BLOOD PRESSURE CONTROL IN HYPERTENSIVE PATIENTS ENROLLED IN A RURAL OUTPATIENT SETTING

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BACKGROUND

- Hypertension is a common cardiovascular risk factor worldwide
- While treatment of hypertension has been shown to prevent cardiovascular diseases and to extend and enhance life, hypertension remains inadequately managed everywhere
- Lack of data, limited national resources, and the lack of prediction models in certain populations contribute to the major challenges of primary and secondary prevention in patients who are at risk or have hypertension.
- A critical component of hypertension management is to facilitate sustained access of affected individuals to effective clinical services.

OBJECTIVES

- To determine the prevalence of patients with hypertension enrolled at a rural medical outpatient clinic
- Among the hypertensive patients, determine the prevalence rate of those with adequately controlled blood pressure
- To identify characteristics of hypertensive patients that may be associated with blood pressure control

METHODS

- A retrospective chart review was conducted of all medical outpatient files at the Yala Sub-County Hospital
- Non-pregnant patients aged 18 years and over identified with a diagnosis of hypertension met the inclusion criteria for the study
- Upon thorough review of each chart, patients not previously or actively followed* in the medical outpatient clinic or those with missing data of interest were excluded from the study
YALA SUB-COUNTY HOSPITAL'S MEDICAL RECORDS OFFICE

Filed and reviewed medical outpatient charts (n=709)

Patients with diagnosis of hypertension (n=227):
- Missing age
- Missing BP recordings
- ≤1 documented outpatient clinic visit

Patients Excluded (n=88):
- Missing age
- Missing BP recordings
- ≤1 documented outpatient clinic visit

Patients included in data entry (n=139):

Patients included in data analysis (n=136):

Patients Excluded (n=88):
- Incorrect data entry

SELECTION OF STUDY POPULATION

Primary Outcome
- Optimal blood pressure control as defined by the Joint National Committee (JNC) 7 hypertension guidelines
  - For patients >50 years of age, SBP <140 mmHg and DBP <90 mmHg
  - In patient with hypertension and diabetes or renal disease, BP goal is <130/80

Secondary Outcome
- Correlation between specified variables (i.e. sex, age, number of clinic visits, etc.) and blood pressure control in hypertensive patients

OUTCOMES

RESULTS

All statistical analyses were conducted via Microsoft Excel software

Chi-squared tests and t-tests were performed to assess for bivariate associations between specific characteristics of the study population (i.e. comorbidities and mean age, respectively) and blood pressure control

ANALYSIS

OVERALL PREVALENCE OF HYPERTENSIVE PATIENTS

Total Medical Outpatient Files, N=709
- Non-hypertensive patients
- Hypertensive patients

Patients diagnosed with hypertension

2010 2011 2012 2013 2014

0 10 20 30 40 50 60 70 80 90 100

32% 68%
OVERALL PREVALENCE OF HYPERTENSIVE PATIENTS WITH ADEQUATELY CONTROLLED BLOOD PRESSURE*

Study Population, N=136

- Controlled, N=42
- Uncontrolled, N=94

RESULTS

- Mean age of hypertensive patients (p-value= 0.40)
  - Adequately controlled= 60
  - Poorly controlled= 62
- Majority of both adequately controlled and poorly controlled hypertensive patients, 60% and 53% respectively, have no comorbidities (p-value=0.40)*
- 19% of hypertensive patients with adequately controlled BP also had diabetes vs. 31% of hypertensive patients with poorly controlled BP (p-value=0.19)
- Majority of hypertensive patients were on 2 or more antihypertensive medications
- 62% of well-controlled hypertensive patients vs. 48% of poorly controlled hypertensive patients (p-value=0.16)

DISCUSSION/RECOMMENDATIONS

- Evaluating patients with documented hypertension:
  1. Assess lifestyle and identify other cardiovascular risk factors or concomitant disorders that may affect prognosis and guide treatment
  2. Search for identifiable causes of high BP
  3. Assess for the presence or absence of target organ damage and CVD
New hypertension guidelines released by JNC 8 in December 2013
- BP <150/90 mm Hg for patients 60 years or older without diabetes or chronic kidney disease (CKD)
- BP <140/90 mm Hg for patients 18-59 years of age without major comorbidities, 60 years or older with diabetes and/or CKD

DISCUSSION/RECOMMENDATIONS

- Small sample size
- Recall bias secondary to relying on accuracy of written record of individuals
- Limited capability of statistical analyses
- Cannot determine directionality of associations (i.e. cause and effect)
- Difficult to control bias and confounders
  - No randomization, no blinding

LIMITATIONS

- Hypertension remains one of the most important preventable contributors to disease and death.
- At Yala Sub-County Hospital, almost 1/3 of all patients in the medical outpatient clinic have documented hypertension
- Out of those with hypertension, only about 1/3 are adequately controlled
- There are hypertension guidelines to help physicians manage hypertensive patients

TAKE HOME POINTS

- Dr. Oginga – site mentor
- Members of the Yala Sub-County Hospital workforce
- Dr. Owiti – academic mentor
- GE/NMF

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