IMPROVING ANTIHYPERTENSIVE MEDICATION EDUCATION IN A RURAL CLINIC

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INTRODUCTION

HYPERTENSION STATISTICS:

- Almost 1 in 3 U.S. Adults has hypertension (Centers for Disease Control and Prevention, 2012)
- Hypertension increases risk of heart failure, strokes, and kidney failure (World Health Organization [WHO], 2013)
- Over 35 million Americans have uncontrolled blood pressure (WHO, 2013)

• LITERATURE REVIEW

- Medication education, increasing patient knowledge, and behavioral interventions were all shown in the literature to be effective at improving blood pressure (Conn, 2009; Glynn, et al., 2010)
- Medication education improved blood pressure control (Glynn et al., 2010)
- Hypertension and medication education improved medication adherence (Demonceau et al., 2013)
- Patients with hypertension knowledge were more likely to have controlled blood pressure (Prugger et al., 2011 & DeVore, 2010).
- Medication reminders improved medication adherence (Conn et al., 2009)

• PICOT

- In a rural clinic with one family nurse practitioner (P), how does education to the provider with implementation of an antihypertensive medication education brief (I) compared to the provider's standard hypertension medication education (C) affect written anti-hypertensive medication education (O) over 3 months (T).
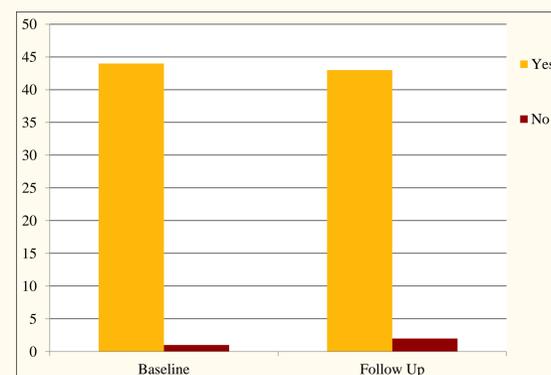
• OBJECTIVES

- The antihypertensive medication education brief will be given to at least 50% of the patients seen for hypertension by January 31, 2017.
- Medication reconciliation will continue to be above 90% for all patients seen for hypertension by January 31, 2017.
- Verbal hypertension medication education documentation will increase by 10% in patients seen for hypertension by January 31, 2017.

MATERIALS AND METHODS

- Implemented in a small rural clinic in Missouri
- Educated one nurse practitioner and staff about verbal and written hypertension education and a medication education brief
- Patients with hypertension were educated about hypertension, antihypertensive medications, and given the medication education brief during their appointment
- A calendar was attached to the medication education brief that patients could utilize as a medication reminder by marking off the date after the patient takes the medication.
- A chart review before and after project implementation was utilized to gather the data.
- 45 charts were reviewed before project implementation and 45 charts were reviewed after project implementation
- Convenience and purposive sampling was used

RESULTS

- All 90 subjects were included in the data analysis
- Age
  - Mean age for the baseline group was 61.7 years
  - Mean age for the follow up group was 60.9 years
  - No statistical difference between the baseline and follow up groups, $t(90) = .302$, $p = .76$, 95% CI [-4.33, 5.89]
- Sex
  - Predominantly male (53.3%, $n = 48$) and 46.7% female ($n = 42$)
  - No significant difference between the baseline and follow up groups, $\chi^2 (1) = 0.179$, $p = .67$
- Race
  - Predominantly white (98.9%, $n = 89$), with one participant being some other race (1.1%, $n = 1$)
  - No significant difference between the baseline and follow up groups, $\chi^2 (1) = 1.011$, $p = .32$
- Insurance
  - Baseline group was predominantly government aid (48.8%, $n = 22$), with 42.2% private insurance ($n = 19$), and 8.8% of participants had no insurance ($n = 4$)
  - Follow up group was 44.4% government aid ($n = 20$), 44.4% private insurance (n=20), and 11.2% of follow up participants had no insurance ($n = 5$)
  - No significant difference between the baseline and follow up groups, $\chi^2 (1) = .232$, $p = .89$
- Antihypertensive Medications
  - Median number of antihypertensive medications was 1 for both groups
  - No statistical or clinical difference between the baseline and follow up groups, $t(88) = .220$, $p = .83$, 95% CI [-.358, .447], $d = .1$

Medication Reconciliation
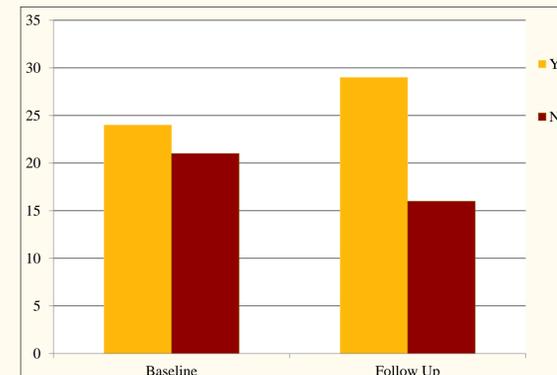
Verbal Antihypertensive Education

RESULTS

- Objective 1: **Met**
  - Written hypertensive education increased from 0% at baseline to 57.8% at follow up, which was statistically and clinically significant, $\chi^2 (1) = 36.563$, $p = .00$, $\Phi = .6$.
  - The provider was three times more likely to give written hypertensive education after the intervention, OR = 3.37, 95% CI [2.31, 4.91].
- Objective 2: **Met**
  - Medication reconciliation for baseline data was 98%
  - Medication reconciliation for follow up data was 96%
  - No significant difference between baseline and follow up groups, $\chi^2 (1) = .345$, $p = .56$
- Objective 3: **Met**
  - Verbal medication education increased from 53% of participants in baseline data to 64% for follow up data.
  - No significant difference between baseline and follow up data, but a small clinical significance, $\chi^2 (1) = 1.147$, $p = .28$, $\Phi = .1$
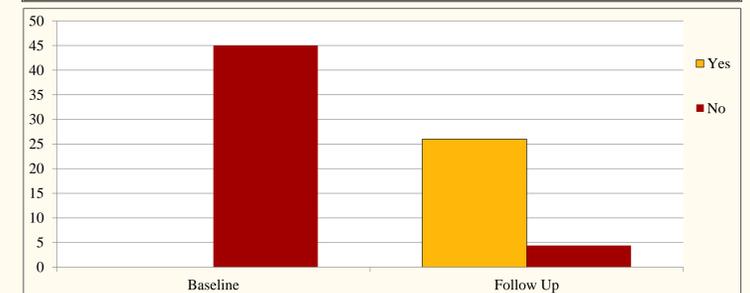
Written Antihypertensive Education

CONCLUSIONS

- Both verbal and written antihypertensive education clinically improved after the project was implemented.
- The provider was more likely to give both verbal and written antihypertensive medication education after project implementation.
- Recommendation to continue the antihypertensive medication education brief in the clinic.
- Recommendation to distribute the education and antihypertensive medication education brief to other clinics and provide staff and provider education.

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