

Senior Behavioral Health

A Quality Improvement Pilot Project to Assess for Asymptomatic Orthostatic Hypotension In Geriatric Patients



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INTRODUCTION

Falls in the hospital and psychiatric units are detrimental to the morbidity and mortality of geriatric patients. Several aspects can contribute to increase in falls in the geriatric population which include decreased balance, medications side effects, pain etc. This project is aimed to study the outcomes with awareness of symptomatic or asymptomatic orthostatic hypotension on a geriatric inpatient psychiatric unit. By identifying these individuals with orthostatic hypotension nurses, aides, and physicians can be more alert and consider potential adverse effects that could lead to poor outcomes. Asymptomatic orthostatic hypotension on inpatient geriatric psychiatry units has not been explored extensively in the literature to date.

PURPOSE

The purpose of this quality improvement project is to identify symptomatic and asymptomatic orthostatic hypotension in patients on the inpatient geriatric psychiatric unit. By identifying these individuals staff can be more aware of the potential for adverse reactions to medication and potential falls.

METHODS

To conduct this process, all the residents were informed of the standard protocol and questions for the initial assessment upon admission. Orthostatic vitals were measured for each new patient admitted to Senior Behavioral Health Center at UTMC from November 2021 to January 2022. The sample ended up including 13 subjects admitted to the Senior Behavioral Health Center. Each participant was at least 55 years of age or older. The subjects included men and women, and no exclusions were made based upon race or socioeconomic status. An adaptation of the Orthostatic Hypotension Questionnaire Symptom Assessment created by the Bateman Horne Center of Excellence was used to evaluate each participant's symptoms of hypotension before and after lying down for orthostatic vital measurement. Instead of a 10-point Likert Scale, a close-ended question was used to evaluate each symptom of orthostatic hypotension. Blood pressure and heart rate were then measured for each participant after 5 minutes lying down or sitting down, after 1 minute standing, and after 3 minutes standing

RESULTS

The data was compiled and assessed for how many participants were symptomatic before and/or after the orthostatic hypotension screening was performed. Within the number of participants who tested positive for orthostatic hypotension, the number of symptomatic patients were measured and displayed in graphs in our results section. A second graph showing the number of participants who reported symptoms versus those who tested positive or negative for orthostatic hypotension is also displayed. Of the 13 people initially screened for orthostatic hypotension, 8 patients were found to have orthostatic hypotension with only 2 of the positive patients reporting symptoms. Of the patients who tested positive for orthostatic hypotension, 75% were asymptomatic and 25% were able to identify their symptoms correctly. Of the 5 patients who tested negative for orthostatic hypotension, 4 patients (80%) of this group were able to correctly identify they did not have these symptoms and 1 patient (20%) reported symptoms.

Standardized Questionnaire

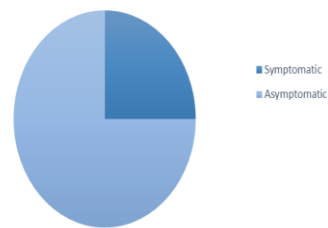
- Do you feel dizzy or lightheaded when you go from laying/sitting to standing up?
- Do you have blurred vision, tunnel vision, or are you seeing spots when you go from laying/sitting to standing up?
- Do you feel weak when you go from laying/sitting to standing up?
- Do you feel tired when you go from laying/sitting to standing up?
- Do you have trouble focusing when you go from laying/sitting to standing up?
- Do you have head or neck discomfort when you go from laying/sitting to standing up?

Orthostatic Criteria

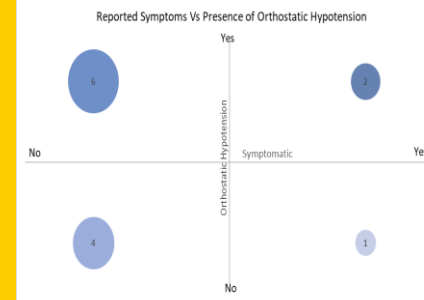
1. A systolic blood pressure drop of 20 mmHg or greater.
2. A diastolic blood pressure drop of 10 mmHg or greater.
3. A heart rate increase of 20 bpm or greater

Asymptomatic Vs. Symptomatic

Geriatric Patients with Orthostatic Hypotension



Comparison Chart



DISCUSSION

Our introductory results indicate that our initial screening for orthostatic hypotension using the modified 10-point Likert orthostatic hypotension questionnaire was a useful tool in identifying the presence of asymptomatic orthostatic hypotension. It is important for residents to appreciate asymptomatic medical illness while being time sensitive to patient needs while on call. Additionally, this study will need a larger population size to improve our statistical significance.

CONCLUSIONS

The initial data screening demonstrated that an assessment of orthostatic vital signs using a modified 10-point Likert Orthostatic Hypotension Questionnaire upon admission to the geriatric inpatient psychiatry unit could help us identify patients with asymptomatic orthostatic hypotension. By having patients participate in this questionnaire and evaluated for orthostatic hypotension upon admission, we were able to identify that more patients than not have orthostatic hypotension with the majority of these patients reporting no symptoms at the time of admission. Further development of this project could include more data collected for a larger sample size with future plans of assessing patients who have falls on the in-patient psychiatry unit and assessing the patients who have falls with the outcome of their initial orthostatic hypotension screening. The idea of this future plan is to reduce the frequency of adverse outcomes to patients who have asymptomatic orthostatic hypotension

REFERENCES

- Frith J, Newton JL. Validation of a questionnaire for orthostatic hypotension for routine clinical use. *Geriatr Gerontol Int.* 2016 Jul;16(7):785-90. doi: 10.1111/ggi.12553. Epub 2015 Jul 14. PMID: 26179107.
- Bradley JG, Davis KA. Orthostatic hypotension. *Am Fam Physician.* 2003 Dec 15;68(12):2393-8. PMID: 14705758.
- Kaufmann, H., Malamut, R., Norcliffe-Kaufmann, L., Rosa, K., & Freeman, R. (2011). The Orthostatic Hypotension Questionnaire (OHQ): validation of a novel symptom assessment scale. *Clinical Autonomic Research, 22*(2), 79–90. <https://doi.org/10.1007/s10286-011-0146-2>