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Practice Matters: Screening and Caring for Those with Hypertension

Introduction

Faith Community Nurses (FCNs) have been providing care in their churches, parishes, mosques, and synagogues since the late 1970's. Recently their role has expanded to the broader community as the need for healthcare systems that promote health and prevent disease has increased (Ziebarth, 2014). Attributes seen in the practice of Faith Community Nursing include the integration of faith, health promotion, management of disease, coordination of care, empowerment of clients and aiding clients in accessing healthcare with the nurse-client relationship being the central focus (Ziebarth, 2014). The FCN treats the client holistically, with an emphasis on the integration of mind, body and spirit (Monay, Mangione, Sorrell-Thompson & Baig, 2010).

As many as 15,000 FCNs are currently practicing in communities around the world (Ziebarth, 2014). A common activity performed by FCNs is screening for diseases, most notably hypertension. The services provided by FCNs may provide an avenue for cost effective management of hypertension, particularly by supporting client self-management of their condition (Monay et al., 2010). Access to routine monitoring, education to reinforce medication adherence, and assistance in making referrals to primary care providers when needed is a unique benefit to the care provided by faith community nursing (Monay et al., 2010). However, to be effective in this role, the FCN must be aware of the prevalence of hypertension, best practices for screening individuals in a community setting, and current management guidelines from organizations such as the World Health Organization (WHO) and the Joint National Committee 8 (JNC 8).

Objectives:

After reading this article, the FCN will:

1. Be aware of the current levels of hypertension worldwide and in specific regions including the United States (US), Europe, and Africa.
2. Be able to discuss current guidelines from the WHO and JCN-8.
3. Be able to discuss the best practices for accurate hypertension screening in community settings.
4. Be able to describe the lifestyle changes recommended to reduce blood pressure in adults.

Epidemiology

Hypertension is known as the silent killer, accounting for over nine million deaths yearly (WHO, 2013). It is estimated the 1/6 of the world's population is currently affected by hypertension. These high levels of hypertension are correlated with the increase in obesity worldwide and high levels of tobacco use (WHO, 2013). Hypertension rates are highest in Africa, with over 36% of men and women having systolic blood pressure > 140 mm/Hg or diastolic blood pressure > 90 mm/Hg (WHO, 2014). Rates in the Americas and Europe are slightly lower at 23% and 29.3% respectively (WHO, 2014). In the US 36.2% of adults aged 20 years or older have high BP and among those with hypertension, 54.1% had controlled HTN (Mozaffarian et al., 2015). In the

US African-American women and men have the highest prevalence of hypertension at 46% and 45% respectively (Mozaffarian et al., 2015).

Blood Pressure Goal

According to the major US and European guidelines the blood pressure (BP) goal in adults 18 to 59 years or older is less than 140/90 mm/Hg (Go et al., 2014; James et al., 2014). However, *The Joint National Committee Eighth Report (JNC8)* recommended the BP goal for adults 60 years or older without diabetes or chronic kidney disease be maintained at less than 150/90 mm/Hg (James et al., 2014). Patients with a systolic BP of 120 to 139 mm/Hg or a diastolic BP of 80 to 89 are considered to have prehypertension. These patients should receive education on lifestyle changes that may reduce BP. A BP greater than 180/110 mm/Hg should receive treatment as quickly as possible and if the BP is greater than 210/120 mm/Hg immediate treatment is needed (Pak et al., 2014).

Blood Pressure Measurement Procedure

Recommendations for blood pressure assessment are provided by the American Heart Association (AHA). Using a BP cuff that is too large can result in underestimation of BP while using a BP cuff that is too small can result in an overestimation of BP (Pickering et al., 2005). In the US, approximately 45% of adult men and 28% of adult women require a cuff size different from the standard adult-sized BP cuff for accurate BP measurement (Ostchega, Hughes, Zhang, Nwankwo, & Chiappa, 2013). The recommended cuff sizes for arm circumference (Pickering et al., 2005) are found in Table 1.

Table 1
Arm Circumference and Recommended Cuff Size

Arm Circumference	Recommended Cuff Size
22 to 26 cm	Small Adult
27 to 34 cm	Standard Adult
35 to 44 cm	Large Adult
45 to 52 cm	Adult Thigh

The position of the arm is also important for an accurate BP especially if the patient is sitting or standing; the arm should be supported horizontally at the level of the right atrium (see Figure 1). BP readings can be erroneously elevated if the upper arm is hanging below the level of the right atrium while in the sitting position (Pickering et al., 2005). The patient should rest five minutes prior to the first BP measurement and neither the patient nor the nurse should talk during the BP measurement. The patient's back should be supported, all clothing should be removed from the cuff placement skin area, and there should be no constrictive clothing on the limb. The midline of the BP cuff bladder should be placed over the palpated brachial pulse. The lower edge of the BP cuff should be 2-3 cm above the antecubital fossa and the stethoscope should not be inserted under the cuff (Pickering et al., 2005).



Figure 1. Correct arm placement for blood pressure measurement.

Blood Pressure Monitoring

Home BP is a better predictor of cardiovascular morbidity and mortality than office BP monitoring (Mancia et al., 2014). However, patients should be observed and instructed on the process of BP measurement. Many patients who monitor their BP at home use automatic BP measurement machines and these are affordable and reliable. The automatic BP device should be compared with a sphygmomanometer BP measurement initially and every 6 months (Mancia, 2014).

Ambulatory BP monitoring is performed with the individual wearing a portable measuring device over at least 24 hours. The individual wearing the device should engage in normal activities but avoid very strenuous activities. The individual is asked to keep a diary with symptoms, medication administration, meals, and rest/sleep at regular intervals ranging from 15 to 30 minutes. Ambulatory BP monitoring is particularly useful for identifying white coat hypertension (Weber et al., 2014).

Lifestyle Changes

There are many lifestyle changes recommended for adult patients with hypertension. Regular aerobic exercise can aid in reducing BP and patients should be encouraged if they are able to walk and incorporate physical activity in their day. Modest weight loss can reduce BP (Weber et al., 2014). The Dietary Approach to Stop Hypertension (DASH) diet has been shown to lower both systolic and diastolic BP (Saneei, Salehi-Abargouei, Esmailzadeh, & Azadbakht, 2014) and is high in vegetables, fruits, and fat-free or low-fat. The diet includes whole grains, fish, poultry, beans, seeds, nuts, and vegetable oils. Only two servings of fats and oils a day and five or less servings of sweets and added sugars a week are recommended in the eating plan. Sodium is further restricted to less than 2300 mg of sodium per day. The reduction of salt in the diet is also recommended to reduce BP and in some patients, consumption of less than 1500 mg of sodium a day may be recommended (National Heart, Lung, and Blood Institute [NHLBI], 2014). While many patients understand not adding extra salt to their foods, processed food such as bread, canned goods, fast foods, soups, and processed meat are often high in sodium. When canned vegetables cannot be avoided, rinsing the product under running water can effectively reduce the sodium content by 9-23% (Haytowitz, 2011). Smoking is a primary risk factor for

cardiovascular disease and while stopping smoking will not reduce BP stopping smoking will reduce the overall cardiovascular risk. Patients should be told to expect a modest weight gain when they stop smoking. While moderate alcohol consumption (up to two drinks a day for men and one drink a day for women) have been shown to be cardioprotective, higher levels of alcohol consumption can raise BP (Weber et al., 2014).

Patient Education Resources

The worldwide web is a valid source of information for faith community nursing and their clients. Patient information should be evaluated according to the authors of the information. HONcode is a voluntary nongovernmental agency certification for ethical and trustworthy health information (<http://www.hon.ch/HONcode/Patients/Visitor/visitor.html>). Look for the HONcode certification at the bottom of the webpage to be confident in the information you are viewing. The American Heart Association offers valid and reliable patient information free of charge on many cardiac related conditions such as arrhythmia, high blood, and diabetes to name a few (http://www.heart.org/HEARTORG/Conditions/Conditions_UCM_001087_SubHomePage.jsp).

Conclusion

FCNs are responsible for screening for a number of chronic diseases including hypertension. Correct measurement of blood pressure is a crucial aspect of physical assessment for the FCN. Current knowledge of hypertension diagnosis parameters and management can also assist the FCN in making appropriate referrals for clients with elevated blood pressure and to educate clients on ways to manage their conditions with lifestyle modifications.

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