, China has undergone rapid economic development and demographic and epidemiologic transitions characterized by declines in fertility and child mortality and increases in life expectancy.⁵ Consequently, major causes of morbidity and mortality in China have shifted

The authors have no conflicts of interest to declare.

From the Department of Epidemiology, Tulane University School of Public Health and Tropical Medicine, New Orleans, LA. Address correspondence to J.H. (jhe@tulane.edu).

from primarily infectious diseases to chronic, particularly cardiovascular, diseases.

HTN prevalence has risen in China in recent decades, resulting in an increase of BP-related morbidity and mortality. Since the 1950s, several national HTN surveys have been conducted in China to assess the prevalence and risk factors of this condition.⁶⁻¹⁴ Data suggest that HTN and CVD have been serious health issues in China for decades and there are no signs of abatement.

The aim of the present study was to comprehensively review literature on the current prevalence, awareness, treatment, and control of HTN in the general adult population in China. We compared the secular trends of HTN burden and control in Chinese populations using data from several national surveys over several decades. Additionally, we examined BP-related morbidity and mortality burden in China.

PREVALENCE OF HYPERTENSION

Recently, several national surveys in China have reported the prevalence of HTN in the Chinese

general population (Table 1). The 2007-2008 China National Diabetes and Metabolic Disorders Study, conducted with a nationally representative sample of 46,239 adults aged ≥ 20 years, showed that 26.6% of Chinese adults had HTN (29.2% in men and 24.1% women).¹⁰ Similar estimates were obtained by the China National Survey of Chronic Kidney Disease, which reported an adjusted prevalence of 29.6% (31.2% in men and 28% in women) in a nationally representative sample of 50,171 adults aged ≥ 18 years conducted in 2009-2010.¹¹

The most updated estimates of HTN prevalence are from the China Non-communicable Disease Surveillance 2010, which included a nationally representative sample of 98,658 Chinese adults aged ≥ 18 years from all 31 provinces, autonomous regions, and municipalities in mainland China.^{12,13} Three BP measurements were obtained by trained observers using a calibrated automatic electronic device. Hypertension was defined as a mean systolic blood pressure (SBP) ≥ 140 mm Hg and/or diastolic blood pressure (DBP) ≥ 90 mm Hg and/or use of antihypertensive medications. An estimated 33.6% (35.3%

Table 1. Prevalence, Awareness, Treatment, and Control of Hypertension in China

	China National Diabetes and Metabolic Disorders Study ⁶	China National Survey of Chronic Kidney Disease ⁷	China Non-communicable Disease Surveillance 2010 ^{4,5}
Year	2007–2008	2009–2010	2010
Sample size	46,239	50,171	98,658
Sampling methods	Multistage stratified sample from 14 provinces and municipalities	Multistage stratified sample from 13 provinces	Multistage stratified sample from 31 provinces and municipalities
Age range (y)	≥ 20	≥ 18	≥ 18
Blood pressure measurement	2 sitting readings using a standardized mercury sphygmomanometer	3 sitting readings using a standardized mercury sphygmomanometer	3 sitting readings using an automatic device (Omron HEM-7071)
Prevalence, %			
Total	26.6	29.6	33.6
Men	29.2	31.2	35.3
Women	24.1	28.0	32.0
Awareness, %			
Total	45.0	42.6	33.4
Men	42.5	35.1	30.4
Women	47.9	51.0	36.7
Treatment, %			
Total	36.2	34.1	23.9
Men	32.7	26.8	20.6
Women	40.2	42.3	27.7
Control*, %			
Total	11.1	9.3	3.9
Men	10.5	7.6	3.5
Women	11.8	11.3	4.3

* Among all hypertensive patients.

Download English Version:

<https://daneshyari.com/en/article/6149013>

Download Persian Version:

<https://daneshyari.com/article/6149013>

[Daneshyari.com](https://daneshyari.com)