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Decreasing Falls Through Music Therapy in a Long-Term Care Facility

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Decreasing Falls through Music Therapy in a Long-Term Care Facility

Princeton Elim Care & Rehab

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Abstract

Falls are a continuous problem in long-term care facilities. Elderly people are at an increased risk of falling because of age related deterioration, changes in mental health status, neurological problems, polypharmacy, changes in vision and hearing, musculoskeletal problems or environmental factors. Although many facilities advocate for fall prevention, falls are still the number one cause of accidental death in older people. Over the past several months, a long-term care facility has noticed that a majority of falls happen on the dementia unit around the time of shift change (1900-2100). The goal of this quality improvement project was to decrease the number of falls on the dementia unit at this specific health care facility by decreasing agitation and restlessness before bedtime through relaxing music. A literature review has shown that increases in agitation among residents has been linked to increased falls and that music therapy has been shown to decrease agitation. The aim of this study is to determine if music therapy played from 1900-2100 will decrease the agitation and restlessness of the dementia residents which will then decrease the number of falls on the unit. To measure the effect of music therapy, the number of falls before and after implementation will be compared over a three week period.

Focus

The problem that we will focus on for improving the quality of care and safety at Elim Care and Rehab in Princeton is fall prevention. There were multiple problems that we could have focused on at Elim Care and Rehab. Some of these issues included urinary tract infections (UTIs), falls, and polypharmacy. However, the staff at Princeton Elim already have a funded improvement project in place regarding UTIs. Additionally, we felt as though polypharmacy would not be something we could change easily, in regards to prescriptions and doctors orders.

Therefore, we chose fall prevention because falls can negatively impact the quality of life and patient outcomes. Currently, there is not a specific quality improvement project occurring at the facility regarding fall prevention, the director of nursing (DON) and team leads felt that this would be a great focus. While participating in morning huddles, falls were brought up often and the reasoning behind the falls was greatly discussed. This information helped us to better navigate our research on fall prevention to better tailor it to the facility's specific concerns. In December of 2019, there were 26 falls throughout the facility, with 12 of the 26 falls occurring between the times of 1800 and 2200. Preventing falls could help the facility save money, especially preventing the occurrence of injury due to a fall. As previously mentioned, preventing falls could help improve patient outcomes and overall quality of life for residents at Princeton Elim.

Analysis

Older adults have a high risk of falling due to reasons such as dementia, atrophy of muscles, osteoporosis, and adverse effects of medications. Because of this, falls are a continuous problem in long-term care facilities. According to research in *Gerontological Nursing Journal*, over half the residents in a nursing home will end up falling at least one time in a year (Hill, Nyguyen, Shaha, Wenzel, DeForge, & Spellbring, 2009). Most of these falls do not lead to injury, however 10-25% of falls can result in fractures or hospital admissions (Kam Yin Chan & Kar Man Chan, 2019). This is one of the reasons nursing homes want to decrease fall rates. Falls are also the number one reason for accidental deaths in nursing homes, which can lead to citations from state boards (Kam Yin Chan & Kar Man Chan, 2019). Long-term care facilities

strive to have little to no citations from the state, which offers encouragement to decrease fall rates.

Some of the most common reasons older adults fall is due to age related deterioration, changes in balance, gait and mobility, visual or cognitive impairment, incontinence, and environmental hazards (Falls Prevention, 2006). Most of the time, nursing staff that work with the residents can notice deterioration early and bring about interventions to aid in prevention of the falls. The most common areas that residents fall are in their bedrooms or bathrooms. 75% of falls happen in the room with an adjoining bathroom and 22% happen in common rooms (Kam Yin Chan & Kar Man Chan, 2019). Certified nursing assistants are predominantly the employees that provide cares in the resident's room and bathroom. The nursing assistants can do small interventions to decrease the chances of falls (Wright, Goldman, & Berensin, 2007). Some of these interventions include reducing clutter in the room, ensuring residents have call light when leaving the room, making sure the resident has properly fitting shoes, keeping eyeglasses clean, and using a gait belt when ambulating a client (CNA Training Advisor, 2016). By providing these interventions to each resident, the nursing assistant is becoming an advocate for preventing falls while accompanying the resident.

The Journal of Research and Gerontological Nursing suggests that the best way to decrease falls is to increase the number of staff on site during times of high falls risk (Hill et al., 2009). According to this journal, falls usually happen during shift change when the number of employees able to help residents decreases. These busy times prevent residents from getting the help they need, which increases their risk for falling (Hill et al., 2009). Princeton Elim Care and

Rehab found that a majority of falls happened during their shift change in the evenings from 1800-2200. However, we could not implement hiring more employees because of cost management, but we did consider this as an option for implementation at first.

Fall prevention should be the responsibility of every employee. Although there are some that work with the residents more than others, everyone can help prevent falls. This includes all nursing staff, maintenance, housekeeping and administration personnel (Fall Prevention is Everyone's Responsibility, 2008). Housekeeping can keep common areas and bedrooms clean and decluttered, while maintenance ensures lifts mechanical devices are working properly and administration can create committees that directly focus on fall prevention (Wright et al., 2007). In addition, assessing residents at risk and taking early action is the best way to determine fall risk (Preventing Falls: how to monitor risk and intervene, 2011). Preventing falls is a group effort and all employees can make an impact.

According to the Elim Care and Rehab documentation, the root causes of the falls include slipping out of bed, self-transferring, getting into bed, slipping in chair, resident boredom, impulsiveness, dizziness, confusion and agitation related to dementia. Many of these root causes were also mentioned in the articles.

Develop

Falls in dementia residents is a complex issue, and there are often many root causes for a fall. When looking to overall decrease falls, we explored the following various options: restorative exercises, aromatherapy, music therapy, and hourly rounding plans. Restorative therapy exercises would have involved creating an evening exercise program that would've

engaged the residents in stretches to promote relaxation. The activities department within the facility would potentially lead these evening restorative exercise programs, with intent to increase the residents ability to relax and engage in restful sleep. Using aromatherapy, we would have offered lavender and orange scented aromatherapy to diffuse in common areas and in high-fall risk rooms during the evening time. The facility has essential oil diffusers placed in the entrances, certain meeting rooms, and large living room spaces on certain floors. Our potential plan was to focus these diffusers in the living rooms and hallways of our targeted floor, to help promote relaxation. Due to allergies, safety concerns, and resident preferences, we would have been limited to these areas, and not able to apply diffusers within resident rooms. Hourly rounding plans would have included creating a plan to check in on residents more frequently during the increased fall risk time of 1800-2200. This intervention would have required nursing assistants and nurses to take time away from other duties during a busy shift change time, implementation and adherence may have created more trouble for the staff with this intervention. Music therapy is the intervention we found to be the most fitting, and that will be explained further.

Agitation related to dementia was the root cause we decided to narrow our focus on. “Fall risk was found to be increased by psychological factors, such as verbally disruptive and attention-seeking behaviour, among people with dementia or cognitive impairment in ID populations” (Fernando, Fraser, Hendriksen, Kim, & Muir-Hunter, 2017). Verbally disruptive and attention-seeking behavior are agitation related behaviors that were found in the Fernando et al. (2017) study to increase fall risk. Agitation is a common issue for people with dementia, and

it includes behaviors such as aggressive behaviors, wandering, restlessness, and repetitive acts (Pedersen, Andersen, Lugo, Andreassen, & Sütterlin, 2017).

We attended a fall-focused meeting at the facility, which included the director of nursing and team leader from each unit and floor. During this meeting, they discussed a specific resident who was experiencing chronic falls. The goal of the meeting was to address this issue, develop a plan, and implement the plan to help decrease the specific residents' number of falls. We took this time to consider possible plans, focuses, and implementations, while also brainstorming ideas to attempt to decrease falls overall on a facility wide level. It was brought to our attention that a majority of the facilities falls, including this specific resident, were occurring during the bedtime and evening change of shift hours. Upon addressing this, we proposed the idea of implementing relaxation or restorative exercise activities during the evening time, in hopes of relaxing the residents, and having them be more at ease and prepared for rest. Our concern and hypothesis was that these residents were not engaging in enough physical activity throughout the day to promote thorough rest and sleep at the end of the day. Additionally, we pondered whether the residents were practicing a relaxing bedtime routine. Both of these factors were being accompanied by an increased level of noise and talking by staff during the shift change hours. This combination could be resulting in residents not being able to relax or fall asleep, therefore engaging in negative behaviors that increase the risk of falls.

In a meta-analysis, it was found that music intervention significantly reduced agitated behaviors for people with dementia (Pedersen et al., 2017). They defined music intervention as “the controlled use of music in a therapeutic setting to accomplish individualized goals within

physiological, psychological, and emotional well-being during the treatment of an illness or disease” (Pedersen et al., 2017). This evidence supported our decision to implement music to decrease falls on Rum River, the locked dementia unit, at Princeton Elim Home.

Using music as our implementation was cost effective because Princeton Elim could play music from Youtube for free. This intervention could be viewed as rather effortless considering it only required the staff to play the music for the residents daily from 1900-2100. This allows the staff to complete other tasks on the unit while the music plays for the residents. The music intervention also addresses one of the common root causes of falls at the facility and addresses the most common time at which falls occur, 1800-2200, at Princeton Elim Home.

The plan for implementation included the following: focus the intervention on the residents of the Rum River unit, the locked dementia unit at Princeton Elim Home; three week implementation period; play relaxing music via Youtube in the common areas between the hours of 1900-2100. Our plan was to implement the relaxing music and demonstrate to the employees where the music was to be played and reiterate the importance of having the music playing from 1900-2100 daily during our three week implementation period. Our main objective we wanted to achieve from this intervention was a reduction in the number of falls. Evaluating the effectiveness of our intervention will occur by comparing the number of falls that occurred prior and during the implementation period.

Dissemination and Evaluation

To implement the music therapy, we needed to have the support of the employees on Rum River, the dementia unit, but also from all of the other units of Princeton Elim Care and

Rehab. Our plan was to only implement on Rum River since that is where the most falls occur. However, if our implementation did decrease the falls, management wanted to use music therapy on every unit. For this reason, we needed the support of all the other units at the facility. To gain the support we attended a meeting about fall prevention and explained our plan to the unit leaders. Most were supportive of the plan such as the DON, administrators, and a couple of the unit leaders. Some were not convinced that our implementation of music therapy would decrease the number of falls. However, they have tried several other implementation ideas in the past that did not result in success. By the end of the meeting, we had well over the majority of staff supporting our plan. After we talked to the unit leaders and administrators, we explained the implementation process to the employees of Rum River. They were very supportive of the plan because it could potentially decrease their workload if fewer people were to fall during the change of shift.

Due to COVID-19, we could not be at the site while the implementation was happening. It created more difficulty to check in with the employees and keep them motivated with the project. To check in with them, we emailed the unit leader of Rum River, Josephine, to see how implementation was going. We did not have direct communication with the employees on Rum River which could have complicated the implementation slightly. The unit leader said that the employees were consistent with implementing the music every night, except two, between the hours of 1900-2100. Those two nights they were unable to play the music was due to complaints by a resident.

Our results showed a decrease in the overall amount of falls in our implementation period when compared to data from January and February of 2020. The documentation provided by the unit leader showed there were 12 falls in January and 22 falls in February on the floor. During our implementation period that occurred from March 23 to April 16, only one fall occurred. The result showed a decrease in falls from the previous months.

Although the outcome was positive, the implementation period had a few external variables that could have altered our results. One of those variables was the coronavirus pandemic. It created an environment within the nursing home where no visitors were allowed. The decrease in visitors could have resulted in more supervision of the residents from staff. The commotion on the floor would have been less than usual due to less people visiting throughout the day, and especially at evening shift change. Another variable that could have affected the number of falls on the floor is the change in census. One resident alone accounted for 11 of the falls within January and February. This resident unfortunately passed before our implementation period. Without that resident's data, it is hard to tell if the absence helped decrease the falls on the floor. Music preference is also a variable. Not all the residents enjoyed the music each night. During our implementation period, one of the residents complained about the music, so the leaders shut the music off for two nights. We would want to brainstorm different ways to overcome music preferences as we move forward with our research.

Overall, we would need more research to evaluate the true effectiveness of the music therapy implementation. We would implement the same plan of playing music between 1900-2100 every night and see the effect it had on the fall rates. We would like to implement this

after the coronavirus pandemic in order to explore if this is a potential long term solution to help with the root cause of most of the falls, agitation. This further research would be a better indicator toward the effectiveness music therapy could have on all the floors within the facility. Although it will be hard to implement music therapy without any external variables, we believe times within this pandemic are not comparable to normal daily life within the nursing home. We would hope research at a later time would be more conclusive of the results.

On CSB/SJU's Scholarship and Creativity Day, we disseminated our project, process, and results with the use of a PowerPoint via Zoom to viewers and the staff of Princeton Elim. During this presentation, we outlined learning objectives for our participants. These objectives included describing the purpose and use of the FADE model for quality improvement projects, utilizing the FADE model to present our quality improvement project and the results, identifying and addressing the root causes of falls, and lastly, demonstrating and describing the importance of reducing falls with the use of literature findings.

To measure the effectiveness of these learning objectives and for further feedback from our participants, we would have preferred to have an evaluation for the staff and participants to comment their further thoughts on paper, as this may have aided in the future expansion of this project, but this element was not physically possible due to COVID-19. However, it was evident that participants found our presentation to be engaging as a few asked questions, shared comments, and were active in discussion afterwards. Additionally, we were pleased with the feedback we received from the facility following the presentation. The facility plans on sending our results to their stand up team and their TR director for further review and possible implementation.

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