

DANCE-BASED THERAPY TO DECREASE FALL RISK IN OLDER PERSONS

Jean Krampe
Dr. Marilyn Rantz, Dissertation Supervisor

ABSTRACT

Loss of balance and diminished gait are major fall risk factors in older persons. Literature suggests that physical activity based on dance may improve balance and gait. The aim of this study is to test the effect of dance-based therapy on selected fall risk factors in older persons defined as: balance, mobility, and fear of falling.

The medical social framework of the Disablement Process, developed by Verbrugge and Jette, was used as the theoretical framework for this study. A single facility pretest/posttest randomized controlled trial (RCT) study design was used. Pre- and post measurements were completed on each person which included the Multi-Directional Reach Test, the GAITRite analysis and completion of the Activities-specific Balance Confidence Scale . The Lebed Method™ (TLM), recommended as dance-based therapy for populations with physical difficulties, was used as the dance-based therapy.

Following IRB approval, 27 subjects mean age 85, were recruited from an aging in place facility in Columbia, Missouri. Inclusion criteria were: 1) Mini-Mental State Exam of 23 or above, 2) able to stand with or without assistance. Using a Randomization Complete Block Design, the subjects were placed in the treatment group, to participant in 18 dance therapy sessions over 8 weeks, or the control group, to continue with normal activities in the aging in place facility.

Since the sample size was relatively small, parametric and nonparametric tests were used to evaluate both within and between group differences. For parametric test, a paired t-test and a two sample t-test were used to test changes within a group, difference

in changes between groups, respectively. For nonparametric tests, the Wilcoxon signed rank test and the Wilcoxon rank sum test were used. To account for differences in baseline values, the Analysis of Covariance (ANCOVA) was used to test difference in changes between groups. Significance was set at alpha level 05.

Although statistical significance was not found in the measurements chosen for this study, trends were identified in decreasing Backwards Reach, while increasing Step Length Differential following a dance-based therapy program. These results will add to the emerging body of literature for dance-based therapy with older persons. This study was an extension of a pilot study conducted in 2008, which has been translated into practice with dance-based therapy offered weekly in a Program of All-inclusive Care for the Elderly (PACE). As demonstrated in the pilot session, the participants in the dance group enjoyed the activity as evidenced by minimal attrition and consistent attendance. Additional research is needed with a larger sample size and case matched treatment and control group.