Presentation Objectives

- To review the research evidence regarding the range of health benefits for older adults from participation in dance and movement programs.
- To further understanding of approaches that can improve and expand the evidential base for the health benefits of dance programs.
- To provide information on two dance programs, one for community-dwelling older adults (BeMoved®) and one for Latino elderly (BAILAMOS©), and how they can be replicated.
Contributions of Dr. Gene D. Cohen

References:


National Center for Creative Aging

- Integrate the humanities and arts into all curricular activities to ensure person-centered care
- Develop an interactive curriculum that builds on narrative medicine and importance of “story”
- Develop clinical experiences for the program
- Oversee faculty development in the humanities and arts
- www.creativeaging.org
Health and the Arts

Only over the past decade have health researchers examined how arts can:

• Heal emotional injuries
• Increase understanding of self and others
• Enhance self-reflection
• Reduce symptoms
• Alter behaviors and thinking patterns

(Stuckey & Nobel, 2010)
Health and Physical Activity

• Fewer than one-third of older adults regularly participate in physical activity although it is the primary lifestyle behavior that reduces chronic disease risk factors.

• Physical exercise programs have low adherence rates because they often are viewed as repetitive and boring.

• Dance and movement programs offer a novel alternative.
The Appeal of Dance

- Physical activity with other components that enhance its appeal:
  - Incorporates movements and music from different cultures
  - Promotes synchronized group interaction and social support
  - Enhances memory and cognition through effortful mental activity—learning and recalling sequenced steps and dance routines (Hultsch et al., 1999; Noice & Noice, 2009)
Systematic Review of Research Literature

• Findings on the health and well-being benefits of dance and movement programs for older adults show a range of benefits

• These include improvements in gait, balance, cognition and mood (Earhart, 2009; Keogh et al., 2009; Wallmann et al., 2009)
Benefits of Dance and Movement

• Effects on gait and balance are widely reported outcomes for community-dwelling older adults (Keogh et al., 2009; McKinley et al., 2008; Wallmann et al., 2009), including improvement in static and dynamic balance and gait speed for varied dance forms

• Improved shoulder range of motion and body image
Benefits of Dance and Movement

• With music as an external cue, dance involves learning movement strategies, such as walking backward and maintaining balance in motion, along with fellow participants (Earhart, 2009)
• Improved self-awareness (elderly and breast cancer patients)
• Instills a sense of control through the mastery of movements, changes in emotion, and escape from stress (Cotter, 1999; Kreutz, 2008; Sandel et al., 2005)
Effects of Dance on Cognition and Mood

• Research evidence also indicates positive effects on mood, e.g., increased positive and decreased negative affect (Bartholomew & Miller, 2002) and reduced anxiety and depressed mood (Stuckey & Nobel, 2010)

• A survey of 495 non-professional adult dancers identified 6 categories of perceived benefits, such as greater feelings of happiness and fewer negative feelings (Murcia et al., 2010)

• Castora-Binkley et al. (2010) found only one study (Alpert et al., 2009) that investigated effects of a dance program on cognition
Alpert et al., 2009

- Impact of jazz dance instruction on balance, cognition and mood
- Convenience sample of 13 women ages 52-88, 12 Caucasian
- Self report with repeated measures design pre- and post-intervention for 15 weeks
- Findings showed improvement in balance
- While no improvement in cognition was found, a small sample of white, well-educated women likely resulted in a ceiling effect
Keogh et al., 2009

- Physical benefits of dance for healthy older adults (age 60+)
- Study levels:
  1) RCT with 100+ participants
  2) RCT with fewer than 100 participants
  3) Non-randomized comparisons
  4) Non-randomized with non-dancers
  5) Case studies/no control
- 18 studies identified
  - No studies found with large, diverse samples of older adults (level 1)
Keogh et al., 2009

Only 9 level 2 studies found with:

- RCT design
- Explicit inclusion and exclusion criteria
- Clear description of the dance program
- Valid and reliable outcome measures
Results: Keogh et al., 2009

- Dancing can significantly improve muscle endurance, aerobic power, and lower body flexibility
- Significant improvements also relate to fall prevention: improvements in static and dynamic balance, gait performance, gait speed, and agility
Conceptual Model

Social Cognitive Framework for the Health Benefits of Dance

Dance Intervention → Mastery → Self Efficacy → Health Outcomes: Gait and Balance Cognition Mood
Social Support

Health Outcomes:
- Gait and Balance
- Cognition
- Mood
Limitations of the Studies

• RCTs uncommon
• Small, homogeneous samples
• Convenience sampling
• Short duration of the intervention
• Limited attention to longer term effects (sustained impact)
• Limited description of intervention’s design (content, delivery, instructor, intensity, amount and duration of the intervention)
Recommendations for Future Research

• Use meaningful control groups
• Specify intervention and outcomes precisely and standardize for cross-study comparisons
• Larger, more diverse samples
• Longer-term follow-up
Recommendations for Future Research

- Conduct in community settings
- Partner with the arts community and arts professionals
- Use established outcome measures
  (Castora-Binkley et al., 2010; Murcia et al., 2009; Stuckey & Nobel, 2010)
Dance Programs for Older Adults

• Programs shown as examples are easy, rhythmic and fun to do
• Designed specifically for older adults by a professional dancer/ choreographer
• Accommodate different abilities
• Program manuals for classes detail sequenced structured movements and accompanying musical playlists
• Promote replication
BeMoved®

• Designed by a choreographer, Sherry Zunker
• Led by professional dancers trained in BeMoved methods (course and program manual for treatment fidelity and rapid translation)
• Sequenced structured movements and accompanying musical playlists for all genres
• Allows for differences in ability; ensures progression for all
BeMoved®

• Engenders social support as participants perform dance steps with their peers, socialize before class and during breaks, and share refreshments afterwards

• More than just doing a specified number of repetitions; being in “sync” with the other participants and the music
BeMoved®

- Sequenced repetitive dance steps involve weight shifting, stretching, balance, and torso movements in the style of various dance genres, with accompanying musical playlists.
- Stretching, bending, and breathing components, designed to avoid strains and injury, are less strenuous than dance-fitness programs such as Zumba®, leading to sustained participation.
BeMoved®

• Draws upon memory, executive function, motor speed, and creativity, hence the anticipated improved outcomes

• As with theater acting, BeMoved’s choreographed dance routines demand sustained attention, effortful encoding, and efficient retrieval of material from memory
Balance & Activity In Latinos, Addressing Mobility in Older Adults
Pilot Study (2010): David Marquez, PI

- Physical activity assessed with accelerometer during each class
- Heart rate assessed during first and last class of each style
- Majority of dance time was light intensity
- Time spent in moderate intensity dance and steps taken modestly increased as skill increased over time
- Average heart rate based upon age-predicted maximum heart rate during dancing (56%-67%) was of light/moderate intensity
Pilot Study (2010): David Marquez, PI

- **Sample:** Sedentary older Latinos with mobility limitations (M age=65.2) recruited at a Latino community center

- **Feasibility:**
  - 12 participants began the program, 9 (1 man, 8 women) completed it (75% retention rate)
  - Participants attended 85% of the sessions
  - Non-completers (n=3) left the program due to change in work status, trauma (non-program related), and relocation
  - Participants enjoyed the program [M = 6.75 across all classes, 1-7 scale]

- **Findings:** A community-based Latin dance program is feasible and adherence among sedentary older Latinos was high
References


References


Thank you!

Questions or comments

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