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STATE-OF-THE-ART REVIEW

Expanding the Role of Nurses to Improve Hypertension Care and Control Globally

Cheryl R. Dennison Himmelfarb, RN, ANP, PhD, FAAN, FAHA, FPCNA,
Yvonne Commodore-Mensah, RN, PhD, Martha N. Hill, RN, PhD, FAAN, FAHA
Baltimore, MD; and Atlanta, GA

Abstract

The role of the nurse in improving hypertension control has expanded over the past 50 years, complementing and supplementing that of the physician. Nurses' involvement began with measuring and monitoring blood pressure (BP) and patient education and has expanded to become one of the most effective strategies to improve BP control. Today the roles of nurses and nurse practitioners (NPs) in hypertension management involve all aspects of care, including (1) detection, referral, and follow up; (2) diagnostics and medication management; (3) patient education, counseling, and skill building; (4) coordination of care; (5) clinic or office management; (6) population health management; and (7) performance measurement and quality improvement. The patient-centered, multidisciplinary team is a key feature of effective care models that have been found to improve care processes and control rates. In addition to their clinical roles, nurses lead clinic and community-based research to improve the hypertension quality gap and ethnic disparities by holistically examining social, cultural, economic, and behavioral determinants of hypertension outcomes and designing culturally sensitive interventions to address these determinants.

KEY WORDS hypertension, nurse, team-based care, quality

INTRODUCTION

Hypertension is a global public health issue, and it is estimated that by 2025 more than 1.5 billion individuals worldwide will have hypertension, accounting for up to 50% of heart disease risk and 75% of stroke risk.[1] Lowering blood pressure (BP) through lifestyle modification, antihypertensive medications, or both can substantially reduce an individual's risk for subsequent cardiovascular disease (CVD) and stroke.[2] Even a moderate reduction in systolic BP (SBP) of 10 mm Hg or diastolic blood pressure (DBP) of 5 mm Hg has been found to decrease average risk of mortality from coronary heart disease and stroke by 22% and 41%, respectively.[3]

Despite clear benefits of hypertension treatment to reduce CVD morbidity and mortality, a large proportion of diagnosed and undiagnosed patients with hypertension are not receiving optimal care. In the United States, despite decades of national public and professional education, among those with hypertension, approximately 25% are unaware and almost 30% are not engaged hypertension care.[4] Among the 45% with diagnosed hypertension and in care, BP control is achieved in only 64% overall, and rates remain as low as 39% among

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From the Johns Hopkins University School of Nursing, Baltimore, MD (CRDH, MNH); and the Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, GA (YC-M). Address correspondence to C.R.D.H. (cdennis4@jhu.edu).

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Mexican American men.[4,5] Although control rates overall have increased over the past 10 years, ethnic disparities in care and control remain, with Mexican Americans less likely to be in hypertension care and African Americans, Hispanics, and Mexican Americans achieving lower control rates compared with whites.[5] The difference in hypertension outcomes achieved with current practices and outcomes possible using hypertension care best practices is known as the quality gap, and this gap is at least partly responsible for the loss of thousands of lives each year.[6] Expanding the role of nurses is one of the most effective strategies to improve BP control. This paper reviews the expanding roles of nurses in diverse practice settings and in team-based care and provides examples of nurse-led research aimed at reducing hypertension health disparities.[7-11]

BACKGROUND

The role of nurses has been recognized for nearly 50 years in public and professional education to improve hypertension control promoted by the US National High Blood Pressure Education Program's Joint National Committee reports and other publications.[2,12] Nurses' involvement began with measuring and monitoring BP and patient education. The role expanded in the 1960s and early 1970s to supplement and complement that of the physician as the number of newly identified patients grew after Veterans Administration and Hypertension Detection and Follow-up Program studies demonstrating the benefits of controlling hypertension.[13,14] Subsequently, with evidence-based protocols to guide practice nurses and training programs, such as those provided by the American Heart Association, nurses gained the skills to assess patients' health status, adjust medications, and address barriers to hypertension care and control, thus becoming more involved in the assessment and management of hypertension. The establishment of nurse-run clinics was a further expansion of the nurse's role.[15] Today around the globe, particularly in underserved low- and middle-income countries, as the numbers of people with hypertension and attention to noncommunicable diseases increase, the role of nurses continues to expand. The role increasingly focuses on advanced practice nurses, known as nurse practitioners (NPs), who have legal authority to prescribe antihypertensive and other medications and practice independently or in teams, which requires attention to the legal scope of nursing practice.

TEAM-BASED HYPERTENSION MANAGEMENT

A key feature of the most effective hypertension care models is a multidisciplinary team that collaborates in delivering hypertension care services.[16] A team-based approach is patient centered, with care tailored to meet patients' needs. It is often implemented as part of a multi-faceted approach, with systems support for clinical decision making (eg, treatment algorithms), communication, and patient self-management. Team-based hypertension care includes the patient, the patient's primary care provider, and other professionals such as nurses, pharmacists, physician assistants, dieticians, social workers, and community health workers. These professionals complement the activities of the primary care provider by providing process support and sharing the responsibilities of hypertension care, which include medication management, active patient follow-up, and adherence and self-management support. Team-based hypertension care has been reported to increase the proportion of individuals remaining in care with controlled BP and reduced SBP and DBP.[7-11] Randomized controlled trials (RCTs) and meta-analyses of RCTs of team-based hypertension care involving nurse or pharmacist intervention demonstrated reductions in SBP and DBP and greater achievement of BP goals when compared with usual care.[6-9] Similarly, a systematic review of 52 studies of team-based primary care for patients with primary hypertension found reductions in SBP and DBP and greater achievement of BP goals when compared with usual care, although team-based approaches varied greatly across studies.[11] Nonetheless, the important findings on the impact of team-related factors on BP outcomes were identified: (1) Larger improvements in BP outcomes were found when team members could make changes to medications independent of the primary care provider or provide medication recommendations and make changes with primary care provider's approval compared with providing only adherence support and information on medication and hypertension. (2) Improvement in the proportion of patients with controlled BP was similar for studies in both health care and community settings.[11] A systematic review of studies, including 8 RCTs, examining the effect of community health workers in team-based hypertension care found improvements in BP control, appointment keeping, and hypertension medication adherence.[17]