Overview

- Individuals with dementia (IWDs) higher rate of functional mobility problems and falls (McGough et al., 2013; Suttanon et al., 2012)
- Functional mobility deficits related to gait and motor impairments (McGough et al., 2013; Suttanon et al., 2012)
- Cognitive impairment increases risk of falls in older adults (Asada et al., 1996; Allan et al., 2009; Eriksson et al., 2008; Rubenstein 1994, 2006; Tinetti et al., 1988)

Reducing Disability in Alzheimer’s Disease

- Home-based exercise program combined with caregiver (CG) training in behavioral management
  - Exercise
  - Education
    - Symptoms, progression, and treatment of AD; community resources; home safety and environmental modifications; legal and financial issues
  - Emotional training
    - Realistic expectations; coping with caregiving and respite; managing negative thoughts; generalizing and maintaining skills
  - Instrumental education
    - ABC’s of behavior change; communication techniques in dementia; problem-solving strategies; pleasant events and depression
Reducing Disability in Alzheimer’s Disease

Physical health and function
- Walking time, balance, functional reach
- Short-form Health Survey (SF-36)
  - Physical functioning, physical role functioning
- Sickness Impact Profile
  - Body care and movement, mobility, home management
- Falls
- Number of minutes spent walking
- Number of restricted activity days

Affective status
- Cornell Scale for Depression in Dementia

Behavioral disturbance
- Revised Memory and Behavior Problem Checklist

Published Findings

- Intervention group improved on SF-36 and Cornell Depression Scale
- Increased exercise minutes per week compared to control group
- Restricted activity days were reduced by RDAD intervention
- No other significant differences found
  - No specific report of RDAD intervention on physical performance measures

Teri et al., 2003

Aim of the Current Study

Review performance on physical performance tests
- Falls
- Walking speed
- Balance
- Functional reach

Determine if individual components of RDAD differ in impact on results
Determine if diagnosis impacts effect of intervention
Sample Demographics

N=411
- 45% female
- 50% Alzheimer’s disease
  - 20% “other” dementia; 1% Parkinson’s disease; 1% stroke
- 62% married
- Short Blessed (range 0-28) : $\bar{X} = 19.1$ (8.16)
- Number of restricted days/week: $\bar{X} = 0.83$ (1.88)
- Number of minutes spent walking/week: $\bar{X} = 127.66$ (218.75)

Paired t-tests

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Logistic Regression - falls

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Regression analysis
- Each intervention component
- Cognition, physical function, diagnosis
### Alzheimer’s disease sample

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indicating more education sessions leads to less risk of fall

### Non-AD sample

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indicating less education sessions leads to less risk of fall or more education sessions leads to higher risk of falls

### Summary of Findings

- Falls reduced significantly from 31% to 18% with RDAD intervention
- No change in gait speed, balance, or functional reach
- Interaction between diagnosis (AD vs. non-AD) and education component of intervention
  - AD group: negative relationship
    - more education led to reduced risk
  - Non-AD group: positive relationship
- Exercise component of RDAD did not contribute to change in falls

### Discussion

- RDAD may be beneficial as falls intervention for IWDs
- Possible that exercise component not intense enough to elicit changes in physical performance measures
- RDAD intervention may have differential benefits dependent on type of dementia
- Remains unclear why more education could lead to higher risk of falls in non-AD sample
Future Research

- Utilize control group to allow definite conclusions regarding RDAD as falls intervention
- Increase intensity of exercise program to facilitate adaptive response in biological tissue
- Further explore potential for differential effects of RDAD intervention in non-AD sample

Acknowledgments

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References


