



KEY POINT SUMMARY

OBJECTIVES

The objective of this research study was to determine whether home modification was associated with subsequent progression of frailty and mortality in older adults.

Home Modification and Prevention of Frailty Progression in Older Adults: A Japanese Prospective Cohort Study

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Key Concepts/Context

In a study involving 574 Japanese adults 65 years or older who required a low or moderate level of care, 34% modified their homes over the course of the study. Modification of these older adults' homes prevented the progression of frailty (requiring higher level of care). Mortality was significantly lower (at 2-, 3- and 4.7- year study milestones) among the older adults with home modifications when compared to those without home modifications.

Methods

The method used to conduct this research study was the use of a prospective cohort study that included 674 community-dwelling adults who resided in Gujo, Japan, The adults were 65 years and older and all qualified for the study because they were new enrollees in Japan's long-term care insurance program. At the close of the study, the final sample was 575 adults, with 16 lost to relocation and 111 lost to death. The adults were followed for 4.7 years, from 2005 through 2009. Their level of care status and home modifications were reviewed three times during the study, at the 1-year, 2-year, 3-year and 4.7-year milestones. All demographic, level of care, and home modification services were obtained from Japan's long-term care insurance program. Program data added to the validity of the study data because most, if not all, level of change and modification changes would have been required in order to qualify for reimbursement tied to these changes. Analysis of the level of care and home modification data was completed using cross-tabulation analyses, the Cox proportional hazard model (adjusted for age, disease and care level), the Fisher chi-square test and a Mantel-Haenszel chi-square test. PASW statistics version 18.0 was used.



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Findings

Of 547 participants (194 men, 353 women), 34% modified home. Men (38.7%) were slightly more likely than women (31.4%) to modify home. Significantly more participants with lower levels of care modified their homes (36.4%) than those with moderate levels of care (27.1%). There was no significant difference in the mean age of men who modified their homes (79 years, SD 6.9 years). Mean age of women who modified their homes was significantly lower (80.8 years, SD 6.9 years). Most common modification locations were in corridors (22%), toilet rooms (19.9%), bathrooms (17.2%), and entrances (13.4%). Most common modifications were handrails (89%), elimination of differences in floor height (44%), and changing of the lavatory basin (19%). Although more participants without modifications advanced to a higher level of care or died, when compared to those with modifications there were no significant differences.

Limitations

The study was conducted in a single city in a rural area where a traditional lifestyle remains prevalent. Findings should be confirmed in other urban settings.