International Journal of Faith Community Nursing

Volume 8
Issue 1 *Fall 2023*

Article 4

September 2023

Practice Matters: Hypertension

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Practice Matters: Understanding the Hypertension Guidelines

Objectives

After reading this article, the FCN will:

1. Understand the number of individuals worldwide that have hypertension,
2. Describe the best practice to assess blood pressure at home,
3. Identify lifestyle choices to support hypertension management,
4. Understand the challenges of blood pressure management in the older adult,
5. Recognize differences of current hypertension guidelines by ACC/AHA and ESC/ESH

In the United States, over 110 million adults have hypertension: nearly 1 in 2 adults (Centers for Disease Control and Prevention [CDC], 2021). It is well known that hypertension is a contributor to cardiovascular disease including heart disease and stroke. In 2019, cardiovascular disease was attributed to greater than 800,000 deaths. Many patients are unaware they have an elevated blood pressure resulting in under diagnosis and under treatment (American Family Physician, 2021). In the United States, hypertension costs range from $131 to $198 billion dollars annually and include health care services, treatment, and loss of productivity (CDC, 2022). Risk factors for hypertension include elevated blood pressure, diabetes, eating foods with high sodium content, little physical activity, obesity, increased alcohol consumption and lack of social support (Institute of Medicine, 2010). The goal of hypertension treatment is to decrease morbidity and mortality while reducing risks of medical interventions (American Family Physician, 2022).

Faith Community Nurses (FCN) were first established in 1983 when Chaplain Granger Westberg recruited six Chicago congregations to hire a nurse to care for their parishioners. During this time, diagnosis-related groups (DRGs) were developed, and many hospitalized patients required more care after discharge than these payments provided. The parish nurse role was created, and a main goal included providing support after discharge. Wellness promotion became an integral part of their health ministry by promoting a holistic approach to decrease and prevent disease (Lutheran Faith Community Nurse Association, 2023). Faith community nurses are respected health professionals who screen, observe, guide, and support those diagnosed with hypertension outside of the health care setting. (Cooper & Zimmerman, 2017).

Monitoring

Accurate monitoring of blood pressure is necessary to classify the reading and guide treatment. Key factors to note before measuring blood pressure is to have the patient sit quietly for approximately 5 minutes, assure that the arm where the pressure will be taken is supported, the correct size cuff is used and place at the level of the heart, and that the cuff deflates slowly (American Family Physician, 2018). It is recommended that the average of 2-3 readings be taken on two or more separate occasions be used to provide a more accurate blood pressure reading. Patients should be encouraged to avoid smoking, drinking caffeinated beverages, and exercise approximately 30 minutes before measuring blood pressure. A log of blood pressure readings

and heart rate should be recorded in a notebook or in a health app to review with the provider at each appointment (American Heart Association News, 2020).

Lifestyle choices

Although there are many pharmacological options to treat hypertension and decrease the complications of cardiovascular disease, it is estimated that only one-third of hypertensive patients achieve their targeted values. Lifestyle changes have been shown to be necessary and effective in decreasing blood pressure (Bruno, Amaradio, Pricoco, Marino, & Bruno, 2018). Recent guidelines recommend that all patients with hypertension adopt lifestyle choices to maximize the effects of medication and achieve target readings (Bruno, Amaradio, Pricoco, Marino, & Bruno, 2018).

Lifestyle changes include limiting alcohol, increasing physical activity, low salt diet, weight management, and smoking cessation (American Heart Association, 2023a). Alcohol consumption can raise blood pressure. The American Heart Association recommends alcohol use be limited to two drinks per day for men and one drink per day for women (American Heart Association 2023b). Nutrition plays an important role in the management of hypertension. Food choices should be well balanced from all food groups and have a low salt content. Salt intake is a potent vasoconstrictor and reduction of salt intake can improve artery flow thus decreasing hypertension (Bruno et al., 2018). The DASH diet (Dietary Approaches to Stop Hypertension) emphasizes healthy food sources and has shown with reduction in salt intake there is a linear reduction in blood pressure in both patients that have hypertension and those will normal blood pressure (Bruno et al., 2018).

Physical activity can help manage weight, decrease stress, and strengthen the heart muscle. For most healthy individuals, it is recommended to participate in at least 150 minutes per week of moderate intensity activity such as brisk walking. Flexibility and strengthening exercises are recommended with muscle strengthening activity at least two times per week (American Heart Association, 2023c). Regular aerobic exercise is also shown to improve lipid profiles, glycemic index values, and weight loss.

Smoking is a known risk factor for heart attack and stroke. Smoking can cause increased vascular resistance by impairing endothelium dependent vasodilation and increasing vasoconstriction. The literature also suggests that smoking increases the adhesive properties of platelets leading to change in the thickness of the blood and causing a higher risk of blood clots (Bruno et al., 2018). Chronic loneliness can be categorized as a psychological stressor and may lead to unhealthy choices such as less activity and poor food choices. Individuals may lack support from family members due to geographical locations of family members and smaller family size. Lifestyle changes should be encouraged to all hypertensive patients as an initial treatment and/or in conjunction with pharmacological treatment (Yazawa, A., Inoue, Y., Yamamoto, T., Watanabe, C., Tu, R., & Kawachi, I. (2022).

Hypertension in the Older Adult

Hypertension is known to increase with age. The literature reports that the overall prevalence of hypertension is approximately 29 % in US adults and increases to approximately 65% in patients 60 years and older (Qaseem, Wilt, Rich, Humphrey, Frost, Forciea, 2017). Both the systolic and diastolic readings can increase with age. After the age of 60 years, there is a stiffness to the central arterial system and systolic pressure continues to rise and the diastolic pressure falls (Oliveros, Patel, Kyung, Fugar, Goldberg, Madan, & Williams, 2020). While the research supports the benefits of a lower systolic blood pressure less than 120mmHg in patients 75 years and older, an optimal blood pressure target has not been defined. Individualized care based on age and contributing factors such as: cognitive impairment, comorbidities, current drug use, orthostatic hypotension and history of falls will need to be considered when determining blood pressure target goals and medications used (Oliveros, et al., 2020).

Understanding the Guidelines

Numerous guidelines are noted to offer guidance in management of hypertension. The most recent updates are from the American College of Cardiology/ American Heart Association (ACC/AHA) in 2017 and the European Society of Cardiology/European Society of Hypertension (ESC/ESH) in 2018. These are the most referred to clinical guidelines in the management of blood pressure and hypertension worldwide (Whelton, Carey, Mancia, Kreutz, Bundy, & Williams, 2022). The most noted differences between these two guidelines include the classification of blood pressure and the initiation of antihypertensive medications (Whelton, et al., 2022). While ACC/AHA considers SBP <120 mmHg and DBP <80 mmHg as a normal reading, the ESC/ESH considers SBP <120 mmHg and DBP <80 mmHg as an optimal reading with normal reading of SBP 120-129 mmHg and/or DBP 80-84 mmHg. See Table 1 for classifications of all blood pressure readings.

Table 1: *Blood Pressure classifications*

Categories	**SBP, mmHg**	**and/or**	**DBP, mmHg**
ACC/AHA			
Normal	<120	and	<80
Elevated	120-129	and	<80
Hypertension, stage 1	130-139	or	80-89
Hypertension, stage 2	≥ 140	or	≥90
ESC/ESH			
Optimal	<120	and	<80
Normal	120-129	and/or	80-84
High normal	130-139	and/or	85-89
Hypertension, grade 1	140-159	and/or	90-99
Hypertension, grade 2	160-179	and/or	100-109
Hypertension, grade 3	≥180	and/or	≥110
Isolated systolic hypertension	≥ 140	and	<90

(Whelton, et al., 2022)

Similarities of the guidelines include accurate blood pressure measurements and use of out of office readings, use of cardiovascular risk assessment to guide when to initiate antihypertensive therapy, similar lifestyle changes to prevent and treat hypertension and ways to improve blood pressure control and adherence to medication regimens (Whelton, et al., 2022).

Faith Community Nurse Role

FCNs have been very active in the collaboration of hypertension prevention and control. In 2012, the Million Hearts initiative was created by the CDC and Centers for Medicare and Medicaid Services with the goal to prevent one million heart attacks and strokes. In 2017, the Maryland Department of Health and Mental Hygiene collaborated with local health departments, health systems, and faith community nurse networks to serve communities that were at risk for hypertension or living with hypertension (Cooper, & Zimmerman, 2017). The FCNs helped participants to meet their health goals and add and/or improve lifestyle choices to manage their hypertension. Team based approaches to care for chronic issues such as hypertension are associated with better outcomes (Burnier, & Egan, 2019). FCNs create settings of community support that can sustain lifestyle changes and blood pressure improvements over time.

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