Improving Uncontrolled Hypertension through Improving Self-management Strategies

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Introduction

Hypertension is defined as "a systolic blood pressure greater than 130 mmHg or a diastolic blood pressure greater than 80mmHg" (CDC, 2021). The Center for Disease Control and Prevention (CDC) indicated that nearly half of adults in the United States (47%, or 116 million) have hypertension (CDC, 2021). High blood pressure costs the United States about $131 billion each year and was a primary cause of death for 516,955 people in 2019 (CDC, 2021).

According to the CDC (2021), high blood pressure is more common in black adults (56%) than in white adults (48%), Hispanic adults (39%) or Asian adults (46%). Important risk factors for hypertension among Black patients are related to the social determinants of health, including lower socioeconomic and educational status, lack of access to affordable and high-quality fresh food, and less health dietary patterns (UpToDate, 2021). Additionally, a greater percentage of men (50%) have high blood pressure than women (44%) (CDC, 2021). Michigan ranks 38th in the nation for having persons living with high blood pressure (35.1%), compared to a national average of 32.5% (America's Health Ranking, 2021). 37.7% of men in Michigan have high blood pressure and 32.6% of women have high blood pressure, compared to the United States average of 34.8% and 30.5%, respectively (America's Health Ranking, 2021). 59.8% of people over the age of 65 in Michigan have a diagnosis of hypertension, compared to the national average of 60.1% (America's Health Ranking, 2021). In 2019, 36.9% of people living in Wayne county were diagnosed with high blood pressure, compared to the national average of 32.6% (CDC Places, 2021).

Recognizing the large public health burden of hypertension, the US Surgeon General recently issued a call to action to reduce the national burden of hypertension. The three goals to

this call of action are 1) make hypertension control a national priority; 2) ensure that communities support hypertension control; and 3) optimize patient care for hypertension control (Adams & Wright, 2020, p. 1825). Communities are the primary level at which the social determinants of health function. As members and leaders of their communities, physicians, nurses, and other health care professionals can support and advocate for community-based programs that facilitate healthy lifestyles (Adams & Wright, 2020). Currently clinical practice guidelines recommend out-of-office or self-measured blood pressure monitoring (SMBP) along with support from the clinical team to help people achieve and maintain blood pressure control (Adams &Wright, 2020).

People are less likely to control their blood pressure if they receive care at clinics and primary care practices in low-income areas compared to their higher-income counterparts. This could be for a variety of reasons, including but not limited to clinical factors (i.e., access to care, quality of care), lifestyle behaviors (i.e., healthy foods and exercise) and aspects of the physical and social environment that can lead to increased stress (Shahu et al., 2019, p. 7). Those living in lower-income sites have lower visit adherence than those in higher-income sites; factors that may influence this include access to transportation, social support and health behaviors (Shahu et al., 2019, p. 8).

Project Purpose

The need for improving high blood pressure in Michigan is crucial. My community service project sought to interact with patients at the Hope Clinic in Westland, Michigan to help them take better control of their blood pressure through education and self-management techniques. Prior to the project, while there were face-to-face nursing visits to follow-up on blood pressure, the clinic staff did not provide educational handouts that included how and when

to measure blood pressure, there was minimal provision of a diet guideline for patients to follow, and blood pressure logs and machines were given out at the discretion of the physician. The goal of this project was to increase self-management knowledge for patients with uncontrolled hypertension to achieve better control of their disease. A second goal was to develop a sustainable system that will include ongoing support, which will help address future barriers and allow patients to maintain their changed behavior.

Project Design

The target audience of the project are patients of the Hope Clinic in Westland, Michigan. These patients receive free primary care and are uninsured or under-insured. The patients are a mix of various cultures and nationalities. Patients are 18 years or older. Recruitment of patients was done by searching through patient charts and identifying patients who had uncontrolled hypertension. Patients were then called via telephone to discuss the project and see if they were interested in joining, or I talked to them face-to-face if they were being seen at the clinic while I was there.

Three handouts were created based on recommended guidelines and reviewed with the patient. One is a pamphlet that uses the acronym HEART to provide patients with simple education of how to measure their blood pressure and ways to lead to a healthier heart. HEART stands for: Healthy diet rich in whole grains, fruits, vegetables and low-fat dairy products and low in saturated fat and cholesterol; Exercise regularly- at least 30-60 minutes three times a week and Aim to lose 0.5 to 1 pound per week to maintain a healthy body weight; Accurate blood pressure reading: empty bladder, keep legs uncrossed, support arm at heart level, sit quietly and relax; Remember to take your pills on time; Track your blood pressure in your log every morning and evening. The HEART pamphlet was given to patients during their initial visit. The pamphlet

was created based off recommendations by the American Heart Association (AHA) for ways to control blood pressure. This pamphlet was accompanied by a blood pressure log for the patients to record their blood pressure readings twice a day at home. Lastly, the Dietary Approach to Stop Hypertension (DASH) information was included to educate patients on how to eat a healthy diet. The DASH diet is recommended by the AHA for its effect on lowering blood pressure in people with hypertension. Along with the pamphlets, a blood pressure machine was provided.

An initial face-to-face meeting was had with the participants, where I went through the pamphlets with them, educated them on the proper way to take a blood pressure, and how to interpret the blood pressure reading. An initial blood pressure and weight was entered into their chart. After that, monthly phone calls or in-person visits were used to discuss how they are doing. The blood pressure log was reviewed each time, questions were answered, and education was given as needed, encouragement and motivation was provided to everyone at each meeting.

Project Results

I began recruiting patients in June 2021. I began by looking through charts and calling patients based on eligibility. After calling 23 patients, five were interested. The volunteer nurses were educated on my project, and I let them know to please make this project known to the patients they see, and if the patient seems interested, to write their medical identification number on a sign-up sheet that was left at the nurses' station. At the end of this project, I had stayed in connection with four participants. Some patients were unable to make the monthly meeting due to lack of transportation or inability to take time away from their jobs.

Quantitative data was collected from the four participants with regard to hypertension and weight. Blood pressure and weight data was collected at each meeting, but for this paper I will discuss the pre-intervention and post-intervention results. See table below for results.

Participant #	Pre-Systolic BP	Pre-Diastolic BP	Pre-Weight
1	164	100	253.1
2	164	104	217.8
3	118	53	161
4	158	93	216
Participant #	Post-Systolic BP	Pre-Diastolic BP	Post-Weight
1	142	96	245.9
2	132	80	217.9
3	114	60	154.7
4	137	71	212.6

This community service project was about improving uncontrolled hypertension through self-management education, and even though there were challenges that arose, the overall outcome of this project is pretty positive. One of the main objectives was that all participants involved received the pamphlets and education on ways to improve blood pressure. Another success is that the HEART pamphlet, the DASH diet and blood pressure log will be at the clinic so that nurses can provide future patients with this information. Advocacy of giving blood pressure machines was also made, so now the nurses are more aware that the clinic does have blood pressure machines and they should be given to the patients who need it.

Difficulties encountered mainly involved getting into contact with participants to come to their follow-up visit, or to even answer the phone so that we can discuss their progress. Some of the patients were enthusiastic and excited for the visits, but most of them were not. Some patients wanted to come for the visits but were unable to due to lack of transportation or scheduling difficulties.

Lessons learned

I think the most important lesson that I learned from this community service project is to create a motivational tool or reward for the patients to encourage them to participate in their healthcare. Motivational tools, such as a small gift card to a grocery store, can be used to pay for healthy foods or even their medications. Another thing I became aware of is how lack of transportation can affect one's health. As a nurse and soon to be nurse practitioner, I have to keep in mind not to blame patients for missing their appointment; I have to work together with the patient and think of alternative ways to care for them, such as doing a telehealth visit. Additionally, it is important not to assume anything about a person's situation and to always ask questions- such as medication affordability, dietary habits, recent stressors, etc.

Conclusion

The project's results indicate that patient education can improve blood pressure readings for hypertensive patients. Providing the pamphlets to the patients and having follow-up visits are important aspects to help patients take better control of their health-not just blood pressure. Sustainability of this project will be ensured because the nurses are aware of this project and what is involved, and the site mentor supports and believes in this project. During my years as a registered nurse, I have always been educating patients with high blood pressure in the hospital setting. It is really interesting to see the difference between teaching patients in the hospital versus in the outpatient setting; I feel I have a better relationship with those I see at Hope Clinic because we see them so often and I get to know who they are as a person. I am happy to see how my education opened their eyes to many things regarding their blood pressure, how their blood pressures changed and how they have implemented small changes in their lifestyle that will lead to healthier long-term effects.

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