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Feature Article

Feasibility of nurses measuring gait speed in older community-dwelling Emergency Department patients

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ABSTRACT

Gait speed assessment is a rapid, simple and objective measure for predicting risk of unfavorable outcomes which may provide better prognostic and reliable information than existing geriatric ED (Emergency Department) screening tools. This descriptive pilot project was designed to determine feasibility of implementing gait speed screening into routine nursing practice by objectively identifying patients with sub-optimal gait speeds. Participants included community-dwelling adults 65 years and older with plans for discharge following ED treatment. Patients with a gait speed <1.0 m/s were identified as "high-risk" for an adverse event, and referred to the ED social worker for individualized resources prior to discharge. Thirty-five patients were screened and nurse initiated gait speed screens were completed 60% of the time. This project demonstrates ED gait speed screening may be feasible. Implications for practice should consider incorporating gait speed screening into routine nursing assessment to improve provider ED decision-making and disposition planning.

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Introduction

Older adults, account for an increasing proportion of Emergency Department (ED) visits. Of the 19.6 million ED visits occurring in the United States from 2009 to 2010, 15% were visits by adults 65 years and older. In fact, average ED visit rates increase as age increases.[1] Once seen in the ED, older adults often present with acute illnesses which require higher acuity care.[2] Furthermore, older adults are at risk for health complications, a decline in functional status, and poorer health-related quality of life after being seen in the ED, often indicating a multifaceted need that exceeds emergent care.[2]

Due to the rising number of ED visits associated with poor clinical outcomes, improved and more comprehensive evaluations are needed for this population. Interestingly, a recent systematic review identifying 14 functional assessments identified only four self-reportable assessments specifically established for ED practice: Triage Risk Screening Tool (TRST), Identification of Seniors At Risk (ISAR), Runciman Questionnaire, and Functional Status Assessment of Seniors in Emergency Departments (FSAS-ED).[3] Although several ED screening instruments have been developed to better identify community-dwelling older adults at risk for adverse events, these instruments are limited based on the requirement to self-report.[3,4] Utilizing a rapid, simple, objective screening tool to predict increasing risk of unfavorable outcomes may prove to be more prognostic and reliable than existing self-reportable ED screening instruments.[5]

Another approach to assessing at risk older adults has been to measure gait speed. Gait speed, also known as walking speed, has been recognized as a potentially valuable clinical marker of health status among older adults, and has been shown to be a valid and reliable measure of health and functional status within individual

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epidemiologic cohort studies.[6] The ability to walk increases physiological demands and requires the successful integration of multiple body systems.[7] Declines in gait speed are predictive of significant, adverse health-related outcomes including death, reduced quality of life, physical and mental decline, falls, hospitalization and institutionalization.[5] Consequently, a decrease in organ system function can result in gait speed changes, specifically a slower gait. In fact, the appearance of gait difficulties in older adults may be an early indicator of physiological decline serving as the "sixth vital sign"; a marker for well-being or frailty.[7] Gait speed may be a valuable assessment tool in identifying geriatric patients with established or unrecognized medical problems prompting further assessment and treatment of underlying cardiopulmonary, neurological, or musculoskeletal conditions.[7] As a rapid, simple, objective, observer-rated screening tool, gait speed may be particularly useful in quickly identifying geriatric patients at risk in busy ED settings.

Despite increasing number of visits to EDs by older adults and the frail elderly, existing ED systems for care may not be adequate in identifying patients at risk. Unfortunately, current ED care practices and models do not address age-related risks nor assess for specific needs of older adults as most ED systems of care were not specifically designed for older people.[8] Others question whether emergency care providers are able to make rapid and accurate evaluations of older adults with multiple comorbidities on multiple medications, particularly patients who present with vague problems requiring additional social and community resources.[9] A recent study utilizing geriatric nurse liaisons to perform the Timed Up and Go Test into routine care of geriatric patients presenting to the ED was found to be effective and feasible.[10] Another study, investigating physician and nurse perceptions regarding the use of a dedicated geriatric technician to screen for geriatric syndromes in the ED was also found beneficial to ED care without becoming a barrier to patient flow.[11] Common limitations identified for both studies revealed tailored interventions for geriatric patients at risk for falls were needed.[10,11]

Incorporating gait speed screening as part of routine nursing practice could improve the care of older adults in the ED by better identifying those at risk of poor treatment outcomes, return ED visits or mortality because of functional decline. Therefore, it will be important to determine if incorporating a gait speed assessment in the ED setting is a viable option. If so, it may be a valuable screening tool in identifying older adults at risk which may also improve patient outcomes by providing ED providers with a more accurate assessment of a patient's health status leading to better treatment decisions involving care needs and disposition planning. The purpose of this project was to determine the feasibility of implementing gait speed screening into routine nursing practice through a standardized approach. Our goal was to address the following questions: 1. Is it feasible for nurses to perform the observer-rated gait speed screening in community-dwelling adults ages 65 and older presenting to the ED? 2. Is it feasible for the social worker to coordinate outpatient resources for "high-risk" clients? This project will further discuss nurse perceptions regarding gait speed screening in the ED, describe the characteristics of participants who received the gait speed screening and social work coordinator resources provided for "high-risk" clients.

Methods

Design

This was a descriptive pilot project to determine the feasibility of implementing gait speed screening among community-residing adults ages 65 and older being discharged back to home by ED nurses using a 4-m, timed, walking assessment. After informal discussions with key ED stakeholders, buy-in was obtained from the Chief of Service/Medical Director, Nurse Manager, Shift Charge Nurses, Clinical Nurse Specialist and Social Worker by implementing this quality improvement initiative/pilot project to assess the feasibility of having ED nurses perform a standardized gait speed screening as part of a routine assessment in older adults presenting to the ED. The project team consisted of the Project Leader, ED Nurses and ED Social Worker.

Setting/participants

This project was conducted at an academic ED facility. Participants for this project were community-dwelling older adults and ED nurses. Patients presenting to the ED during identified data collection times meeting inclusion criteria underwent gait speed screening. Inclusion criteria included ED patients aged 65 and older with stable vital signs, who were able to ambulate without assistance, and who were discharged home following evaluation and ED treatment. Twenty-one ED nurses received education and training to perform the gait speed screening. An expedited review of the protocol and a waiver of informed consent were granted for this project from the Institutional Review Board and determined this project was quality improvement, therefore deemed exempt. There were no identified or potential conflicts of interest involving this project as discussed by the stakeholders with the project leader prior to the implementation of the study.

Intervention

This project was implemented in two phases. Phase I, the staff education phase, was provided by the project leader and conducted at a one-time mandatory monthly staff meeting. The project leader gave a brief power point presentation which included a YouTube video link on how to perform the gait speed screening (http://youtu.be/MRDV6ndIoME).[12] After the didactic session and demonstration, each nurse performed gait speed screening and competency was validated through required check-offs to ensure reliability of gait speed screening. The project leader was on-site throughout the entire data collection period providing spot checks, verbal reminders and personalized feedback to reinforce and encourage gait speed screening accuracy. A flyer was placed in the break room of the ED as a friendly reminder to initiate gait speed screening when appropriate. Weekly treats and snacks were provided as an incentive.

Phase II, the intervention phase, was conducted from 10 am to 4 pm Monday through Thursday over a four-week period from September to October 2014. Materials required for this project included a tape measure, two stopwatches, two clipboards, and the Gait Speed Screening Form (Appendix A). A patient registration label was placed at the top of each form after the completion of gait screening to later track for further analysis. The ED nurses implemented and documented gait speed screening using the gait speed screening protocol and gait speed screening form during the duration of the study. Gait speed was measured using a stopwatch and a 4-m walking distance. Tape was placed on the wall and floor designating a 4-m walking distance located in an area of the ED away from heavy traffic areas. Gait speed screening was initiated on any patient ready for discharge who met inclusion criteria. Patients who met gait speed screening inclusion were instructed to begin walking (from a standing still position) at their usual pace for a distance of 4-m after being instructed to begin walking at the command of "ready-set-go."[6] Gait speeds were timed from the onset of the start command and ended as soon as the patient's front foot crossed the four-meter marker.[13] During the gait speed