USUAL CARE VERSUS BEST PRACTICE:

A PROGRAM EVALUATION ON FALL RISK ASSESSMENT

by

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In the United States, falls are a significant cause of hospitalization, morbidity, mortality, and loss of independence in the older adult population. The most current information identifies that 33% of adults, age 65 years and older, fall each year (Centers for Disease Control and Prevention, 2013b). There is also a psychological impact on falling among the older adult population, such as the client experiencing fear of fall reoccurrence (Kempen, Haastregt, McKee, Delbaere, & Zijlstra, 2009). Fear of falling can lead to a decrease in activity level, and further increases risk of falls (Kempen et al., 2009). Falls among older adults result in huge health care costs in the United States of over 30 billion dollars annually (Centers for Disease Control and Prevention, 2013a).

In North Carolina, falls were the most common diagnosis for hospital admission among the elderly within every county of the state (NC Department of Health and Human Services, 2012). To address the prevention of falls in the community, community-based agencies have implemented fall risk assessment tools (Tinetti, 2008). Clearly, falls can occur anywhere, and it is important to understand the role that fall risk assessment tools have in the prevention of falls in the older adult population.

Review of Literature

Risk factors for falls

In this review of the literature, it was important to determine the main risk factors for falls among community-living older adults. Risk factors for falls are highly dependent upon the client and the diagnosis. A research study of over 1500 participants found that the five most pertinent risk factors for the older adult within the community were gender, psychoactive drug

use, previous falls, osteoarthritis, and living arrangements (Bongue et al., 2011). In another study, Bergland (2012) noted how the majority of falls are due to a combination of intrinsic and extrinsic risk factors, and that it is important to address both when developing interventions. Intrinsic factors included decreased muscle strength, gait disorders, and neurological impairments while extrinsic factors included medications and environmental hazards (Bergland, 2012).

Risk factors that were found to be crucial upon initial fall risk assessment of the client were visual impairments, such as acuity, ability to adapt to the dark, and depth perception (Hill et al., 2011). Kallstrand-Ericson and Hildingh (2009) completed a study where they searched the records of a hospital and determined that the majority of falls occurred during the early hours of the morning, and that 76% of the patients who fell had a visual impairment.

Sai, Gallagher, Smith, and Logsdon (2010) found that a reoccurring risk factor in their study was client depression due to anxiety of performing routine tasks because of their fear of falling. Kempen et al. (2009) distinguished the various psychosocial, psychological, and socio-demographic risk factors for severe fear of falling, as well as severe avoidance of activity. Risk factors that were found to be congruent between fear of falling and avoidance of activity were "old age, female sex, limitations in activity of daily living, impaired vision, poor perceived health, chronic morbidity, falls, low general self-efficacy, low mastery, loneliness, feelings of anxiety, and symptoms of depression" (Kempen et al., 2009, p. 3).

Specific extrinsic risk factors within the environment that increased a client's risk of falls included "poor lighting in rooms and hallways, absence of safety equipment in the bathroom, loose carpeting, and other obstacles" (Flores, 2012, p. 199). The client's behavior while interacting with his or her environment can also play a role in his or her risk of falls (Bergland,

2012). Behaviors that can increase the client's risk of falls include wearing loose clothing or failing to wear prescription eyewear, not turning on lights while ambulating, or performing actions that can increase risk of falls, such as use of non-sturdy objects to obtain out of reach items (Bergland, 2012). These risk factors should be included in a falls risk assessment tool for community dwelling older adults.

Fall risk assessment tools

There are multiple fall risk assessment tools used in the community setting, and various home health agencies use a combination of tools upon initial assessment. A common finding is that many of these fall risk tools have a high specificity, but a low sensitivity, meaning that they are not effective in predicting which adults are more likely to fall (Gates, Smith, Fisher & Lamb, 2008). A common tool that is used is the 'Timed Up and Go (TUG) test', which evaluates lower extremity function, mobility, and executive function in the older adult client (Herman, Giladi, & Hausdoff, 2011). The American Geriatrics Society recommends the use of the TUG test for evaluating fall risk (Viccaro, Perera, & Studenski, 2011). In a study completed by Viccaro et al. (2011) it was found that assessing gait speed is equally as effective at predicting falls, is quicker to implement than the TUG test, and can be used in combination with or in place of the TUG test. Although the TUG test is recommended as the primary initial assessment tool, researchers have supported findings that the Functional Gait Assessment (FGA) tool has a higher sensitivity than the TUG test because it provides a more comprehensive measurement of the client's mobility (Wrisley & Kumar, 2010).

An assessment tool that was found to be useful in distinguishing clients who are at increased risk for falls with injuries is the modified John Hopkins Fall Risk Assessment Tool (mJH-FRAT) (Hnizdo, Archuleta, Taylor & Kim, 2013). Hnizdo et al. (2013) completed a study

that focused on the validity of using the mJH-FRAT for assessing fall risk within the home health population, and found that in a sample of 125 patients 100% of the clients who fell and experienced an injury were classified in the high fall risk category. As a result of the study, it was found that the mJH-FRAT is a more focused fall risk assessment tool that has a higher specificity and sensitivity than commonly used multifactorial fall risk assessment tools (Hnizdo et. al, 2013).

Another fall risk assessment tool that is implemented is a 16 item questionnaire called Falls Efficacy Scale International (FES-I), which focuses on evaluating the clients fear of falling by assessing aspects such as their attendance of social events, getting dressed or undressed, and preparation of meals (Delbaere et al., 2010). There is also a shortened seven-item Falls Efficacy Scale International that was produced to reduce the time commitment of the providers who were conducting the test, which can also distinguish the client as low or high level of concern for falls. (Hauer et al., 2011). Researchers also discovered that both versions of the fall risk assessment tool are valid and reliable to use with patients who have a mild to moderate cognitive impairment and those that do not (Hauer et al., 2011).

Chen, Gleeson, Mitchell, O'Donnell, and Olson (2013) proposed a universal fall screening method that takes into account various aspects of fall risk assessment tools. They suggested a three step process, which begins with the use of a three question assessment focusing on the patient's history of falls, use of mobility aids, and fear of falling, upon initial contact with the client. Then, a follow up appointment with a more in depth fall risk evaluation is implemented while the client simultaneously attends services such as a day center, case management, or home care (Chen et al., 2013). Lastly, depending on the client's individualized

areas of increased risk for falls the health care team should establish a "what-to-do" plan with various interventions (Chen et al., 2013).

For home health care providers, it is important to know the guidelines for which fall risk assessment tools to use for each client so that the initial fall risk assessment will be accurate, which will lead to proper fall risk interventions being implemented. Upon a systematic review of the literature it has been found that it is currently not possible to recommend a single fall risk assessment tool, but to use a combination of assessment tools, such as gait speed, FGA, or the mJH-FRAT (Wrisley & Kumar, 2010). Wrisley & Kumar (2010) found that implementing the TUG tool in combination with another valid tool could provide a more thorough assessment of clients for fall risk.

Each fall risk assessment tool has their own strengths, and ideally a combination of tools will be used upon each home health visitation. According to Currie (2008), all clients ages 65 years and older should be screened for fall risk upon initial visitation, and annually thereafter. In order for providers and nurses to be most effective in preventing falls in the elderly community population they must continue to be educated on the newest evidence-based care for fall risk assessment. Upon completing the initial fall risk assessment, it is important to take the next step and implement evidence-based interventions to prevent falls among older adults.

Evidence-based guidelines to prevent falls in the community

If a client is admitted to the hospital for a fall episode it is important for the nurse to immediately initiate interventions to prevent another fall (Currie, 2008). Successful interventions include tai chi, management of comorbidities, home safety modifications, and changes in the client's medical regimen (Currie, 2008). Additional studies have encouraged care providers to promote interventions such as leg strengthening exercises and Vitamin D

supplementation (Moyer, 2012). Both of these interventions are used to help develop muscle strength and prevent lower extremity weakness, and in a study of over 1500 participants there was a 25% decrease in falls when these interventions were implemented (Moyer, 2012). Although these interventions have demonstrated benefit, researchers have found that few agencies actually receive proper education and training on the most recent evidence-based practice for fall risk prevention (Fortinsky et al., 2008). Fortinsky et al. (2008) found that 80% of the home health agencies that received education and training on the most recent evidence-based practices for fall risk prevention implemented the new interventions that they had been taught, resulting in better educated home care providers.

Falls among individuals 65 years and older are a prevalent problem, and can lead to numerous short term and long term negative outcomes. The purpose of this project was to compare the usual practice of fall risk assessment in a home health agency to best practice guidelines for fall risk assessment. The project fulfilled the requirement for the senior honors project and was one part of a 7-week community health clinical practicum completed in collaboration with a community health nurse preceptor. During the 7-week clinical, the nursing honors student and the community health nurse preceptor made weekly home visits to home health clients.

This program evaluation was conducted in partnership with a home health agency in a county in rural eastern North Carolina. The target county is a diverse county with 14% of the population being greater than 65 years old and 23.5% percent of the population live in poverty (U.S. Census Bureau, 2012). The predominant ethnic and racial groups are Caucasian (55.6%), African American (31.1%), and Hispanic/Latino (10%) (U.S. Census Bureau, 2012).

Methodology

The methodology used for this program evaluation included several components. First, an environmental assessment was conducted to better understand the context of the community. This assessment provided primary data on the target county, specifically the communities' vitality, indicators of social and economic conditions, health resources, environmental conditions related to health, and social functioning.

Second, an assessment of the home health agency was conducted to better understand the home health agency policies and procedures as well as the nurse's role in fall risk assessment and prevention. This information was gathered through reviewing agency policies and procedures related to fall risk assessment and prevention in the home, as well as documentation used on home visits to determine fall risk assessment and prevention strategies implemented by the home health nurses.

Third, observations were made during home visits on the fall risk assessment policies and procedures and fall risk assessment and prevention interventions used by the home health nurses. Notes were made about the implementation of the falls risk assessment and prevention for the home health client. Under the supervision of the community health nurse preceptor, the nursing honors student implemented the fall risk assessment during home visits with three clients. Then depending on the client outcome of the assessment, patient-centered interventions were developed to the client's individual risk factors.

Fourth, interview questions were developed to understand the role of the home health staff in fall risk assessment and prevention. The community health nurse preceptors identified key informants and a total of six key informants were interviewed. Four of the interviews were with home health nurses, and two were with physical therapists. Each of these interviews took

place in a private office at the home health agency and lasted for 20-30 minutes. The questions were:

1. How do you implement the fall risk assessment tool(s)?
2. What do you perceive as the benefits and disadvantages of the fall risk assessment tool(s)?
3. Explain to me if you find the fall risk assessment tool(s) to be convenient (i.e. time duration), and well understood by yourself and the client population when implementing the tool(s)?
4. What do you find to be the most prevalent risk factors among your client population for falls, and do you find the fall risk assessment tool(s) to be effective in determining the clients at higher risk for falls?

Finally, a written report was given to the administrators of the home health agency and home health nurse preceptor.

Findings

The major findings of this project were that the majority of the fall risk assessment is completed through observation (60%) and 40% is completed through client self-report. Based on this assessment each client is given a fall risk score, and based on the risk score the nurse provides tailored interventions for each client.

This home health agency used a Missouri Alliance for Home Care 10 (MAHC 10) multifactorial fall risk assessment tool, along with the TUG test. The ten categories on the MAHC 10 were age, diagnosis, prior history of falls within three months, incontinence, visual impairment, environmental hazards, polypharmacy, pain affecting level of function, and cognitive impairment.

The fall risk assessment tools were only used by the nurses on admission of the patient, and to reevaluate a patient if they had a fall episode after admission. After implementation of the fall risk tools, if the client was considered a fall risk in four or more categories (out of ten), then the client was considered "at risk" for falls. If the clients were deemed "at risk" then the nurse would provide and document tailored interventions for the client. The physical therapists key informants reported that upon their initial fall risk assessment of the client they would use multiple fall risk assessment tools, opposed solely the MAHC 10. After they deem a patient a fall risk the physical therapist would then implement patient specific interventions, and continue to reevaluate the clients fall risk with their various fall risk assessment tools during each of the client's home visits.

Each of the key informant nurses and physical therapist's stated that an advantage to the fall risk assessment tool was that the tool gave them a thorough picture of the patient's mobility status upon admissions. In contrast some disadvantages of the fall risk assessment tools that were reported in the key informant surveys by the nurses were that the tools were difficult to use with bed bound, dementia, and Alzheimer's clients. All of the nurses and physical therapists reported that they found their fall risk assessment tools convenient, simple to implement, and well understood by the majority of their clients. The nurses also stated that they found the most prevalent risk factor for falls among their client population was unsafe home environments and polypharmacy. Recommendations were developed based on these findings for home health staff and administrators in this home health agency.

Discussion

Fall risk assessment tools assist home health professionals to evaluate at-risk older adults. Still, using them with severely debilitated, non-ambulatory patients is problematic. The fact that

60% of the fall risk assessment tool was completed through observation was of concern because little research has been conducted on the benefits of observation versus self-report. This warrants further research.

Upon initial assessment of their clients the home health nurses use a MAHC 10 fall risk assessment tool, and the TUG test. The MAHC 10 is multifactorial, and gives an in-depth overview of the clients, and their fall risk factors. Upon review of the literature, currently it is not possible to recommend one fall risk assessment tool (Gates, Smith, Fisher, Lamb, 2008). Other studies have shown that it would be equally beneficial to complete an initial short assessment to determine if the client is considered a "fall risk," that asks about crucial fall risk factors, such as history of falls, use of mobility aids, and fear of falling, and then if the client is considered a "high fall risk" to perform a more in depth assessment (Chen et al., 2013). The recommendation that was made to the home health agency, was to complete a brief fall risk assessment upon admission with the client, and then once the client is deemed a "high fall risk" to perform their more in depth MAHC 10. This would be beneficial in saving time for the home health nurses.

Another recommendation that was made to the home health agency was to incorporate psychological risk factors into their assessment tool. The MAHC 10 does acknowledge cognitive deficits, such as Alzheimer's and dementia, but neither the MAHC 10 nor TUG test account for a client's fear of falling or depression. Sai, Gallagher, Smith, and Logsdon (2010) study showed that depression was one of the most important risk factors in predicting if a client was going to fall. Also Kempen et al. (2009) found that it is significant to acknowledge the elderly clients who have a severe fear of falling, and as a result avoid activity. Once these clients are noted, the nurses can determine what interventions, and the length of time the interventions need to be implemented for each client (Kempen et al., 2009).

Also it was found that the home health nurse chooses an intervention off of a standard list to implement for the clients based off their unique fall risk score. The list of nursing interventions used by the home health nurse does address significant intrinsic and extrinsic risk factors for falling, such as environmental hazards, vision and hearing acuity, and complex medication regimens (Bergland, 2012). Although the standard list of nursing intervention does address numerous risk factors, it does not contain the important interventions of Vitamin D supplementation or leg strengthening exercises. It is a grade B recommendation by the U.S. Preventive Services Task Force to implement leg exercises and vitamin D supplementation in clients who are over the age of 65 and deemed a fall risk (Moyer, 2012). For the home health clients who are also ordered physical therapy, the physical therapists do implement leg strengthening exercises and vitamin D supplementation as interventions. Although not every home health client receives physical therapy, and if they are only receive nursing care, they will not be implemented these beneficial interventions.

This home health agency's use of the MAHC 10 and TUG test is sufficient and follows the current recommendations by the American Geriatrics Society as the universal screening test for adults over the age of 65 (Viccaro, Perera, & Studenski, 2011). Although a more general initial fall risk assessment tool could be used, and evidence-based interventions should be included on the home health agency's standard list of interventions.

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