Tai Chi: Moving for Better Balance

Community Health Workers Conference
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Objectives

- What is TCMBB?
- Application in Communities
- Experience Moving for Better Balance
Fuzhong Li, PhD

- Quintessential researcher
  - Tai Chi since 1999
  - over 15 years grant funding from NIH and CDC
  - List of publications www.tcqmbb.com

- Oregon Research Institute
  - Systematic, ongoing research

- Collaboration with PTs for specific BALANCE focus.
  - Jan Voit, Moving for Better Balance trainer
Overview

- Balance training program
- Enhancement of traditional Tai Chi
  - movements are transformed and reconfigured
  - therapeutic activities for improved balance
Program Basics

• Eight Form core routine
  • Adapted from contemporary 24 form Tai Ji Quan routine
  • Built in Exercise variations
  • Mini Therapeutic movements subroutine

• Together create a simple, *functional*, set of Tai Chi based moves
Evidence Based

- Tai Chi and fall reductions in older adults
  - 2005 landmark study, randomized controlled trial
- "Tai Chi and postural stability in patients with Parkinson's Disease"
- "Implementing evidence based fall prevention program in outpatient clinical setting"
- "Tai Ji Quan and global cognitive function in older adults with cognitive impairment"
- "The effects of Tai Ji Quan training on limits of stability in older adults"
- "Preventing falls after cancer: tai chi versus strength training"
Endorsement

- American and British Geriatric Societies
- Administration on Aging/ National Council on Aging
- Centers for Disease Control and Prevention
  - Funding through 2019 from Centers Disease Control
- All Tai Chi programs are not equal
  - specifically designed program
  - reproducible
  - evidence based
Fall Prevention

• In US one third of people over age 65 fall each year
  • 2-3 times more likely to fall again
  • 10-20% of falls cause serious injuries
  • falls are leading cause of hospitalizations

• In WA 1 in 5 over age 65 report a fall in past 3 mos

• Fall frequency increases with age

• Cycle: fall - fear of falling - decreased activity - increased risk of falling - fall
Physical Activity - Fall Prevention

- Research demonstrates Physical Activity is the single most effective strategy for fall prevention.

- Most effective Physical Activity
  - at least 50 hours to have effect on reducing falls
  - must be challenging balance exercises
Cost Effective

- CDC cost-benefit analysis: best return on investment. Reduce falls. Save money
- No equipment required
- Portable and scalable
  - acute care, inpatient rehab, clinic, community
Outcome Measures

- Functional reach
- Berg Balance Scale
- Romberg
- Timed Up and Go
- Falls Efficacy Scale – self report fear of falling
- Gait speed
- Limits of Stability - Force plate
Multisystem Training

- musculoskeletal
- cognition
- sensory
- integrated experience
  - improved functional tasks
  - reduced falls
Training Goals

- Improve
  - strength
  - balance
  - gait
  - functional mobility
  - multitasking
  - cognition

- Reduce
  - fear of falling
  - risk of falling
Training Goals

- Postural stability
  - static and dynamic
- Mindful control of positioning in space
- Functional walking activities
- Movement symmetry and coordination
- Ankle range of motion
- Lower extremity strength
Training Emphasis

- Trunk driven movements
- Ankle sway
- Weight shifts
- Ankle joint movements; heel strike, heel pivot, push off
- Eye-head-hand coordination
- Anticipatory and compensatory postural control
- Various cueing strategies, cognitive challenge
Flexible Program

- Seated
- Sit to stand
- Chair-supported
- Unsupported
- Variety of challenges at each step
- Fun and easy to progress
- Home exercise program
Eight Form Routine

- Form One: Move a Ball
- Form Two: Part Wild Horse’s Mane
- Form Three: Single Whip
- Form Four: Wave Hands Like Clouds
Eight Form Routine

- Form Five: Repulse Monkey
- Form Six: Brush Knees
- Form Seven: Fair Lady Works at Shuttles
- Form Eight: Grasp Peacock’s Tail
Mini Therapeutic Movements

- Body sway around ankle joints
- Eye-head movements
- Sit to and from stand
- Step and turn
- Chair up and walk
- Multidimensional head movements
Mini Therapeutic Movements

- Single leg stance with Brush Knee
- Stepping exercises
- Pushing hands
- Sensory integration exercises
- Stepping maneuver around a chair
Current and Future Projects

- Ongoing research including "Translating an effective falls prevention program into community based practice"
  - program dissemination through community based senior service providers. funded through 2019

- Ongoing trainings
  - Partnership with Dept of Health: continue to train new instructors
  - Courses for community instructors and healthcare workers
Summary

- Evidence based Balance Training Program
- Fuzhong Li, Oregon Research Institute, ongoing research
- Application in acute care, inpatient rehab, outpatient, home health, *community classes*
- Fun and effective for mind and body
In Your Community

- Refer Older Adults to current classes
- Take a course and become an instructor
- Educate peers on the value of Tai Chi for fall prevention
Resources

- Washington site: www.betterbalance.net
- Contact: jan@betterbalance.net, info@betterbalance.net
- National site: www.tjqmbb.org
Questions?

Thank you!