ORTHOSTATIC HYPOTENSION IN THE ELDERLY

Landrum, South Carolina
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The wonderful patients of Drs. Walter, Duran, Padgett, and Bridges

What is orthostatic hypotension?

- The American Autonomic Society (AAS) and the American Academy of Neurology (AAN) define orthostatic hypotension as a systolic blood pressure decrease of at least 20 mm Hg or a diastolic blood pressure decrease of at least 10 mm Hg within three minutes of standing.

- Orthostatic hypotension can be classified as neurogenic, non-neurogenic, or iatrogenic (caused by medication).

Why is orthostatic hypotension important to us?

- Studies have found a prevalence of orthostatic hypotension of approximately 20% among individuals over 65 years of age and of 30% among those over 75 years of age. Of the patients over 65 years of age at the Landrum practice selected for this project, 25% were found to have orthostatic hypotension.

- A common problem among the elderly associated with significant morbidity and mortality; may be caused by medications, cumulative effects of age- and hypertension-related changes in blood pressure regulation, or diseases that impair autonomic function.

- Symptoms include headache, neck pain, blurring or loss of vision, dizziness, weakness, lightheadedness, confusion, falling, or syncope.

Aim

- SRHC of Landrum will screen for symptoms of orthostatic hypotension in patients over 65 years of age who are taking multiple medications.
- The practice will also record orthostatic blood pressures at each visit for this patient population regardless of symptoms.

The practice supports this aim as evidenced by a continued under-diagnosis of orthostatic hypotension in the elderly according to its physicians. They desire to better identify patients with the condition in order to prevent falls and their sequellae.

Measures

- Number of patients over 65 years of age on multiple medications who were screened for symptoms of orthostatic hypotension.
- Number of patients in this population who were found to have orthostatic hypotension by blood pressure measurements.
- Correlate initial orthostatic blood pressures with patient symptoms.

Possible Changes for Improvement

- Identify orthostatic patients before symptoms develop or before patients experience falls and resultant injury.
- Decrease morbidity and mortality from falls and accidents caused by orthostatic hypotension among the elderly.

Drivers: -Growing elderly population and need for geriatric preventative medicine
-Physicians concern for the number of undiagnosed patients
-Willingness of patients to take extra time for screening
-Orthostatic hypotension is associated with a significant morbidity and mortality

Barriers: -Most patient visits are unrelated to symptoms of orthostatic hypotension
-More time is required during patient's visit by the physician
-More work required for nurses to screen for appropriate subjects

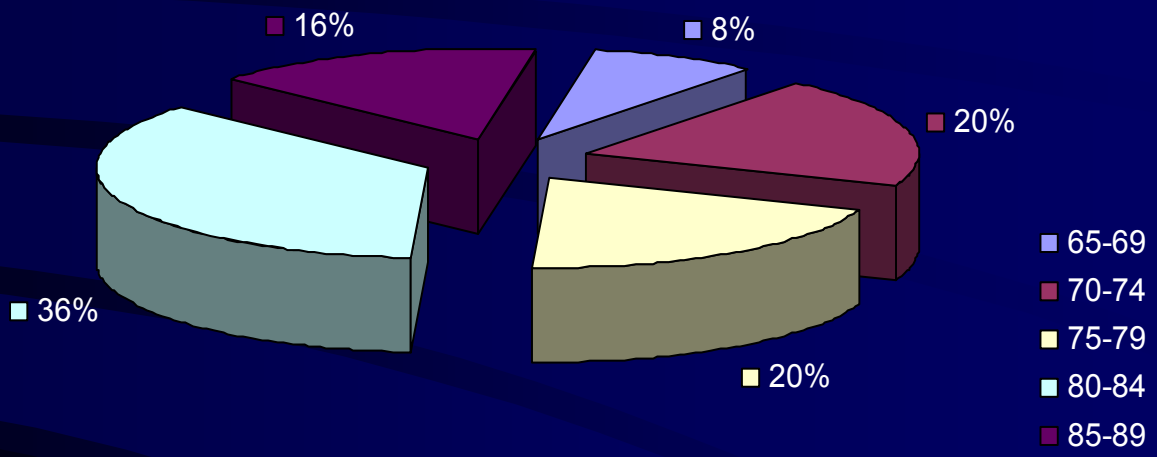
Plan / Do

- Observe the frequency of screening patients for orthostatic hypotension in the practice, which includes screening for symptoms and recording orthostatic blood pressures.
- Develop a strategy for screening of elderly population above 65 years of age on multiple medications.
  - Determine prevalence of orthostatic hypotension in this population over a one week period and relate with presence or absence of symptoms:
    - Headache
    - Blurred vision
    - Dizziness
    - Lightheadedness
    - Falling
    - Syncope

Plan / Do

- Discussed screening strategy with Dr. Walter, who helped develop the method for screening of patients for symptoms of orthostatic hypotension by nurses.
    - Nurses ask about symptoms upon standing abruptly of 1)dizziness/lightheadedness, 2)headache, 3)blurred vision, 4)falling.
    - I take and record patient blood pressures after lying down for 5 minutes and after standing for 1 and 3 minutes.
- Discussed screening symptoms with nurses for those patients fitting the study profile.
- Discussed with patients particular symptoms to identify for future office visits.
- Observed the frequency of screening of patients fitting the study profile by reviewing patient charts each day.

Age Distribution of Patients Screened

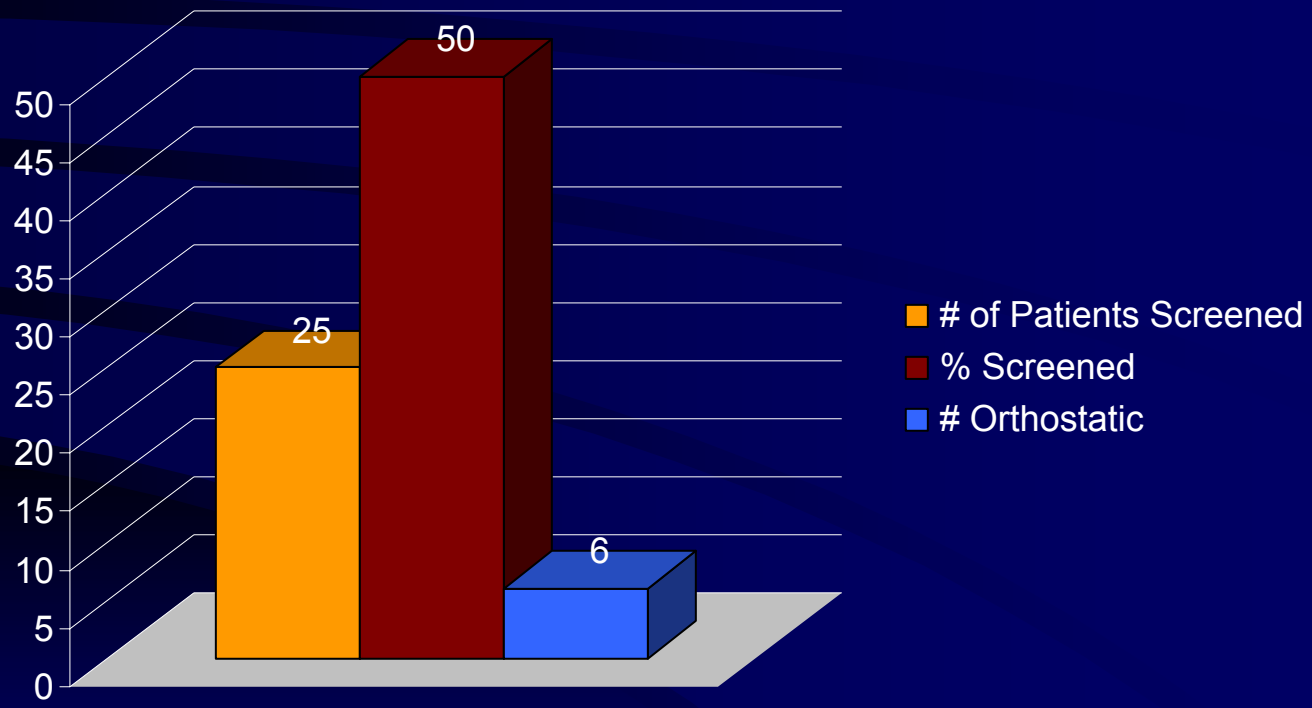


Total patients: 25

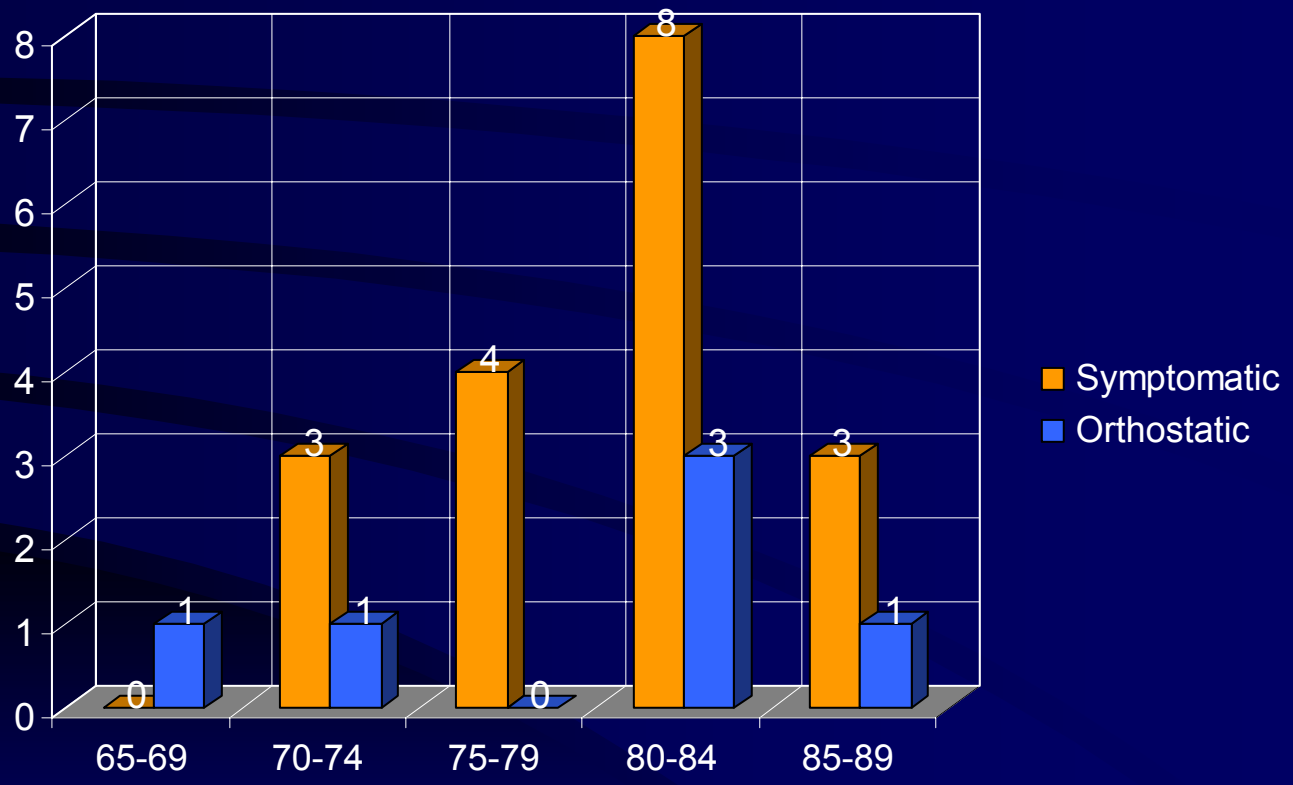
Symptom Screening Results for Patient Population By Age Group

	65-69	70-74	75-79	80-84	85-89	All patients
Headache	0	2	3	2	1	8
Blurred Vision	0	1	1	2	2	6
Dizzy/Lightheaded	0	1	2	5	2	10
Falling	0	0	0	2	1	3

Patients Screened Compared to Orthostatic Patients



Symptomatic Patients vs. Orthostatic Patients



Act

- Encourage nursing staff to continue screening patients for symptoms of orthostatic hypotension in order to identify more elderly with the condition.

- Continue to take and record orthostatic blood pressures on this patient population regardless of the results of symptom screening.

Lessons Learned / Ideas for Future Students

- The etiology of orthostatic hypotension may be very difficult to ascertain for elderly patients with several medical problems and multiple medications.
- Orthostatic symptoms do not necessarily correlate with the presence or absence of orthostatic hypotension.
- Therapeutic intervention for orthostatic patients may vary widely depending on the etiology of the condition. Medications, dosage adjustments of current medications, and non-pharmacologic treatments were all used in therapy.
- Future endeavors may include a more detailed symptomatic patient history in order to better identify a specific etiology for the condition.
- Future students may want to follow orthostatic patients over a few visits in order to study the results of such therapeutic interventions with serial orthostatic blood pressure measurements.
- In addition, a larger number of patients would be required for the study in the future in an attempt to accurately quantify the size of the elderly population with orthostatic hypotension.