

Preventing Falls in Your Older Patients

Barbara A. Liu, MD, FRCP(C)

Susan Maddock, PT



Introduction

- Falls are a leading cause of injury and admission to hospital for seniors.
- Accidents are the sixth leading cause of death in the elderly → two thirds of accidental deaths are related to falls.
- 30 % of community dwelling seniors fall annually and 50% of those are over the age of 80 years.

Objective

- To describe a population of community-dwelling seniors referred to the Falls Prevention Program
- To identify trends in patient and fall event characteristics.

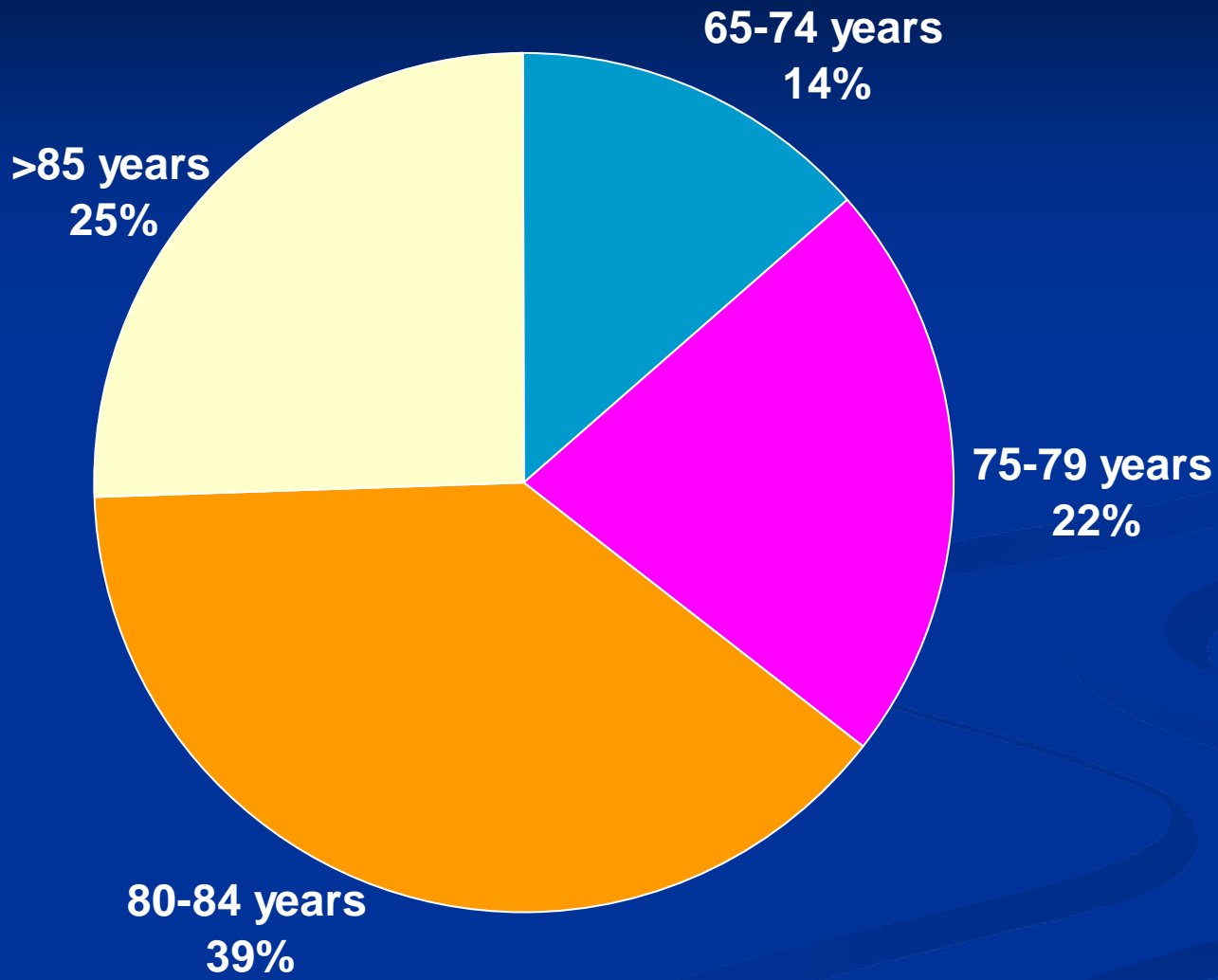
Methods

- A retrospective analysis of subject data obtained from January 2004 to January 2006 in a multidisciplinary, community-based Falls Screening Clinic for seniors.
- Patients were assessed at the clinic by a physiotherapist and geriatrician
- A data collection form was used to collect information about the patient, the fall event, contributing factors
- Patients underwent a focused physical examination

Subjects

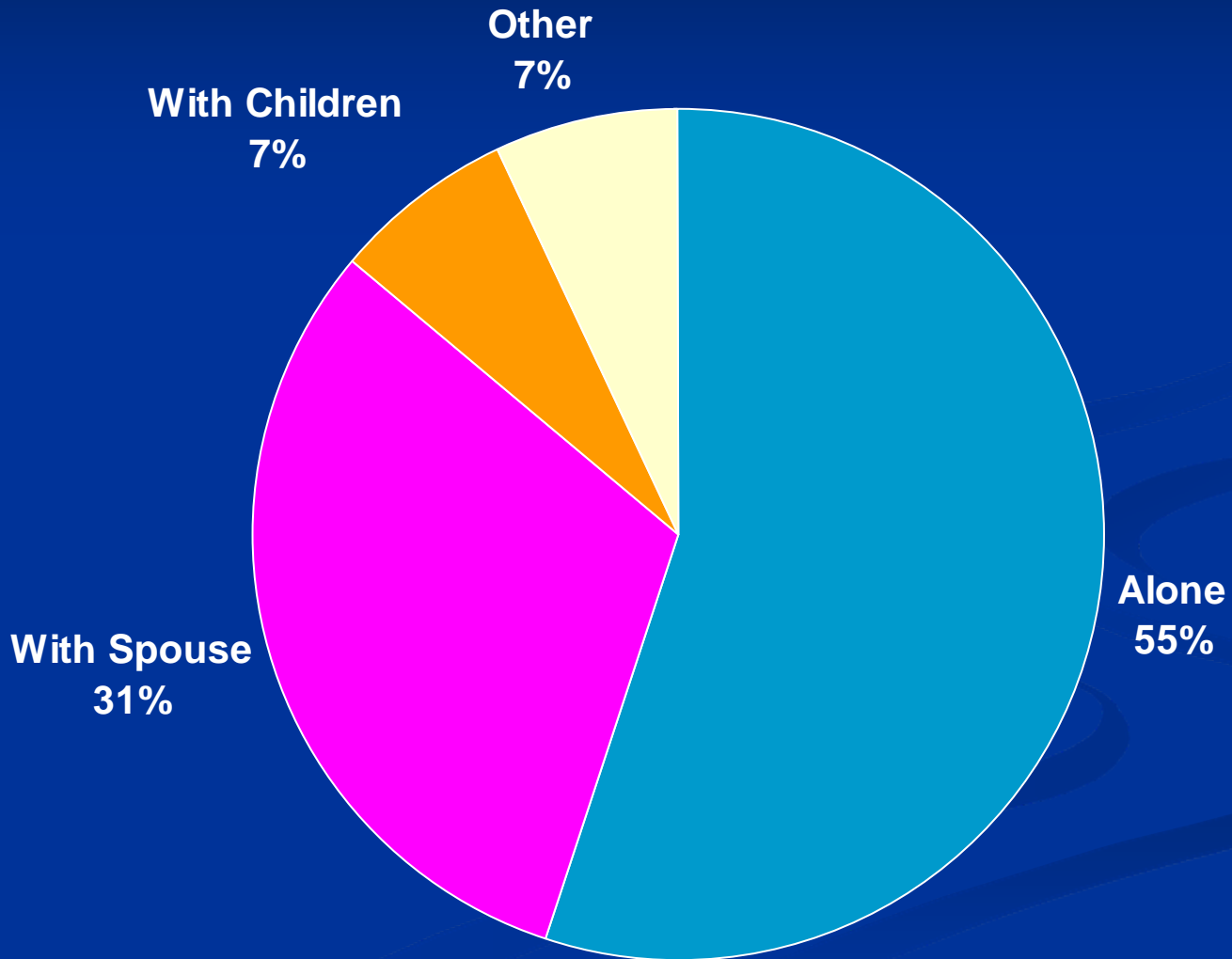
- 59 patients were screened in the clinic
- Patients were referred by their primary care physician for assessment and to determine suitability to participate in a 6-week fall prevention program
- Patients have experienced a fall(s) or are at risk for falls

Age Distribution

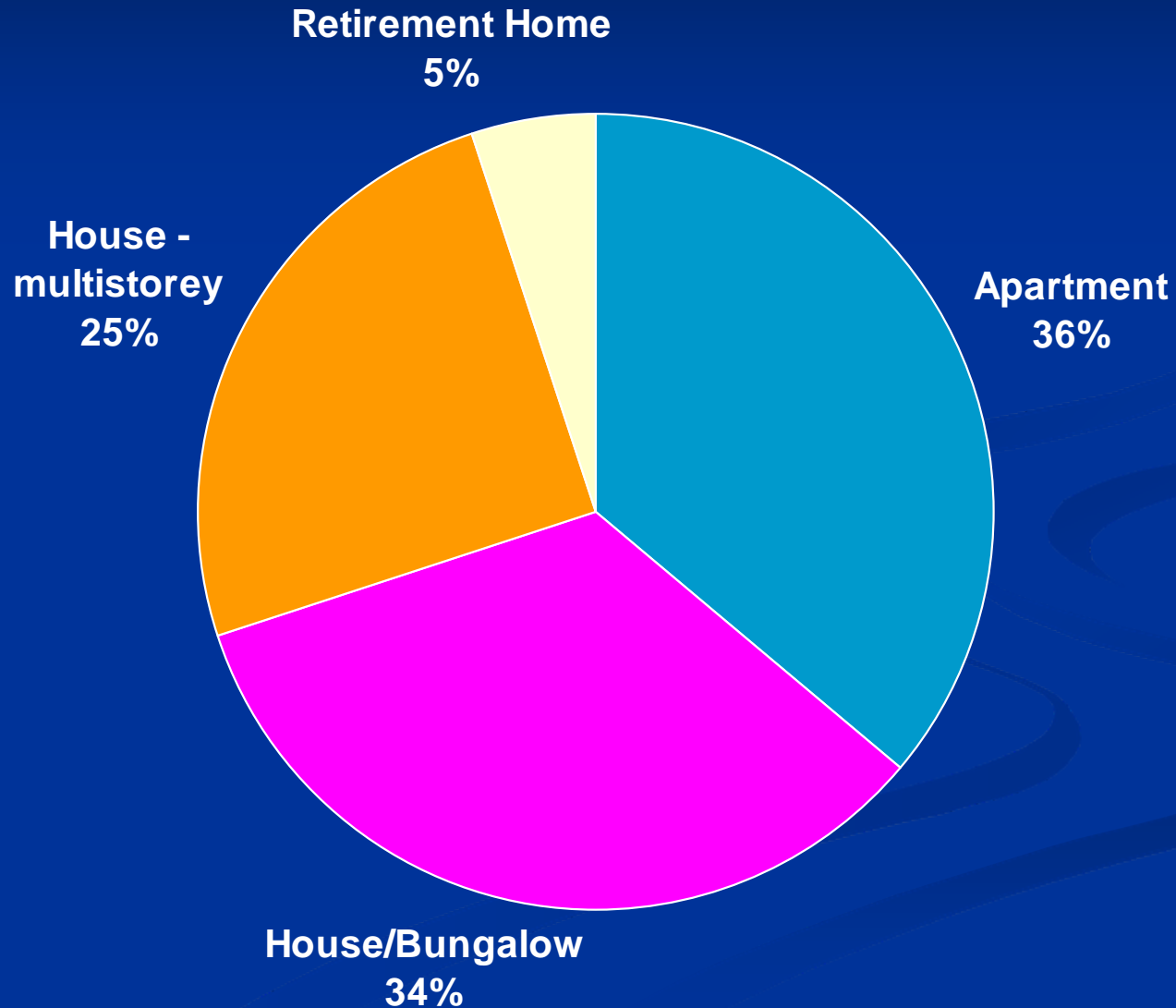


67% of patients were female

Living Arrangements



Type of Residence



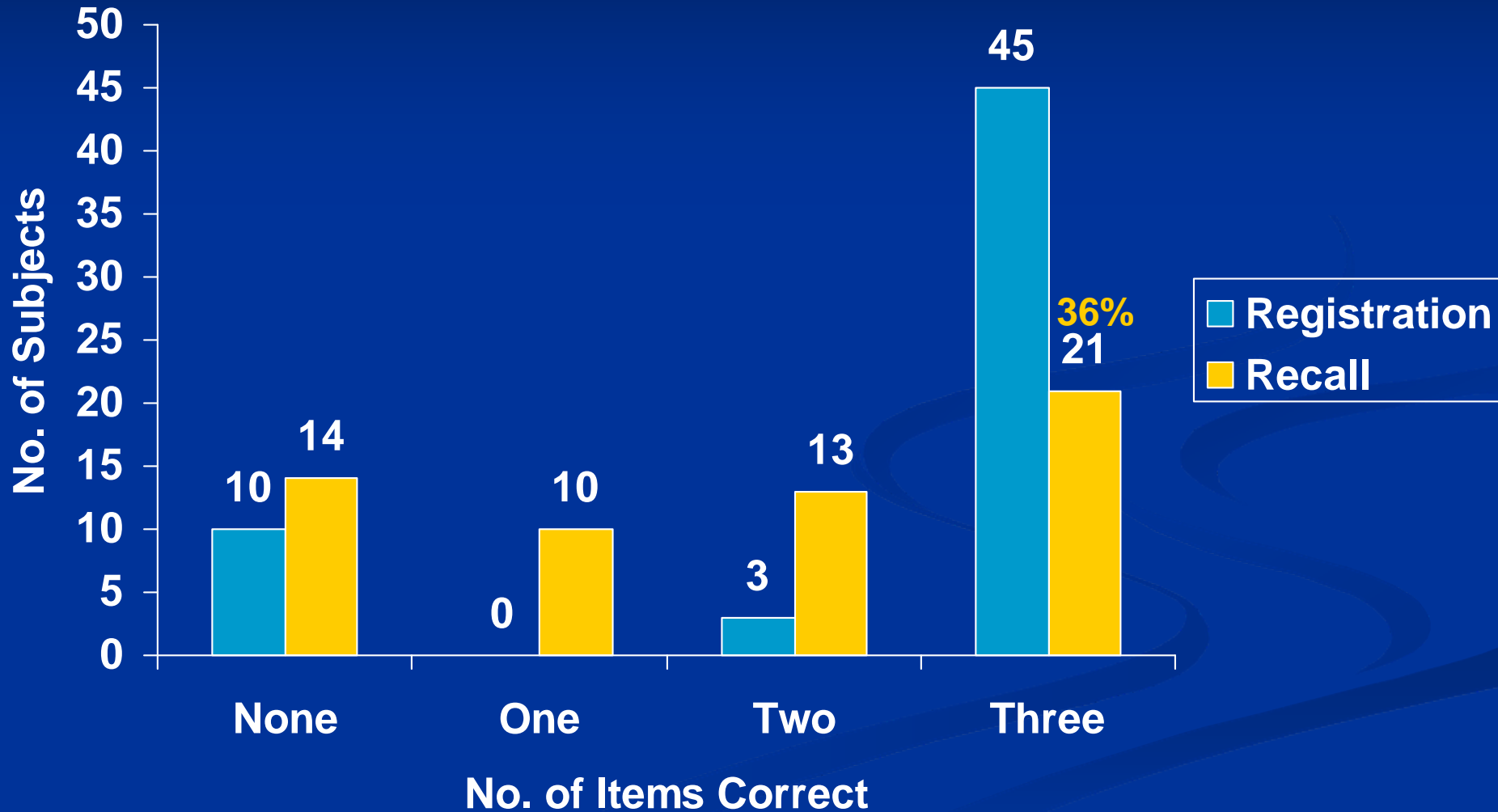
Functional Status

| Activities of Daily Living (n=58) | | % |
|-----------------------------------|----|----|
| Independent | 54 | 93 |
| Supervised | 1 | 2 |
| Assisted | 3 | 5 |
| Dependent | 0 | 0 |
| Instrumental ADL (n=58) | | |
| Independent | 51 | 88 |
| Assisted | 7 | 12 |

Additional Patient Characteristics

| | | | % |
|------------------------|-------------|----|----|
| Medications | 0-3 | 9 | 15 |
| | >4 | 50 | 85 |
| Regular Alcohol intake | None | 18 | 30 |
| | Once weekly | 22 | 37 |
| | 3-5 x/week | 19 | 32 |
| Urinary incontinence | Yes | 14 | 26 |
| | No | 40 | 74 |
| Visual aid | Regular | 25 | 42 |
| | Bifocal | 29 | 49 |
| | None | 5 | 8 |

3 Object Registration and Recall



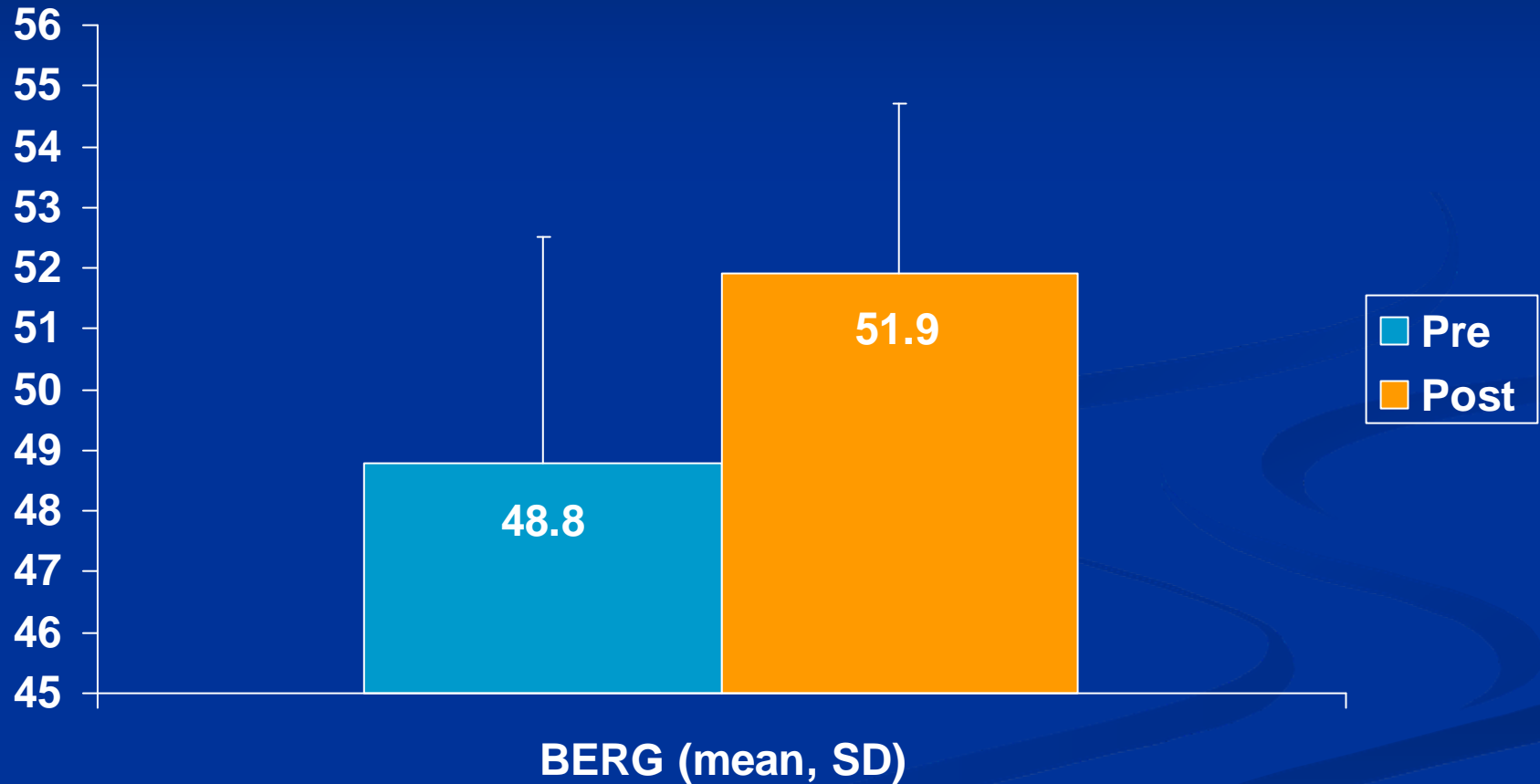
Fall History

| | | | % |
|---------------------------|---------------|----|----|
| Frequency | Past month | 18 | 32 |
| | Past 6 months | 38 | 68 |
| Location | Indoors | 29 | 50 |
| | Outdoors | 29 | 50 |
| Activity at time of fall | Walking | 37 | 64 |
| | Transferring | 12 | 20 |
| | ADL | 9 | 15 |
| Using aid at time of fall | Yes | 16 | 28 |
| | No | 42 | 72 |
| Time of day | Daytime | 33 | 60 |
| | Nighttime | 22 | 40 |
| Injury sustained | Yes | 41 | 73 |

Outcome Measures

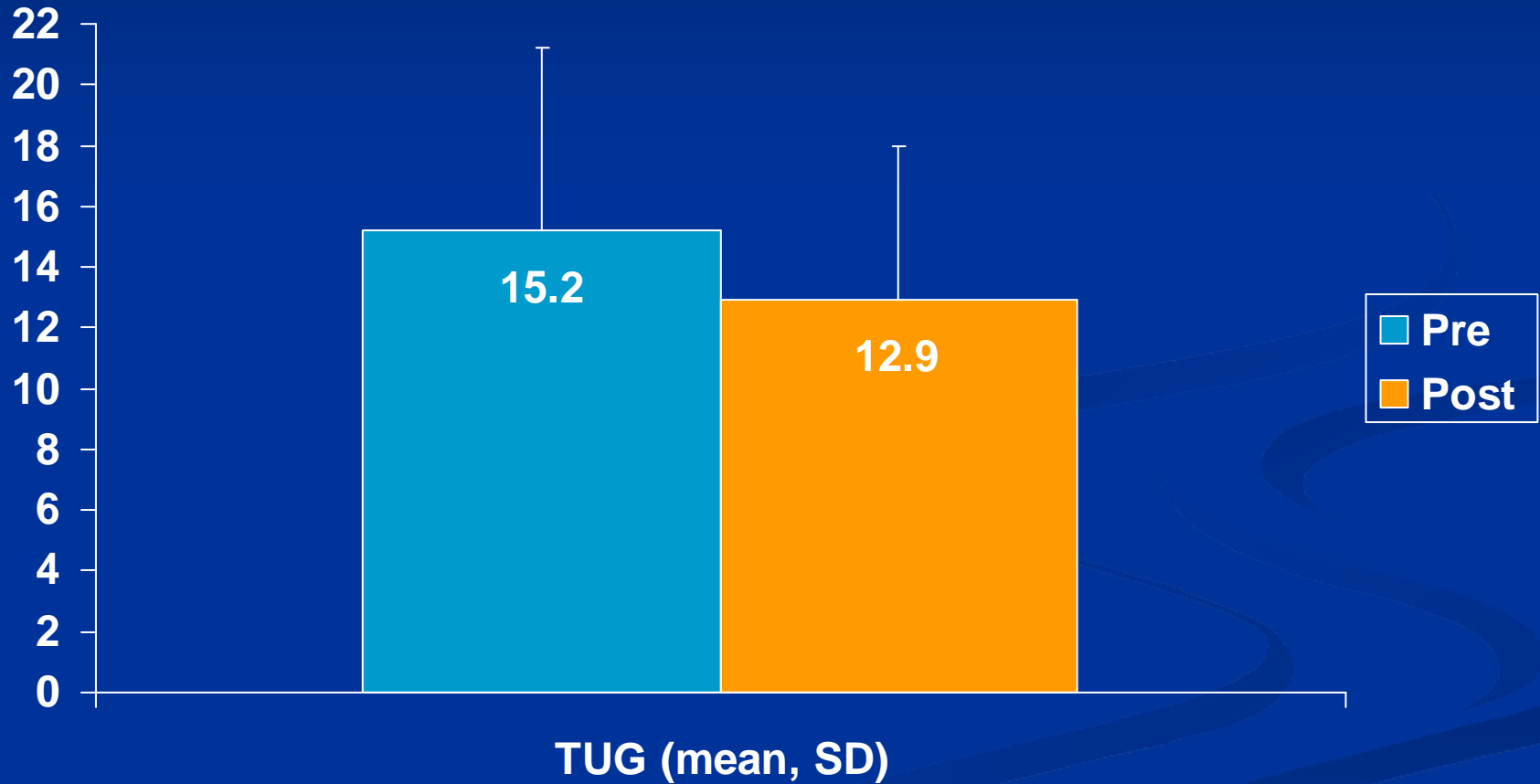
- Berg Balance Scale and Timed Up and Go are measured pre and post the falls prevention program, results compared by paired t test
- Berg Balance Scale
 - A validated objective measure of balance activities
 - Consists of 14 tasks common to everyday life
 - Has been shown to have predictive validity with a score of less than 45/56 being an indicator of fall risk.
- Timed Up and Go
 - A validated outcome measure
 - A time of more than 30 seconds indicates a client may be housebound and require gait aids

BERG Balance Scale



Paired t test: $p < 0.05$

Timed Up and Go (in sec)



Paired t test: $p < 0.05$

Conclusion

- Most of the patients attending the falls prevention program at Sunnybrook are
 - over 80 years old
 - live alone in the community
 - independent in their ADL
 - walk regularly
- 50% of patients were wearing bifocals at the time of their fall
- 75% of them fell while ambulating

Conclusion cont'd

- The majority of these clients (93%) have 3 or more diagnoses and are taking 4 or more medications (87%)
- There was a significant improvement in balance and mobility outcome measures after the falls prevention program intervention
- Exercises that include strengthening, endurance and balance training play an important role in fall prevention

Program Description

- Falls Prevention Program is a 6-week program and the client attends twice a week for 45 minutes of exercise and educational sessions
- The exercises are performed in a circuit format of 5-minute stations and include quadriceps strengthening, treadmill and stationary bicycling, balance work in the parallel bars, side stepping and step training, work on sit-to-stand transfer and hip bridging.
- The educational sessions include instruction on how to get up after a Fall, Home Safety Tips and a Home Exercise Program is taught.

Gait Aids

- As mentioned, the Berg Balance Scale is a validated outcome measure to predict fall risk. The total Berg Score can also assist the therapist when prescribing a gait aid.
- As a guideline, a score of 47-49/56 suggests the client should use:
 - A single point cane when walking outdoors
 - A score of 44-46/56 suggests use of a single point cane both inside and outside
 - A score or 44/56 or less indicates use of a walker to assist the client to ambulate

Gait Aids cont'd

- The home environment should be evaluated to prescribe the proper gait aid. It may be that a two-wheeled walker would work inside the clients' home depending on the type of flooring present.
- A rollator walker is prescribed for the client if he/she will be ambulating outside. These walkers come equipped with a seat the client can rest on during an activity and various wheel sizes are available depending on the terrain it is required to move over.