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Multifactorial Fall Prevention Program Development and Implementation within an Assisted Living Facility



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St. Mark Village. (2022). *St. Mark Village logo* [Photograph]. <https://www.stmarkvillage.org/>

Introduction

22% of residents living in residential care communities experience a fall within a 90-day period and 19% of the reported falls end in hospitalization (Harris-Kojetin & Sengupata, 2018).

- Once an individual has experienced a fall, the rate of reoccurrence is considered high (Gray-Miceli, 2018).
- Fall related injuries result in chronic pain, further disability, increased dependence, and potential death (Zimmerman et al., 2017).
- Individuals who have fallen will often begin to disengage in their daily occupations, including physical, social, and leisure activities (Akosile, et al., 2021).

Site Description

Site and location

St. Mark Village is a life care community that offers different amenities, services, and various levels of care. This facility is located in Palm Harbor, Florida.

Mission Statement

“To enrich the lives of the residents we serve by creating an environment that fulfills their every need—body, mind, and spirit”

Assisted Living Unit

Currently houses 24 residents with diagnoses including dementia, Alzheimer's, CVA, low vision, limited mobility, and mood disorders.

Summary of Needs Assessment

- According to St. Mark Village's ALF incident report, there were a total of 67 falls recorded within the past year; only 6 of the reported falls were witnessed (St. Mark Village, 2022a).
- Occupational therapy's client-centered and holistic approach to intervention equips each therapist with the tools to assess both intrinsic and extrinsic factors related to an individual's fall history.

Literature Review Summary

- The literature shows that the 10 biggest risk factors associated with falls are muscle weakness, history of previous falls, gait deficits, balance deficits, use of assistive devices, visual deficits, arthritis, depression, cognitive impairment, and being 80 years and older (Mitty & Flores, 2007).
- For elderly individuals that have experienced a fall or have a history of falls, a phenomenon known as fear of falling is likely to occur (Taylor et al., 2003).
 - Research shows it is necessary to address falls and fear of falling together when providing intervention.
- A recent systematic review explains that most falls experienced are multifactorial in nature, and therefore, multifactorial programs are needed to account for both the intrinsic and extrinsic factors associated with falls (Elliot & Leland, 2018).



Figure 1: Chart showing elements involved in a multifactorial approach to fall prevention.

Capstone Project Description

Program Overview

- A 6-week program focused on education, environmental modification, exercise, and various training as it relates to fall prevention.
- Both group classes and individualized intervention depending on each week's activity.
 - Typical group class duration: 30 minutes
 - Typical individualized session: 45 minutes

Weekly Overview

- **Week 1: Education and Behavior Modification Games**
 - Fall Prevention Bingo
 - Fall Prevention Jeopardy
- **Week 2: Balance Training**
 - Basic balance introduction class
 - Tai Chi
- **Week 3: Strength Training and Exercise**
 - Chair yoga
 - Mind and body strengthening class
- **Week 4: Environmental Modification**
 - Individual home modification assessment
- **Week 5: Adaptive Equipment Training**
 - Walker safety training
 - Wheelchair safety training
- **Week 6: Functional Mobility Training and Footwear Safety**
 - Footwear safety handout
 - Mobility training

Falls Efficacy Scale International Pre-Test Score Breakdown

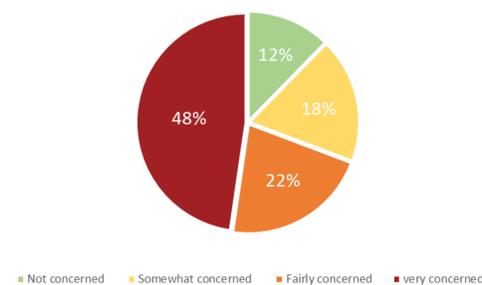


Figure 2: FES-I pre-test scores by category.

Falls Efficacy Scale International Post-Test Score Breakdown

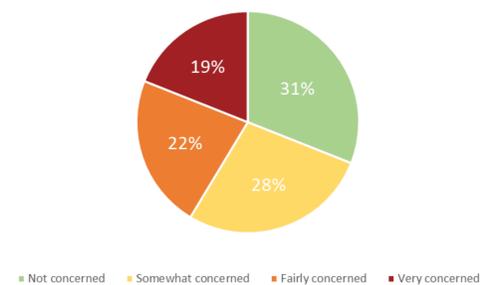


Figure 3: FES-I post-test scores by category.

Timed Up and Go Pre-Test and Post-Test

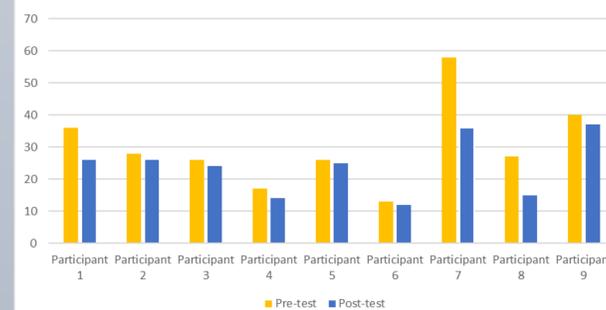


Figure 4: TUG pre-test and post-test score comparison. Lower scores represent decreased fall risk.

Learning Objectives Achieved

1. Designed and implemented a multifactorial program to decrease resident falls and perceived fear of falling in the assisted living center at St. Mark Village.
2. Obtained competency utilizing two outcome measures to determine effectiveness of created program.
3. Created a fall prevention binder for St. Mark Village's administrative team to use for future purposes as well as educated the team on the outcomes of my program.
4. Collaborated with a colleague to develop "Fall Prevention Web" for the generalized community. (<https://ekpalm6.wixsite.com/fall-prevention-web>)

B	I	N	G	O
BEHAVIORS	INSIDE HOME	NUTRITION	GET ACTIVE	OUTSIDE HOME
Lock brakes before standing	Keep your phone nearby	Eat fruit	Stand up often	Report tripping hazards
Have eyes checked annually	Remove throw rugs	Get calcium	Take an exercise class	Use a walker or wheelchair
Visit with friends	Non-slip mat in bathroom	Free space	Strengthen your muscles	Avoid obstacles
Take medicine on time	Report lighting issues	Get vitamin D	Exercise weekly	Look forward and not down
Wear proper shoes	Remove clutter	Drink lots of water	Do yoga	Choose well-lit paths

Figure 5: Bingo PDF

Fall Prevention – Shoe/Footwear Safety

Why is having proper footwear important?

- Although there are many causes of a fall, trip-related falls are oftentimes linked to an individual wearing inappropriate footwear such as those that are too small, too big, have poor grip, have poor support, have no heel, and/or have no fastening. While it may be convenient to wear shoes such as slippers, flip flops, or open toed styles, these footwear choices should be avoided when possible.

Features of appropriate footwear include:

- Slip resistant sole
- Secure and adjustable fastenings (Velcro, shoelaces, buckles, straps, etc.)
- Firm and supportive heel cup
- Low/inside heel height
- Closed toed shoes
- Thick/firm mid sole
- Treaded soles
- Accuracy/true size

Figure 6: Footwear handout

Implications for OT Practice

The following aspects of fall prevention programming are recommended for occupational therapy practice due to the results of this project:

- A multifactorial and client-centered approach
- Fall prevention education on risk factors, healthy habits, and identifying signs of a fall
- Home safety assessment and environmental modification
- Functional exercises that target balance, strength, and endurance
- Proper footwear assessment and adaptive equipment training

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References Available Upon Request