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Self-engagement to decrease blood pressure readings and decrease non-compliance.

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Self-encouragement/engagement in hypertensive patients

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Executive Summary

Hypertensive patients are the patients that are seen in every aspect of health-care. They are seen in outpatient clinics, home health, in-patient settings, and in home health. Many times these patients have an abundance of education to absorb and many medications to take on a daily basis. The interest of how these patients are engaged in their own health-care and how it affects their blood pressure readings.

Many patients may know that they take a medication for their blood pressure, but they might not remember the name, dosage, or frequency of the medication. When a patient cannot recall their medications, it can be detrimental in how a provider cares for the patient. Providers in the emergency setting are relying solely on the patients recognition of their own health problems and recall of their current medication list. It is believed that patients that are compliant with taking and knowing their medications will have an improved blood pressure than those who are not complaint. Involving patients and educating them on how to improve their blood pressure should include how to remember taking their medication and providing them with more resources.

In a in-patient setting, a chart will be flagged as a hypertensive patient. The designated nurse, after getting consent from them to participate, will get the patient to fill out a specific questionnaire. This is a detailed questionnaire that will ask questions pertaining to their hypertensive diagnosis. This detailed questionnaire will also be filled out in three months. Along with the questionnaire the designated nurse will inform the patient how to properly check their blood pressure and how to document their readings in a log. After the hypertensive patient is discharged, the assigned nurse will call the patient to gather their blood pressure readings and

enter them into a computer log. This will be used for further data input to reveal if self-engagement/encouragement is successful in improving their blood pressure readings. The goal is to encourage self-care engagement and use motivation interviewing. The results will indicate that self-engagement/encouragement will improve blood pressure readings and decrease ER admissions.

Rationale for the Project

According to the American Heart Association (AHA), nearly half of American adults have high blood pressure (American Heart Association [AHA], 2018). The AHA reports that high blood pressure is a major risk for heart disease and stroke. Hypertension is diagnosed by a health care professional and must be monitored throughout a patient's life. Many patients in different clinical settings might have a tendency of not being compliant or involved in their care. This problem is important to nursing practice because noncompliance may lead to further health problems that can be caused by hypertension; strokes for an example. The emergency room is a clinical setting that nurses often encounter patients that cannot recall the name of their antihypertensive medications. The current practice of treating patient's hypertensive medical condition without involving them in their care, will continue with non-compliance. Thus, the PICOT question: In adult hypertensive patients (P), how does formalized encouragement for engagement in self-care (I) compared to no formalized self-encouragement (C) affect the patients' blood pressure readings (O) within a three month timeframe (T)?

Detailed Discussion of the Literature

Numerous studies support how self-engagement/encouragement is important in a hypertensive patients health-care. Johnson et al. (2018) composed a systematic review of controlled studies to help identify if informed shared decision making for hypertension would

overall improve their blood pressure. Six studies, five of which were randomized controlled trails, were used to gather data. A comrade scale was used as well as a Cochrane Effective Practice and Organization of Care (EPOC) risk of bias tool. The average age of participants were 58.5-64.5 years old with a total participants in all the studies combined equaling a total of 1,108. Eleven papers were published from this systematic review, and there was insufficient evidence to recommend how to support shared decision making for high blood pressure (Johnson et al., 2018).

Landry et al. (2015) utilized a randomized controlled trial using motivational interviewing for maintenance of blood pressure progress. 269 participants that were older than eighteen years old and lived in Hattiesburg, MS participated in this trial. This trial used community-engaged interviews and among them 40 percent were married and 75 percent had income less than fifty thousand dollars. The findings included that twenty seven percent did not complete and motivational interviewing calls and seventeen percent did not attend any of the three health fairs. The participants needed more motivation to change their compliance in regard to their blood pressure findings. The end result was that no statically significant difference was noticed in the participants' blood pressure at three months.

Bajorek et al. (2016) conducted a qualitative study in Sydney, Australia to evaluate if the hypertensive patients beliefs and compliance would regulate their blood pressure readings. Eighteen participants were evaluated by using qualitative interviews. Blood pressure checks and telephone interviews were utilized to determine the outcome. The outcome revealed that the participants were positive about the role of and experience of hypertensive management service, however the recruitment process had bias, and there was no statically significant difference in blood pressure in three months.

Silva de Albuquerque et al. (2018) carried out an analytical study that included 270 participants in Northeastern region of Brazil. The design was to investigate the link between follow-up and compliance of antihypertensive medications in hypertensive patients. The average age was 64.8 years old. Only 63 percent of participants were compliant in taking their blood pressure medications as directed and following up as advised. These data showed a need in change in primary care for follow up and discharge guidelines. Funding was provided by the Coordination of the Improvement of Higher Education Personal and the National Council for Scientific and Technological Development.

Resende et al. (2018) used a qualitative, descriptive study to discover how the elderly population have difficulties in complying with hypertensive treatment. Seventeen participants, older than 60, used a semi structured interview script containing both open ended and closed ended questions. The data concluded that the elderly patients reported a decrease in physical activity, fear of drug interactions, and distance all contribute to noncompliance. The limitations include a small group of participants, but the strengths of this data revealed that mental health should be addressed with all elderly patients with hypertension. There was no significant difference in blood pressure readings within the three months.

Bengtsson et al. (2018) used a qualitative study to examine a total of 20 participants to explore hypertensive patients compliance during consultations. Ten participants were audio recorded, while the other ten were video recorded. This took place in four primary care clinics in Sweden. It was concluded that involvement revealed an improvement in overall blood pressure readings. The reported blood pressures indicated that the interactive mobile phone support encouraged the patients to be more involved in their own care.

Simmons et al. (2014) conducted a systematic review on how patient engagement is used a risk factor in personalized health care. More than ten trials were used. Out of those ten, five studies indicated a reduction in clinical blood pressures. Jadad scores were used to evaluate the quality of the studies. Patient activation measure (PAM) scores were used to evaluate the patients' engagement. The studies did not evaluate the assessment of bias. The research was conducted by the Duke Center of Personalized and Precision Medicine and by the Veteran's Health Administration.

Macquart de Terline et al. (2019) carried out a cross- sectional survey to evaluate compliance among hypertensive patients. This study had 2198 participants from twelve African countries. Twenty nine hospitals were used from 17 countries. The participants had to be 18 years old and older with a hypertensive diagnosis. A specific questionnaire was completed by the participants. Compliance to medication was evaluated by the Medication Adherence Scale. A total of 47.8% reported their non-compliance was due to low income secondary to forgetfulness.

Bacha & Abera (2019) conducted a systematic review at St. Paul's Hospital Department of Internal Medicine, Cardiology Outpatient Clinic in Ethiopia. This review was to evaluate knowledge and self-care practice regarding their hypertensive diagnosis. Out of 403 participants, 385 were used. A questionnaire along a face-to-face interview were utilized in this study. The study indicated that only 39.5% had good practice towards control of their hypertension.

Project Stakeholders

The main stakeholders of this project include the following; administration, health-care providers, nursing staff, IT department, and the hypertensive patients. The administration department has to approve the project to be implemented. After getting approval from them, the health-care providers must be on board to take on looking at the data and

reinforcing the education needed on the patients that show non-compliance. Certain nursing staff will be designated to become part of the "hypertensive project" which entails collecting the questionnaires of the flagged hypertensive patients and keeping in contact with them over at three month period. These particular nurses will also be responsible for logging blood pressure readings on these patients. The IT department must be willing to help make a program that will flag the hypertensive patient and if a questionnaire was completed and if education is needed. These hard stops will give the providers insight on how educated the hypertensive patient is. Finally, the patients are stakeholders because it is their health that is being monitored during this project.

Planned Evaluation

Thirty hypertensive patients were randomly selected to conduct a self-engagement/self-encouragement questionnaire. The patient's chart is flagged with a hard stop. This hard stop will say, "Has the patient completed a hypertensive questionnaire ?". If the answer is no, a designated registered nurse will get a consent signed by the patient, to participate in a three-month evaluation. After consent has been obtained, the questionnaire, in appendix A, will be completed. The data will be entered into the "hypertensive project" tab as the pre-questionnaire results. The health-care provider will review the appendix A data and educate the patient and encourage the patient to become more involved in their hypertensive care.

After the pre-questionnaire is completed and entered, the patient will be educated on how to accurately check his/her blood pressure. Then the designated RN will give the patient a paper blood pressure log, as demonstrated in Appendix B. This log will be used after discharge from in patient. The RN will obtain the patients phone number and be contacting them monthly to acquire their blood pressure log and enter them in the "hypertensive team" computer tab.

After the three months has been completed and all the blood pressure readings have been logged in the “hypertensive project” tab, the patients will complete a post-questionnaire (which is the same as the pre-questionnaire). A comparison graph will be made to show if self-engagement/encouragement decreased BP readings and if the patients feel successful in completing this project.

Timetable

In January 2020, this project was introduced to the department manager to be approved. After approval for the project, 30 hypertensive patients were randomly selected, and consent was obtained. These patients were notified that their blood pressure readings and demographics would be used in a published article, this article/paper. A designated nurse was assigned to give the questionnaires and follow up with patients over a three-month period. Education was provided by the health-care provider and the blood pressure paper logs were given to the participants.

By the end of the February 2020, only ten participants wanted to stay in the hypertensive program.. Some of the reasons for not wanting to complete the study included the following: doesn’t have blood pressure machines, forgot to log blood pressure readings, never answer the phone. The designated nurse continued to log bp readings from the remaining ten participants. Self-engagement was constantly encouraged during the phone-calls after gathering their BP readings.

In early March 2020, the remaining ten participants were still logging blood pressure readings. If patients had concerns regarding their antihypertensive medications, education was provided. If their questions/concerns were more specific, then they were referred to their primary care provider.

In early April 2020, the post questionnaire was given to the remaining ten participants. The designated nurse logged in the blood pressure readings and compared the pre and post questionnaires, Appendix C. Appendix D reveals the timeline of participants from beginning to end.

Data Collection Method

The information collected to know if this project was successful took place in two phases. The first phase were the questionnaires, both pre and post. In the middle of January 2020, the pre-questionnaire was a survey that each patient took prior to their self-engagement and monitoring their blood pressure in their log. In early April 2020, the post-questionnaire revealed that the patients felt as if they were more involved in their hypertensive diagnosis and in their own health-care. The post-questionnaire revealed a more compliant patient then the pre-questionnaire patient.

The second phase of data collection includes the blood pressure logs. The designated nurse was calling the participants every 2 weeks to gather their blood pressure readings. Some participants faxed their blood pressure logs to 903-577-6288, some took a picture of their log and sent it to 903-491-1117, and some verbally gave their blood pressure readings over the phone encounter.

In April 2020, the information collected in the interviewing survey (questionnaire), and their actual blood pressure readings are the information needed to evaluate effectiveness of self-engagement/encouragement int their hypertensive diagnosis. Appendix C compares the pre and post questionnaire, qualitative data. The health care provider is able to view the individual participants questionnaire results and blood pressure readings results under the “hypertensive project” tab.

Costs/Benefits

This hypertensive project to help patients become more self-engaged and self-involved will not only benefit the patient's health outcomes but the health-care systems in the long run. The evidence reveals that the patients personally feel that since they are monitoring their blood pressures and compliant with their health regime, their blood pressures have significantly improved. According to Matthew Michaels (2018) an average hospital stay for a hypertensive crisis is around $10,000. During the course of the three months, the remaining ten participants did not need to seek emergency care. Also during the course of the three months, none of the ten participants reported an eventful event, such as a stroke or hypertensive crisis. The average cost of educating three designated RNs for this project, approximately four hours, is around $360. The paper copies needed for consents, pre and post questionnaires and blood pressure logs, was around $40. IT involvement cost was around $300. The nurses completing the phone calls and bp logs estimates to around $1200 for the three months total. The entire project estimates at $1,900.

This project will lead to saving the patient ER admission's cost, Medicare/Medicaid costs, and overall improvement in the patients satisfactory in their health. Hypertension takes a lot of education and self-encouragement in order to be compliant. This project was aimed to improve their health and decrease ER admissions.

Overall Discussion/Results

Out of the 30 participants, only 10 completed the three month project. The unexpected barrier were the participants that dropped out. Many of the patients that decided not to complete the three months had explained excuses. This project revealed that the patients that did complete the project felt a sense of accomplishment. They were enthusiastic of their blood pressure readings over the course of three months. This project reveals that non-compliance will always

be an health issue no matter how involved the health-care provider tries to be involved. It is ultimately up to the patient to want to comply and be involved in self-engagement. Appendix D reveals that more than 50 percent of the participants dropped out of the project. Appendix C reveals that there was an increase patient satisfaction in the remaining ten participants.

The findings of this study show that self-engagement will improve blood pressure readings. However, the participant must want to be involved or the achieved result will not be accomplished. Ultimately, this project enhances the patients' right not to be involved in their hypertensive diagnosis if they choose so.

Recommendations

I recommend for my project to be overlooked by the health-care providers so they can input their ideologies on how to get more self-engagement/involvement in hypertensive patients. Education has been the core of many nurses in all settings. Getting the patient to actually want to engage is up to them. Another recommendation is to have another nurse follow up on the participants that dropped out. It would have been interesting to evaluate if they had any complications, such as an ER visit due to hypertension. I recommend personally as a future MSN to always engage in what the patient is able to learn and respect their wishes. I would recommend the facility to participate in some kind of hypertensive program as the one I have implemented. I would recommend for my colleagues to also encourage all patients, not just hypertensive patients, to be more involved in their health and diagnosis.

Appendix A

Pre-Questionnaire & Post-Questionnaire

Question	1 Not at all confident	2 Neutral	3 Extremely confident
Do you know the name of your antihypertensive medications?			
Do you know the milligrams of your medications?			
DO you know the possible side effects of your medications?			
Do you understand what hypertension is?			
Do you feel like you are involved in your care with your healthcare treatment?			

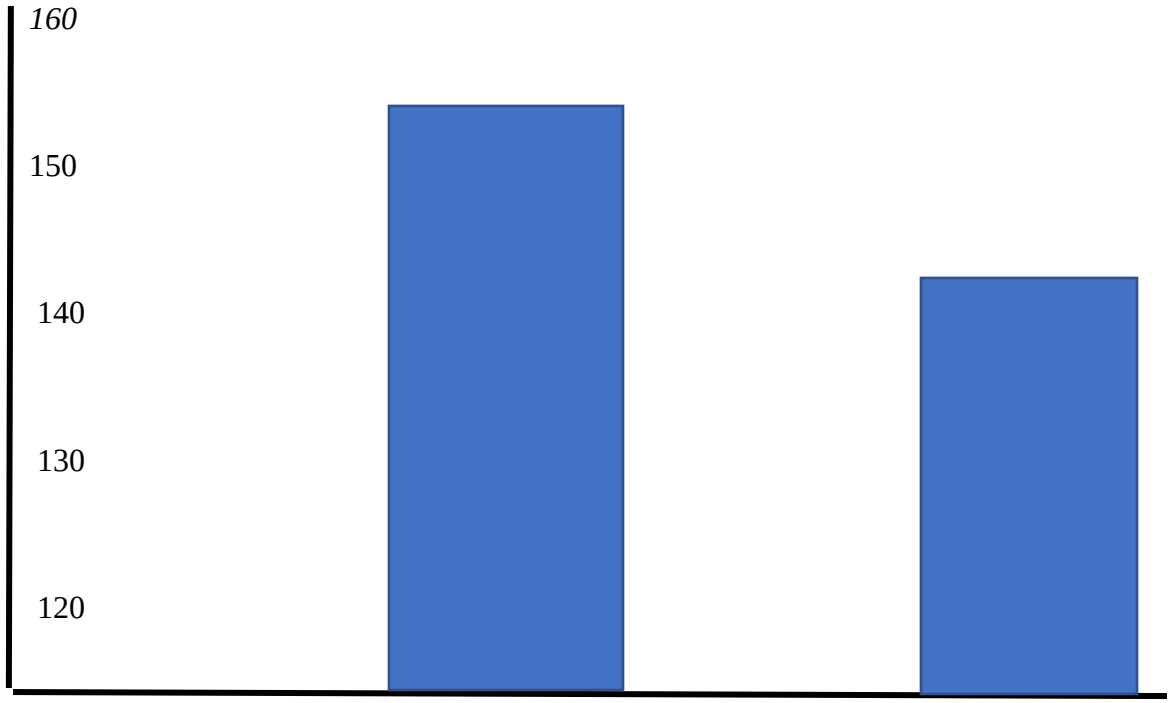
Appendix B

Blood pressure logs

Date:	BP- AM reading ____/____	BP-PM reading ____/____

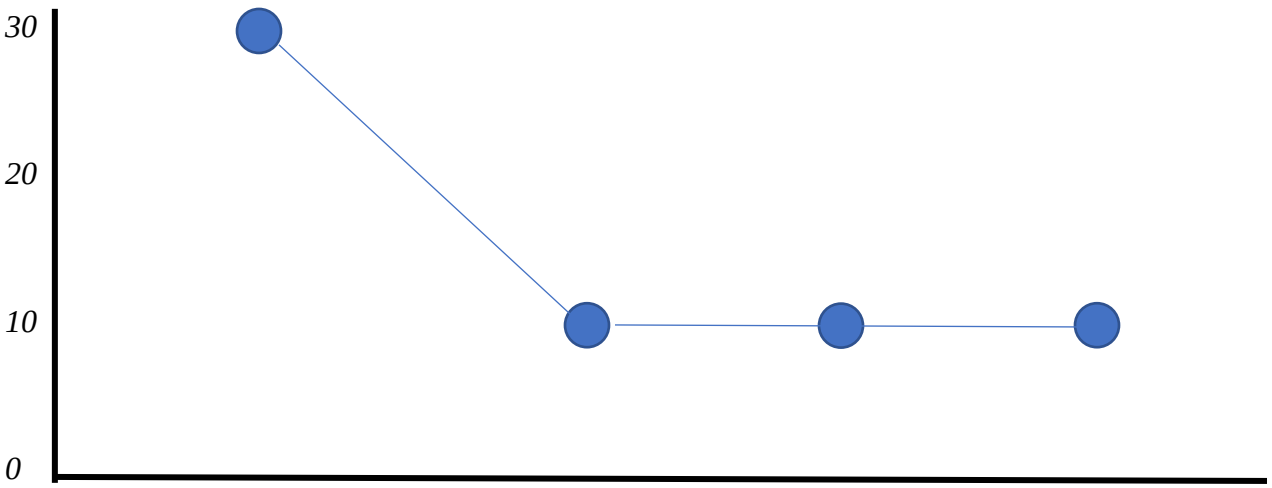
Appendix C

Blood pressure readings pre and post questionnaires



Appendix D

Participants involvement



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