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### Non-physician Led Hypertension Management

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Non-Physician Led Hypertension Management

A Paper Submitted in Partial Fulfillment of the Requirements

For NURS 5382

In the School of Nursing

The University of Texas at Tyler

by

Poupak Moshayedi

August 14, 2020

### Executive Summary

Hypertension remains to be the most common modifiable cardiovascular risk factor worldwide. With over 6 million adults being affected with this condition in United States, it seems of worthy effort to try different approaches in reducing the number of uncontrolled hypertensive patients. There are many classes of antihypertensive medication and many proven lifestyle changes that can effectively help in controlling blood pressure ([www.aha.org](http://www.aha.org)). Yet only 24 percent of patients have their condition under control ([www.cdc.gov](http://www.cdc.gov)). Many patients are not on appropriate doses of medication or take their medicine as its been prescribed. New guidelines have even reduced the BP threshold from 14/90 to 130/80 and five points drop in systolic blood pressure translated to years of increased longevity it is a meaningful reduction (Angeli et al., 2019). There is a gap between the knowledge we have with hypertension management and what is happening in patients' daily lives. The goal of this project is to provide an opportunity for allied healthcare workers such as nurses to play a bigger part in managing hypertensive patients under the supervision of a licensed practitioner, and to fill this gap.

Task sharing strategies will help patients be more involved and invested in having better controlled blood pressures. Anand et al. (2019) in a meta-analysis saw five point reduction in systolic blood pressure when task sharing was implemented. With more frequent measurements and follow up visits, patients tend to become more aware of the importance of medication adherence and the positive outcome of controlled blood pressure. Although this project was implemented during the pandemic of COVID-19 with very limited face to face access to the patients, it did show positive results in self reporting blood pressure measurements in patients who participated in frequent and more detailed phone call training and discussions on blood pressure management.

## Non-physician Led Hypertension Management

### **Information about the Project**

Nurses are a crucial part of the healthcare system and their involvement in managing hypertensive patients in an outpatient setting proves to be effective in controlling this illness better than the traditional physician only style. Management in this regard is refereed to reviewing patient's medication lists, lifestyle recommendations, encouraging compliance, reviewing daily logs and providing resources and discussions on effects of hypertension, and ways that patients can feel empowered in controlling this illness. Providing feedback to the physicians on patients condition and response is another valuable factor that can be helpful in controlling blood pressure.

### **Rationale for the Project**

Hypertension remains to be one of the most common risk factors for cardiovascular disease and only 24percent of patients have their condition under control ([www.cdc.gov](http://www.cdc.gov)). The physician focus on the management of this condition is not meeting the needs of the population with limited time during visits and long span between clinic visits, patients lose focus on the importance of this condition. Nursing follow ups and emphasize on the management of hypertension could help meet the much-needed attention to the significance of this disease. Task sharing models have been tried in many settings and show positive results in the management of hypertension. Using tele medicine and contacting patients by phone or messaging is one way to keep the patients engaged in their well-being (Dandge, Jeemon, & Reddy, 2019).

Task sharing strategies can help improve hypertension management. This approach was tested in an outpatient clinic during COVID-19 pandemic and with limited face to face

interaction with patients. Thus, the PICOT question: In adults with hypertension (P) how does non-physician driven medication support (I) compared to usual care (C) affect patient's blood pressure (O) in eight weeks(T)?

### **Goals**

Melnik and Fineout-Overholt (2015) describe the goal of a project as an essential part of the change (p. 316). The goal of this project was to achieve better blood pressure control and close the gap between recommended guidelines numbers and patients' experiences. More specifically, five points reduction of baseline systolic blood pressure, and lifestyle modification or awareness. To do so, it was deemed important to achieve two purposes. First, it was essential for program participants to be on correct dosage of medication regularly and be encouraged about lifestyle changes. Secondly, follow ups are scheduled to happen on regular intervals per participants preference. Home blood pressure measurements, weight, exercise time, sleep time, compliance count will be captured on a weekly basis, by a phone contact and patients report.

### **Detailed Discussion of the Literature**

Several studies support the need for a task sharing strategies when faced with chronic conditions such as hypertension. They show better control and more engagement of the patients in controlling their condition. Effective leadership can be manifested in different ways, and it positively impacts many facets of the health care delivery system. The studies referenced below, and many others support the positive effect of allied health care being more involved in managing hypertension and helping patients reach better goals regarding their blood pressure.

As Persell et al. (2018) noted complex medication regimens poses a challenge to patients in staying compliant. Their study showed that using electronic medical records by patients increased medication knowledge but by itself did not lower systolic blood pressure in 12-month

study. On the other hand, meta-analysis by Anand et al. (2019) revealed a 5.34 mmHg reduction in systolic blood pressure in the task-sharing group compared to the usual care.

An approach, like task sharing is evaluated by Proia et al. (2014). In this study a team based was used to manage hypertension and resulted in improve systolic and diastolic blood pressure in the cohort. Proia et al. (2014) notes that team-based care provided an opportunity for patients to be more involved and the care be more individualized to the patients need and preference. The need for more allied health professional's involvement with managing chronic disease has been studied numerously. Houle, Chatterley, and Tsuyuki, (2014) investigated a multidisciplinary approach and concluded where there are others involved specially pharmacist, managing chronic conditions such as hypertension becomes more achievable.

Non-physician health workers involvement in managing hypertension in a study done by Dandge, Jeemon, and Reddy (2019) in a group of 1751 patients also showed 12 percent reduction in systolic blood pressure. Comparable to other studies a group involvement helps managing blood pressure better than usual care

### **Project Stakeholders**

Pandi-Perumal et al. (2015) have stated involving all parties in a change is a key to the success of a change. In this regard the nurses, patients, providers will all be affected by a change with more frequent follow ups, more monitoring, logging BP measurements and other data by the patient. Having a clear understanding of the thought process behind this activity is the key for it to work.

The patients and their families are the ultimate stakeholder in this change. Reducing number of complications and living a healthier lifestyle will cause more productive members in our society, save healthcare resources, and fulfill healthcare goal of providing benefit to the

people they serve. Preventing even a single case of stroke in our community is priceless in the eyes of many healthcare workers.

### **Outcomes to be Measured**

This project compares the self-reporting measurements of systolic and diastolic blood pressure in uncontrolled hypertensive patients during the eight weeks of intervention. It also gathers information about medication compliance, weight changes, sleep hours, exercise habits, and healthy eating.

### **Evaluation Design**

The program was supported by medical director and clinic manager. Due to COVID 19 restrictions only one two registered nurses (RNs) and five patients were evaluated by this new approach. The intervention consisted of weekly follow up calls for eight weeks and logging of different data points by patients. Patients were provided with logs in the beginning of the intervention and were asked to complete the info and nurses were updated on the progress of the management by weekly phone calls. The average of the readings at the end of eight weeks were compared to the baseline represented in Appendix A.

### **Timetable/Flowchart**

In March 2020, project was presented in a meeting of department director and the administrative team suggesting the change in nurses' involvement with hypertension management. A proposal was offered to initiate training program for the two nurses involved in April and to decide on patients that would best benefit from this extra intervention. Meeting done by Teams video calls due to COVID 19 pandemic.

Due to COVID pandemic and limited access to clinic by staff and patients only five patients were contacted to participate in this change. They were contacted based on their medication regimen and blood pressure readings. Selection completed in May 2020. The eight-week intervention with weekly phone calls started in June and continued for eight weeks till Beginning of August 2020. A comparison was then be made by the medical director and nurses to evaluate the effect of the change.

### **Data Collection Methods**

The data was collected by self-report measurements completed by patients during weekly phone calls. Patients were instructed to log their blood pressure daily and to either email or read out the data on a weekly based to the participating RNs.

### **Evaluation Discussion**

Five patients were included in this project and average blood pressure readings were compared during the eight weeks of nursing intervention. The change in systolic blood pressure was on average 3 mmHg across the five patients. Showing a positive signal that intervention could be positive with more face to face and more patient involvement. The measurements were done at home so not on a standard environment and with different machines.

### **Costs/Benefits**

As reflective in Healthy People 2020 objectives controlling blood pressure is one of the priorities. It is costing the health care billions of dollars (Prior et al., 2019). The cost of nurse led intervention in this project was an extra hour of weekly phone calls and extra hour of administrative work for per five patients. This will conclude to \$640 in eight weeks. The benefit of reducing complications of hypertension will echo down the line to healthcare resources saving

and would benefit the community in general and the patients affected by hypertension specifically.

### **Conclusion**

The importance of controlling and better management of hypertension cannot be overemphasized, and the need for task sharing and multidisciplinary approach has never been more significant than in chronic conditions like hypertension. With many complications that it causes and with the many classes of drugs that we have in controlling blood pressure, having only 24 percent of people being controlled shows a break in knowledge and patient care. The gap can be filled with nurse involvement and taking more ownership and responsibility in tackling high numbers with interventions that are proven to work. Getting patients involved and following up with them is one of the tools that nurses can use in brining light to the problem. Leaving patients without control and follow up visits every six months can cause people suffering with complications and being okay with numbers that are not near guidelines recommendations. Controlling hypertension is a rewarding task and one that will cause healthier life for many people and financially healthier system for all.

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## Appendix A

	1 Average BP change	2 Meds	3 Exercise time	4 Sleep time	5 Weight change
1. Patient 1	5mmhg	ACEI/ Ca Channel	20 Min daily	5 hrs	-2lbs
2. Patient 2	-3mmHg	HCTZ	15 min daily	6hrs	Not available
3. Patients 3	10mmHg	BB	15 min daily	5hrs	Not available
4. Patient 4	-5mmHg	ACEI/HCTZ	30 min daily	8 hrs	3 lbs
5. Patient 5	-10mmHg	ACEI/HCTZ/Ca Channel	30 min daily walk	8 hrs	Not available