



KEY POINT SUMMARY

OBJECTIVES

The purpose of the current study was to test the feasibility and acceptability of two walking interventions: a lower-intensity standard intervention (SI) and a higher-intensity multilevel intervention (enhanced intervention, EI) that included environmental awareness and telephone counseling components to encourage walking among residents of retirement facilities.

Promoting Walking Among Older Adults Living in Retirement Communities

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Key Concepts/Context

Research shows that physical activity helps to keep older people healthy, living independently, and also helps to recover functional limitations and reduce risk of falls. Evidence suggests that walking as a part of physical exercise in outdoor environments is important for older people for improving their health condition. Walking, which is an inexpensive form of physical activity, has low risk of injury. In addition, walking's ability to protect mobility loss can be implemented as a physical activity intervention to improve the living conditions of residents living in assisted living facilities and continuing retirement communities. However, less effort has been made to understand the application of a multilevel approach at the individual, interpersonal, and community (e.g., built environment) levels to increasing walking among residents of retirement facilities.

Methods

- The study recruited older people over the age of 65 years as a sample from four senior living facilities located at the San Diego, California area.
- Criteria for sample recruitment included living in assisted living residences, not receiving nursing care, not regularly walking, had no falls within the past three months, ability to walk (including those using a cane or walker), speak and read English, complete assessments, acquire their physician's permission to participate in the study, complete the Timed Up & Go Test in less than 14 seconds, and provide informed consent.
- In this study, a total of 87 participants provided informed consent and completed baseline measurements. At three-month follow-up, 64 participants completed measurements.
- All participating sites were campus style (with a mixture of grounds and buildings) recruited from thorough searches in a local senior-housing directory and on the Internet.



DESIGN IMPLICATIONS

Incorporating improved maintenance of walking routes, policies to support walking groups or active excursions, and placing signs encouraging residents to walk may improve the impact of EI and encourage walking in an older facility-dwelling population.

- The sites differed in size and neighborhood walkability.
- The study used a more intensive multilevel approach which includes more intervention at the individual and built-environment levels; termed the enhanced intervention (EI) and a less intensive, standard intervention (SI) that did not address the built environment or provide tailored counseling.
- The instrument was developed based on theory ecological models and social cognitive theory (SCT), literature reviews, and was based on a pre-pilot study that tested the intervention with 12 participants at one site over a period of two weeks.
- Constructs from social cognitive theory (SCT) were incorporated into the individual and interpersonal levels of the intervention for both SI and EI participants.
- The enhanced multilevel walking intervention included aspects from all three levels of the ecological model—the individual, interpersonal, and community (built-environment) levels.
- More individual tailoring for goal setting and problem solving was accomplished through phone-based counseling.
- Environmental awareness was developed by giving site-tailored walking route maps to participate and a handout describing the step counts of various destinations around the site and by providing a group discussion on a local area level on how participants could attain more steps (five–10% from the previous week’s step count) while accomplishing daily activities.
- Data was collected at baseline and three months after the intervention period.
- Self-reported measures were completed through written surveys. Performance measures were conducted by trained research assistants.
- The step count during walking was measured by a NL-800 pedometer retrieved by study researchers at measurement points.
- Functional performance was measured by Short Physical Performance Battery (SPPB) administered by trained research assistants at the residential facilities during the measurement visits at baseline and 12 weeks.
- Activities of daily living were assessed with nine self-reported items relevant to walking and older adults living in facilities during the measurement visit at baseline and 12 weeks.
- Neighborhood barrier was measured by self-report tool developed by study researchers consisting of five items assessing whether hills, crime, traffic, unsafe street crossings, or lacking places to walk act a barrier to walking.
- The self-report Geriatric Depression Scale short form (GDS) was used to assess depression.
- Cognitive functioning was measured with three paper-and-pencil tests: the Symbol Search subtest of the Weschler Adult Intelligence Scale (WAIS-III), Trails A, and Trails B.
- Adherence was measured using group session attendance and completion of phone calls.



- Satisfaction with the interventions was measured at the three-month time point with seven self-reported items.
- Self-reported items at baseline assessed gender, age, length of time lived at the site, health status (count of reported chronic conditions), education level (dichotomized to represent having a college degree or not), and height and weight.
- Differences between the SI and EI conditions on each outcome were assessed using analysis of covariance (ANCOVA) models.

Findings

- The findings of this research suggested that two types of walking interventions were feasible and acceptable among older adults living in retirement facilities.
- The findings show that adherence to intervention activities did not differ between SI and EI groups.
- The study explored no statistically significant differences on the outcomes (steps, mental health, physical function, cognitive function, environment variables).
- Step counts improved over time for the overall sample by about 500 steps, which represents a 10–15% increase from a low baseline.
- Both SI and EI groups rated highly the intervention components such as handouts, step logs, pedometers.
- Adherence to study meetings and phone calls were highly rated interventions by participants, feasible to implement in retirement facilities among older adults with an average age of just over 84 years.
- The lowest-rated interventions included walking planners, goal setting.
- SI participants did not receive the additional maps and step-count materials, but they reported becoming more aware of environmental supports as they walked more in their environment and experienced self-discovery of step distances and locations.

Limitations

Limitations identified by author include:

- Included a small sample size; inclusion of only four sites, making it unable to account for clustering; lack of a true control group; and use of some measures that were developed for the current study. Because of the small sample size, statistical tests were underpowered to detect these differences.
- The residents living in the retirement facilities were predominantly White non-Hispanic, and based on the cost of living at such sites had higher income than the general population of older adults.



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- The study did not collect information on adherence to keeping step logs and using the pedometers.
- The study lacked a measure of participant engagement in the intervention, including group cohesiveness and staff support.
- The EI may not have been an adequate test of the multilevel approach, as it did not include physical or policy changes at the community level of influence due to funding limitations.

The reviewer identified additional limitations in the study including:

- The study did not recruit participants with similar walking experience and having knowledge of surrounding environment for both interventions, which may be one reason for not finding statistically significant differences between two interventions.
- The sites differed in size and neighborhood walkability, which may be one reason for not finding statistically significant differences between two interventions.