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Apr 12th, 9:00 AM - 2:30 PM

Identifying Multiple Risk Factors of Hypertension For Reducing The Prevalence of Peripheral Arterial Disease in Rural Central Appalachia

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IDENTIFYING MULTIPLE RISK FACTORS OF HYPERTENSION FOR REDUCING THE PREVALENCE OF PERIPHERAL ARTERIAL DISEASE IN RURAL CENTRAL APPALACHIA FROM 2008 TO 2018

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Introduction

- Hypertension occurs when there is persistent increase in the pressure of blood vessels in the body
- Hypertension is a major risk factor for Peripheral Artery Disease (PAD).
- PAD affects 8.5 million people nationally and 12 – 20% of these people are 60 years and above
- 32.2% of the US population is diagnosed with hypertension while 38.7% of Tennesseans have hypertension

Objectives

- This study examined the multiple risk factors of hypertension in patients with PAD within Central Appalachia.

Method

- The study population consists of patients diagnosed with PAD in a large health system in Central Appalachia from 2008 to 2018
- 13,455 patients with PAD was extracted from Electronic Medical Records (EMR) system using ICD- 9 and ICD-10 codes.
- Using descriptive statistics with the Statistical Package for Social Sciences (SPSS) version 24, we performed multivariable logistic regression to assess the association between risk factors of hypertension in male and female PAD patients.

Conclusions

- Controlling diabetes and myocardial infarction will have the greatest impact in reducing the likelihood of hypertension in PAD patients.
- This will lead to decreased morbidity and mortality in patients with PAD.

Acknowledgement

A big thank you to faculty members and Ballad Health (Wellmont CVA heart Institute) for their support

Results

Figure 1: Bar chart showing prevalence of hypertension in patients with PAD having other comorbidities in Central Appalachia

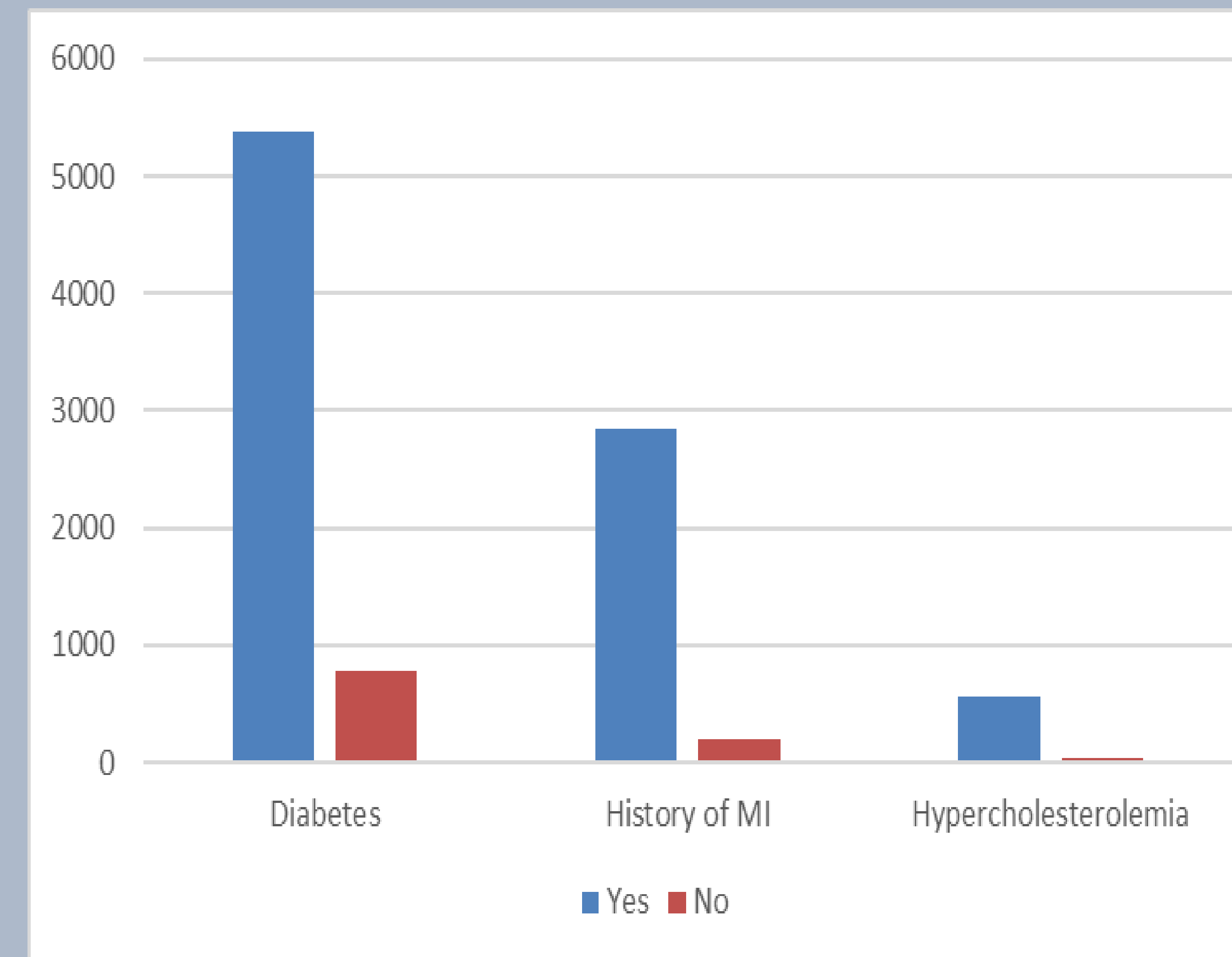


Table 1. Independent T-Test for comorbidities present in hypertensive individuals with PAD in Central Appalachia

Comorbidities	P-value	Mean Diff	Std. Error	95% CI
Age	0.00	-4.09	0.27	-4.62 to -3.56
BMI	0.01	-4.71	1.79	-8.22 to -1.21
Hypercholesterolemia	0.00	-0.04	0.00	-0.05 to -0.04
Smoking Status	0.00	0.28	0.02	0.25 to 0.31
DM	0.00	-0.23	0.01	-0.25 to -0.21
History of MI	0.00	-0.20	0.01	-0.21 to -0.18

Table 2. Logistic Regression table showing significant values of risk factors for hypertensive individuals with PAD in Central Appalachia

Risk Factors/ Parameters	History of MI			Male		Female				DM			
	BMI	Sig. other	DM	MI	DM	BMI	Sig. Other	MI	DM	BMI	Female	Sig. Other	MI
P value	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.01	0.00
Odds Ratio (O.R)	1.06	0.37	2.80	3.86	2.63	1.12	0.09	5.41	3.20	1.08	0.59	0.29	4.50
95% C. I	1.03 to 1.10	0.16 to 0.85	1.75 to 4.49	1.61 to 9.21	1.43 to 4.83	1.06 to 1.18	0.02 to 0.61	1.80 to 16.21	1.60 to 6.41	1.03 to 1.13	0.36 to 0.95	0.12 to 0.73	1.99 to 10.22