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Promotion of Quiet Hours to Decrease Fatigue Induced Falls in a Long Term Care Facility

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Abstract

TITLE: Promotion of Quiet Hours to Decrease Fatigue Induced Falls in a Long Term Care Facility

BACKGROUND: Falls have been a priority problem within long term care facilities. The facility in which we did our quality improvement project has been struggling with the prevalence of falls specifically during the evening hours. Evidence based research showed that fatigue in the elderly increases the risk and rate of falls (Chen, Chui & Chui, 2015). Reducing fatigue has been shown to relieve this problem. This project was intended to explore the implementation of a rest hour in a long term care facility and its effects on fall rates.

METHOD: A plan was created to implement a one hour rest/quiet hour from 2pm-3pm for residents that are high fall risks. The top 20 residents whose falls are not related to a preexisting condition that greatly impairs mobility (Huntington's, Parkinsons, etc.) will be monitored and data of their falls will be reviewed. This rest period should encourage sleeping or very low stimulating activity such as listening to music or reading.

RESULTS: The intended results of the project include decreased falls during the time period which they have been occurring the most (evening hours) from the pre to post implementation.

DISCUSSION: Recommendations include keeping track of whether or not the residents were rested/had a rest period prior to their fall. This can help determine if rest is helping the resident avoid falls or if there is a different underlying issue to be further analyzed.

Part A: Focus

Addressing and researching this topic at the facility is very important as the findings can increase the safety of the residents. As a group, we plan to look into trends, fall reports and the

literature to try to identify a pattern or association within the fall reports. Based on our findings, we intend to find a new intervention that can be implemented at the facility to reduce the number of falls. Although, there were other issues we could have addressed within the facility such as improvement in pain management or increasing mobility in the residents. We felt as if focusing on the reduction of falls would have the greatest impact on the safety and well being of the residents that reside there.

Part B: Analysis

Falls have been an ongoing and constant problem within long-term care facilities. This is a highly researched topic, as the safety of residents in these facilities is at the highest priority. It was reported that falls are the most common and serious problem in elders. About 30% of elderly adults 65 years and older will experience at least one fall per year (Min & Slattum, 2016). This percentage greatly increases in correlation with aging. Whereas, 50% of elderly adults 80 years and older will experience at least one fall per year (Min & Slattum, 2016). These falls can result in a variety of injuries, ranging from fatal to nonfatal. At the long-term care facility in which this quality improvement project took place, the frequency of falls has been a pressing issue. We strived to assess the data, review the literature on this topic, develop a plan, and evaluate the plan while identifying the causation of the increased frequency of falls. We utilized the long-term care facility's previously collected data to conduct this improvement project. We analyzed the data which was collected during a three month period (11/1/2019-2/5/2020). This data showed that there were 174 falls over the span of three months. Of these falls, 52 of the falls happened during the day (0600-1400), 65 of the falls happened in the evening (1400-2200) and 57 of the falls happened at night (2200-0600). The data also showed that only 7% of the time residents used

their call light when they fell, 43% of falls involved residents who were on frequent rounding whether that was hourly or 30-minute periods.

In analysis of the data we were given, it is evident that falls are an insistent issue at the facility. Many factors can come into play regarding this issue, thus it was important we consider multiple possible causes. Falls can be associated with reduced function due to increased age, improper regulation of medical conditions, the loss of independence and inadequate sleep (Min & Slattum, 2016). Some of the root causes also considered in our analysis of the falls were inadequate rounding by staff, insufficient identification of residents at risk of falls, improper precautions on residents taking medications that alter their coordination, balance and gait and the inadequate use of appropriate ambulatory aids due to dementia, poor-quality sleep induced fatigue, and infrequent use of call lights.

After reviewing the data, we identified that a majority of the falls were in the evening hours (1400-2200). This was a relevant observation, because as stated earlier inadequate sleep can be associated with fall risks. Therefore, the sleep in elderly adults was assessed at the facility. As age increases, sleep problems become more evident and the quality and quantity of sleep also decreases (Hayley, Williams & Kennedy, 2015). A combination of these factors can result in excessive daytime sleepiness in elderly adults, which is a common complaint within the elderly population. This excessive daytime sleepiness can produce fatigue and contribute to falls. A study was done on elderly adults 60 years and older, the conductors of the study used the Epworth Sleep Scale to analyze daytime sleepiness, as well as, fall histories and lifestyle/health assessments. The study concluded that excessive daytime sleepiness is associated with a two fold increase of the likelihood of falls within a year (Hayley, Williams & Kennedy, 2015). There was a similar study done that examined whether elderly individuals with dementia have a high

prevalence of falls and sleep disturbances than those without dementia. The results of this study concluded that sleep disturbances did correlate to an increased fall risk (Chen, Chiu & Chiu, 2015). In addition, there was another study conducted that examined the association between sleep disturbances and falls. In this study, it was also found that short sleep duration and sleep disturbances are associated with falls and increased fall risk (Essien et al., 2018). In light of this literature review, it can be concluded that excessive daytime sleepiness can potentially correlate with an increase of falls in the elderly population.

Part C: Development

Potential Solutions and Literature Review

Various solutions were considered for the root causes that were previously identified. One solution that was discussed was to use colorful wristbands on residents who are high fall risks. This would give a visual alert to the nurses and staff that that resident is to be watched more carefully and needs greater assistance. Another solution was to increase rounding on the high fall risk residents. This would decrease the amount of a time a resident was alone and help staff keep up with what the resident wants, needs, or is trying to do. Lastly, we brainstormed the implementation of quiet or rest time for an hour a day for the residents with a higher fall risk. This would give the residents a chance to rest and restore their energy. Fatigue from walking and daily activities has been shown to increase the risk of falls in older adults (Morrison, 2016). In a systematic review, effects of experimentally induced fatigue on healthy older adults' gait showed that both physical and mental fatigue have an adverse effect on gait stability (Paulo, 2019). In conclusion, fatigue indirectly increased fall risk by decreasing gait stability. Combating this fatigue with a rest period during the day may prevent falls. Another study showed that sleeping for over 9 hours a night may increase fall risk for the elderly population (Kim, 2016). By

allowing a rest period during the day where sleep is encouraged it may reduce longer sleep durations at night for a resident. Lastly in the literature review, a study was found in which the effect of afternoon naps on sleepiness in the elderly population was analyzed. In conclusion, a 20 minute nap significantly reduced afternoon sleepiness in these elderly persons and that compared with forced awakening, self awakening provides further advantage by reducing sleep inertia immediately after napping (Kaida, 2006). An afternoon quiet/rest period has significant potential to decrease fatigue resulting in a decreased rate of falls.

Plan for Implementation of Selected Solution

The solution selected to be implemented was to incorporate a 1-hour rest/quiet time from 2pm-3pm for residents that are high fall risks. The Good Shepherd staff would aid in identifying the top 20 residents who are at greatest risk for falls. The residents selected would not include anyone with a preexisting condition that greatly impairs mobility (Huntington's, Parkinson's, etc.). After the Good Shepherd staff has identified and confirmed resident participation the nursing and floor staff will be educated on which participants to bring to their rooms and encourage the quiet/rest time. The 20 residents selected for the 1-hour rest/quiet time will be monitored and data of their falls will be reviewed. A folder containing a list of the room numbers of the participating residents and assessment forms will be placed in each nursing office. If a participating resident does fall, the assessment form should be filled out with the resident's room number and placed back in the folder. If this could be consistently done for three to four weeks we would be able to compare the previous three to four weeks to our results. This fall assessment form asks what time the fall occurred, what activity the resident was doing (or attempting to do), whether the resident participated in rest hours that day, and how many hours the resident slept the previous night. These questions give us an overall perception of how rested the resident was

and what other factors contributed to the fall. With all of these factors combined we will be able to assess if the rest period decreased, had no effect, or increased their rate of falls. Overall this implementation requires education and partnership with the DON of Good Shepherd, all the RN's, LPNS, and NA's throughout the participating units, and the residents themselves.

This solution was chosen because it does not cost anything to be implemented and did not significantly increase the workload of the staff. The implementation of a rest period would be a relatively smooth transition as long as staff are aware of which residents are participating and how to record the data consistently. The colorful wrist bands wouldn't have been as cost-effective, jeopardized patient privacy, and increased risk for possible skin breakdown. Increased rounding is not realistic to implement in this situation as Good Shepherd is already short staffed and many residents are already on hourly rounding. Overall, our objectives with implementing a quiet/rest hour for high fall risks residents are to promote the safety and well-being of high fall risk residents, to reduce falls risks, support the Good Shepherd staff in finding a working solution for the high rate of falls, and to maintain well rounded and quality care for each resident.

Part D: Dissemination and Evaluation

Commitment and Evaluation

In order to obtain organizational commitment to the plan we discussed the issue with our precepting staff as well the director of nursing at the Good Shepherd Community. Falls have long been a priority problem for this long-term care facility and they are continually looking for ways to reduce the amount of falls that occur in order to improve the quality of care their residents receive. Additionally, during stand up meetings the staff at Good Shepherd dedicate a day each week to discuss fall related scenarios and possible solutions for specific residents. These observations gave us assurance that the staff would likely be committed to such a project.

Time is often a constraint for quality improvement projects in long-term care facilities so with the help of senior nursing students they would be able to commit to the project more readily.

In order to protect the stability of this long-term care facility during the COVID-19 pandemic, restrictions were put in place regarding who may enter the facility. Unfortunately these were put in place as we were planning the implementation of our project at Good Shepherd. This outstanding barrier prevented us from full implementation of our plan. Due to the high amount of flexibility and changes the facility is undergoing during this unprecedented time it simply would not have been reasonable to implement another change without the presence of students to direct the plan. In the case that we would have been able to implement, our plan to keep staff motivated would have been to remind them of the reasoning behind the change we are promoting. Ensuring adequate understanding of the research we have done and the potential outcomes that have been seen before in other facilities.

Due to the inability to implement the plan it was consequently not possible to evaluate the effectiveness. The outcomes that we would have planned to see with execution of the project include a reduction in falls during the evening hours. To evaluate the results the “QI Fall Assessment Sheets” would be collected and analyzed to see if there were any relevant patterns regarding the occurrence of a rest hour for the residents who experienced a fall during the evening hours. Additionally, we would analyze the fall data of the facility on the respective units we worked on (Sunny lake and Memory Care) to determine if the fall rate had declined during the evening hours with the implementation of a rest hour for residents at high fall risk. To improve the effectiveness of the solution it might be beneficial to also create a tool that could be consistently used to determine which residents were considered to be at a high risk of falls. One

way we might be able to use data mining to improve effectiveness is to utilize the MDS of residents to determine which are at a higher risk of falls as well.

Plan for Sharing Outcomes/Teaching

Target Audience: The staff at the Good Shepherd Community.

Learning Environment: The learning environment is knowledge centered, as we would like the Good Shepherd Staff to give their undivided attention for 15 minutes. This would allow them to watch our presentation without distraction to educate themselves on the issue at hand regarding falls and how the implementation of this intervention will improve the safety of the residents.

Objectives:

- The staff members at Good Shepherd will successfully fill out a Fall Assessment form and teach back what the data on these forms can mean. This will ensure consistency in data retrieval and a more accurate interpretation of results.
- The staff members Good Shepherd will also be able to understand and teach back factors that contribute to a resident being a high fall risk using evidence based research. This will help identify the proper residents to include in this intervention and allow for the most effective implementation.
- After the presentation and education of the intervention the staff at Good Shepherd will understand why we expect the results of a decreased fall rate. This will increase ability to implement this intervention with a full understanding.

Strategies: We will utilize Zoom to record a voice-over presentation to communicate with the staff at Good Shepherd Community. We will cover how we arrived at this topic, our literature

review, plan for implementation, and evaluation methods for the intervention. We will demonstrate how to fill out a fall assessment form during the presentation.

Methods of Evaluation: Our plan includes asking the staff to teach back the factors that contribute to high fall risk, the intended outcome of the project, and how to accurately fill out a Fall Assessment form. Teach back and demonstration are the most accurate methods of evaluation.

Evaluation of Effectiveness of Teaching Plan: We are unable to evaluate the implementation of our plan due to time constraints, however, we would have expected the staff to meet each of the objectives. During our presentation to our faculty and peers, it was observed that they understood the various aspects of our presentation and were receptive throughout.

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