Meaning and Impact of Creative Dance and Story Telling in Long Term Care: An Interdisciplinary Perspective

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Background

- Improving quality of life for residents in long–term care (LTC) facilities is a recurring challenge
- Intervention studies have demonstrated the benefits of dance programs on physical performance, balance, depression and quality of life of elders (Eyigor et al., 2009; McKinley et al. 2008).
- Hokkanen et al. (2008) found improvements in the MMSE and Clock Drawing tests in seniors with dementia who participated in a dance movement therapy program.
- Few studies have examined the value of artistic expression for the well–being of LTC residents using mixed methodology.

Interdisciplinary Collaboration

- Research collaboration between St. Catherine University OT and PT faculty and students and Kairos Alive
- Kairos’ Dancing Heart is creative dance group program:
  - Older adults and caregivers
  - Creation of “choreography that draws on their memories and life experiences”
  - Movement improvisations to music incorporate story telling and story–making
  - Either sitting or standing.

Purpose

- The aim of this study was to apply mixed methods to explore the following overall research question: What is the importance of an arts–based program incorporating creative dance, story–telling, and story–making for long term care residents?
- The research sub–questions addressed:
  - Program meaning
  - Link to quality of life
  - Impact on the culture of the LTC facility

Design

- **Design**: A mixed methods design study (Creswell & Clark, 2007) was conducted by our interdisciplinary team in two phases:
  - **Quantitative**: Retrospective analysis of outcome measures of cognition, balance and depression collected by facility staff at baseline and then at 12–week intervals up to 36 weeks (9–months)
  - **Qualitative**: Prospective semi–structured interview with staff, volunteers and caregivers at the end of the program on their perception of its importance for the participants and the culture of the facility.
Methods

• Setting: 5 long-term care facilities in urban, suburban and rural areas in Minnesota.
• Population: Frail elder residents of those LTC facilities, many of them wheelchair bound and suffering from dementia. A total of 119 residents who took part in the baseline testing, enrolled as participants in the same dance group program. Average size of each group was 20, and mean attendance was 80.29% over 36 weeks.
• Intervention: Naturalistic intervention. Professional artists from Kairos Dance Theatre designed and implemented a creative dance group program weekly.

Quantitative Phase

• Quantitative measures of cognition (MMSE), mood (GDS), and balance (Berg Balance Scale) were collected at the beginning of the program and at 3 additional points, 12 weeks apart, by LTC facility staff as part of a quality improvement program.
• Files were blinded and submitted to researchers for retrospective analysis
• Repeated measures ANOVA and paired t-tests were performed to determine change over time for the program participants with complete data.
• Measures varied in the completeness of the available retrospective data, explaining the differences in N's across measures

Quantitative Results

<table>
<thead>
<tr>
<th>Time</th>
<th>Berg Balance Scale</th>
<th>MMSE</th>
<th>GDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Weeks</td>
<td>24.67 (17.44)</td>
<td>17.98 (9.95)</td>
<td>1.94 (1.63)</td>
</tr>
<tr>
<td>24-Weeks</td>
<td>24.27 (17.37)</td>
<td>18.09 (6.67)</td>
<td>2.26 (1.77)</td>
</tr>
<tr>
<td>36-Weeks</td>
<td>22.96 (17.39)</td>
<td>17.67 (6.33)</td>
<td>2.26 (1.98)</td>
</tr>
</tbody>
</table>

• 18 participants had scores available for all three measures over all 36 weeks.

Quantitative Results (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Berg Balance Scale</th>
<th>MMSE</th>
<th>GDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>23.93 (17.24)</td>
<td>17.96 (7.22)</td>
<td>2.29 (1.90)</td>
</tr>
<tr>
<td>12-Weeks</td>
<td>24.67 (17.44)</td>
<td>17.98 (9.95)</td>
<td>1.94 (1.63)</td>
</tr>
<tr>
<td>24-Weeks</td>
<td>24.27 (17.37)</td>
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</tr>
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• n represents participants with complete available data for that particular measure over all 36 weeks
• Repeated measures ANOVA revealed no significant declines or improvements over the 36-week period

Quantitative Results (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Berg Balance Scale</th>
<th>MMSE</th>
<th>GDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>20.313 (14.84)</td>
<td>23.875 (13.18)</td>
<td>2.44 (2.25)</td>
</tr>
<tr>
<td>12 Weeks</td>
<td>21.125 (15.81)</td>
<td>23.313 (3.24)</td>
<td>2.00 (1.86)</td>
</tr>
<tr>
<td>24 Weeks</td>
<td>20.938 (15.80)</td>
<td>23.125 (3.68)</td>
<td>2.00 (2.16)</td>
</tr>
<tr>
<td>36 Weeks</td>
<td>21.563 (16.10)</td>
<td>22.938 (3.18)</td>
<td>2.06 (2.41)</td>
</tr>
</tbody>
</table>

• N = 18
• Repeated-measures ANOVA yielded no significant changes
Summary of Quantitative Results

- Balance showed significant improvements from baseline to 12 weeks. No change over the 36 weeks.
- Mental status showed a decline from baseline to 12 weeks but remained stable over the 36 weeks.
- Depression remained stable.
- Quantitative results were unchanged when stratified by cognitive level (mild dementia ≥ 20; moderate 10–19; severe 0–9).
- 18 participants for which all data was available showed similar results, even though their cognition was higher on average.

Qualitative Results

- Analysis revealed 9 themes related to the three research sub-questions.
- Themes are presented here, following each research question, with illustrative quotes.

1. What is the Experience of Residents during the Dance Program?

**Increased physicality, socialization and reminiscence**

"...It’s a great day when you sit and look around the room, and almost everybody is moving in time to the music"

**Enhanced sense of personhood: Sessions were participant-centered and stimulated sense of safety and creativity**

"...They’re all so willing to really put themselves out there with their own stories and their own experiences, and share their talents really generously"

**Shared meaning promotes bonding**

"I feel like I’ve known them [senior Kairos participants] forever because, we share so little time each week, but the time is just loaded with so much meaning."

"We’re not just someone who works here. I don’t know, we just kind of bond more when we’re in there."

**Dance program generates a sense of fun and excitement**

"It just feels like night and day sometimes, seeing residents before and after. It’s really a feeling…you can definitely tell people are happier when they’re in there. They’re more alive."

2. What is the Impact of Music and Dance on the Culture of the LTC Environment?

**Experience of sustained and timeless engagement**

"...an hour and a half later they’re all happy and smiling and they’ve been totally engaged for that amount of time."

"...They tell stories about their life and they feel like they’re in another world for an hour or so."

**Facilitation of new memories within and outside the program**

"...you can look around and they’re singing along with [the Great Big Love song]. They may not remember all the verses, but they’re singing the chorus"

**Sense of healing and sacredness.**

"It’s sharing something almost sacred, something from a deep, deep place when they share this stuff."

3. What is the Impact of Music and Dance on the Culture of the LTC Environment?

**The dance program elicited inquisitiveness about arts-based programming.**

"I just know that whenever I see anyone walk by, whether it’s a visitor or a nurse, or a staff person, or a custodial person, they always stop and watch, every single time."

**Signs of improved communication and enhanced feeling of community among residents and staff.**

"Staff members were talking about how hard it was to get this person dressed. She was very slow. And I heard another staff member say: ‘Well, I just asked her to sing me a song and the next thing you know, we’re all dressed and she’s singing away and she’s so happy.’"
Discussion

- Dance and music improve quality of life in elders.
  - Our results support the still scarce studies on the benefits of dance and music on cognition, physical performance, mood and quality of life of elders (i.e. Cohen 2006; Eyigor et al., 2009).

- Art-based programming benefit LTC residents.
  - A majority of past research has focused on community-dwelling elders
  - Our study demonstrates that an arts-based dance and creative story-telling group such as the Kairos dance program can have a positive impact on the function and participation of frail LTC residents.
  - Balance did improve and memory and depression did not worsen. Increased physicality and positive emotions were observed.

Conclusion and Limitations

- Interdisciplinary collaboration in the intervention, data collection and analysis phases was key in conducting an outcome study in a complex naturalistic setting.

- Limitations to this naturalistic study included:
  - Challenges associated with incomplete data due to lack of uniformity in testing procedures between sites
  - Had to rely on pre-collected measurements which may not have been the most appropriate for all participants
  - Interviewing participant-observers bypassed the cognitive limitations but missed the insights the residents themselves.

- Future directions: We are currently undertaking the next phase of prospective study using a quasi-experimental mixed-methods design with higher-functioning elders.

References


Thank You

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Kairos’ Dancing Heart website: http://www.kairosdance.org/pages/the-dancing-heart